Journal of Continuing and Development Education, Volume 5(1), 2025| ISSN: 2714-3376

Original Article

COMPUTER COMPETENCIES REQUIRED FOR E-EXAMINATIONS BY STUDENTS OF NATIONAL OPEN UNIVERSITY OF NIGERIA IN ENUGU STATE STUDY CENTRES

Areji Jonathan Nwagboliwe and Osim Ukamaka Happiness

[1,2]Department of Educational Foundations, Faculty of Education Enugu State University of Science and Technology, Enugu, Nigeria

Email:
jonathan.nwagboliwe@esut.edu.ng, Osim@esut.edu.ng

Phone Number: 07038161098, 07036533853

DOI: https://doi.org/10.5281/zenodo.17020214

Abstract The purpose of the study is to determine computer competences required for electronic examinations in Enugu Study Centres of National Open University of Nigeria (NOUN), Enugu State, Nigeria. Two research questions and two null hypotheses were formulated and tested at .05 level of significance. Descriptive survey research design was adopted for the study. The population of this study consisted of all the 428 students of National Open University of Nigeria in study centres in Enugu State. All the students served as sample for the study. A structured questionnaire was used for data collection. The instrument was validated by two experts. The reliability of the instrument was determined using Cronbach Alpha Reliability Coefficient. The overall reliability coefficient was .63, indicating that the instrument is reliable and suitable for the study. The data collected with the questionnaire were analyzed using Mean ($\bar{x}$) with Standard Deviation (SD) to answer the two research questions. The analyses were done with the use of the Statistical Package for Social Sciences (SPSS). Results of analyses revealed that: the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in General operational principles was high; meanwhile it was low for file management. It was recommended, among others, that Educational stakeholders should prioritize the improvement of digital infrastructure in rural study centres and NOUN should develop and implement comprehensive digital literacy training programmes tailored to address the specific needs of students in both urban and rural centres.

Keyword: Computer competencies, electronic examinations.

Introduction

E-learning is one of the innovations of the automation of educational system. E-learning is highly suitable for Open and Distance Learning Institutions due to its flexibility. The learner decides when, where and how to learn. E-learning integration has brought about a paradigm shift in education including the development of many innovative

technology enhanced learning styles such as Open and Distance Learning (ODL). The various media applied increases attention, concentration, memorization, retention and motivation of the students' learning. It also allows remote teaching and learning as well as collaboration among learners and instructors (Olabode, Fasoranbaku & Oluwadare, 2015). The concept of remote teaching and learning simply denotes the use of technology in distance learning initiatives. According to Williamson, (2018), e-learning is a blanket term used to describe educational initiatives that use electronic means for delivery of educational services. These services may include online learning, computer based learning, web-based learning, collaborative learning, virtual learning, e-Examination among others. These methods and their services are very important in examinations such as in examinations in open and distance learning as they emphasize the directions of education in the 21st century.

Electronic examinations are used in distance learning and the importance cannot be overemphasized. Musingafi, Mapuranga, Chiwanza and Zebron (2015), opined that the use of electronic examinations in open and distance learning provides timely feedback on individual student's achievement. There are however, flaws in implementation in most developing countries. The researcher observed that the developing nations of the world always imitate the developed nations' educational systems without adequate planning for human and non-human resources needed. These types of hasty attitudes toward educational pursuits always create gaps among which are the technical competences in the use of ICT which form one of the challenges confronting electronic examinations in distance learning. These technical competencies are skills needed to operate ICT hardware and software, skills for networking systems and to access and disseminate information (Ogunleye, 2020). According to Olusegun and Adesoji (2017), ICT competencies are information and communication technology acquired skills that encompasses dexterity, skills, ability and knowledge in computer or web in-depth comprehension and application of basic knowledge on surfing the internet to access and disseminate information. These qualities are highly sought for in the 21st century by everybody particularly for areas like South-Eastern Nigeria. However, inadequate possession of these skills may pose serious digital and human challenges to productivity in jobs and academic performance irrespective of location. Moreover, enhanced skills and competencies are required to remain at the forefront of the new technological revolution and one of the biggest concerns in terms of technological, social, and cultural advancement in the workplace is the pressure to decrease operation costs and the increased prospect of unemployment faced by people who are less prepared for the changes that are coming (Demirkan, 2016).

The potential of using advanced technology including the elements like machine learning, intelligent process automation, collaborative robotics, decentralized manufacturing management, horizontal and vertical system integration cannot be over emphasized. These will redefine most jobs and at the same time eliminate some of them and generate new ones (Tan, 2017). As the competitiveness of an enterprise is highly dependent on the way work is done, the technology employed, and the know-how of the employees, the competence of the individual is a crucial characteristic (Jensen, 2019). Omoike (2015), reported a low level of utilization of electronic information resources among students, suggesting a broader trend of insufficient digital literacy that affects academic engagement and resource usage. Competence is generally viewed as the main term that encompasses more specific concepts such as knowledge, skills, and abilities among others. One of the main roles of the high schools, universities, as well as adult post-graduation education is to improve these elements, since it is axiomatically aimed at identifying what areas to

focus on and the practical orientation of education. This work seeks to determine the extent of possession of computer competencies of National Open University of Nigeria (NOUN) students in using computers for e-Examinations in Enugu State Study Centres.

The passionate quest for knowledge and provision of equal access to education to every citizen made both the developed and developing nations of the world clamor for Open and Distance Learning (ODL) mode of delivery. Musingafi, et al (2015), attested to accessibility, affordability, flexibility and life based pedagogic opportunities as the benefits derived from learning via Open and Distance Learning strategy. Hence, the introduction of ODL coupled with the rapid growth in information and communication technology in facilitating access and dissemination of knowledge mandated every learner to be ICT compliant in order to enhance competence and improved performance academically and professionally (Ogunlela & Ogunleye, 2014; Ogunleye & Apata, 2018). UNESCO (2014), further reiterated that Open and Distance Learning (ODL) has been translated into a paramount global strategy of providing solutions to the related challenges confronting equal access to education and providing instantaneous feedback to the users via electronic platforms. This position was corroborated by Okopi and Ogunleye (2016), who chronicled the importance of the open and distance education to its recipients and the society at large. This again is a pointer to why every graduate of 21st century should possess computer proficiencies irrespective of their location.

Students of Open and Distance Learning in NOUN need to possess computer competencies and be literate in the use of computer because e-Examination is a crucial aspect of evaluation in NOUN. Key computer competencies to be possessed by students in NOUN and other universities according to Musingafi, Mapuranga, Chiwanza,and Zebron (2015) include general computer operational principles, basic file management skills, word processing ability, internet research and computer graphics presentation. Therefore, considerable level of electronic competence is required for improved performance to be attained in e-Examinations. NOUN students' computer competency is a significant predictor of improved performance in e-Examination. Osang (2017), asserted that e-examination was intentionally introduced to solve some series of examination variances and challenges encountered like human errors, examination malpractices, technical challenges during compilation of answer scripts which could lead to missing of scripts, leakages of questions as a result of conveying of examination papers to and fro the examination venue. Batez (2021) revealed that competencies in the use of ICT deepen knowledge, among distance learning students. Electronic examination is conducted through the internet which affords quick access to students' results after examination. E-Examination is computer-based examination whereby the institution prepared their examination questions to be uploaded to the designated computers that were meant for it. In preparation for e-Examination in National Open University of Nigeria, lecturer in charge or course coordinators are expected to set examination questions and typeset it online using the internet facilities that will guide the students during examination (Shraim, 2018).

Students in any school setting like National Open University must possess general computer operational principles and competencies necessary to enable them to carry out their studies. Ingram (2016), opined that the ability to use keyboard and mouse are the basics of all computer competencies. Naniamo (2024), maintained that students with proper knowledge of operating system basics involving starting and shutting down the system can easily proceed to multitask in typical desktop computing session, having known common computer shortcuts. Such students would proceed to

identify hardware components and their functions, while also familiarizing themselves with system software, and application software. Ingram (2016), strongly believes that operating systems manage and control the function of all computers, including PCs, servers and smart phones. Students exposed to electronic examination should therefore have basic understanding of how to use Windows operating system, including such tasks as locating and opening files, installing and running programs, and shutting down the computer. With this background knowledge, such students proceed to acquire competencies in file management. The extent students in NOUN possess the competencies or knowledge is not known due to lack of empirical evidence. It is the gap this study intends to fill.

Basic File Management ability refers to the way you name, save, backup, organize files/folders and keep track of files on the computer. According to BC Campus Open Education (2023), the main components of file management are the file system, the user interface and the file manager. These culminate into three types of file management in operating system, namely: relational, network and hierarchical. These types of file management are used alone or in combination to allow the whole organization of digital files and ensure they are not destroyed but are archived and secured when needed. File management is crucial for success in electronic examination. To this effect, Ailakhu (2023), opined that students should be proficient in file management in order to view both current and previous records of their performances. If one is able to handle operational systems and manage files effectively, it then means that a student of distance learning can use these computer competences effectively irrespective of the person's location. Therefore location is considered as an important variable in this study because empirically, no one knows how it affects the acquisition of computer skills.

Location is a person's environments or place in physical space marked with distinguishing features. It is a place one lives and has his being. In the context of this study, location can be only either urban or rural areas. Can location determine the extent of one's acquisition of computer competencies? Location is a factor to reckon with in this study because of the seemingly general belief that those living in urban areas are more enlightened than their counterparts in the rural areas. This assertion had no empirical backing with respect to computer competencies required for electronic examinations. Computer competences required by students for e-Examinations should be similar for both urban and rural students since e-Examinations have no boundaries but the level or extent of acquisitions of it may differ. This gap the study seeks to fill. In this study, those students at Enugu study centre, and those in its affiliate, the Nigeria Correctional Service Study outlet are assumed to be those in urban areas while those at Awgu Community Study Centre together with those at the Opi Community study Centre, Nsukka are regarded as those in rural areas. Generally, it is well known that certain facilities like electricity power houses, network masts, and network of roads and social media among others are more in the cities than in rural areas (Nworgu, 2015). But these cannot be enough reasons to say that those students in the urban areas acquire more computer competencies than their counterparts in the rural areas. This is because individual difference is a factor to reckon with in almost every human endeavor. To this end, it becomes necessary to factor in location into this study to ascertain empirically the general belief that those in the urban areas acquire more computer competencies than those in the rural areas. The researcher is not aware of a work on computer competencies for NOUN students in Enugu Study Centres within this locality. Therefore, this investigation is necessary and required.

Statement of the Problem

In Nigeria, National Open University of Nigeria with its attendant large population of registered students

and considerable number of examinable courses still perform manual processing of scripts. Recently, the university has imbibed e-examination for students in 100 and 200 levels. It is also worth of note that other human and infrastructural challenges relating to ICT competencies which are required for e-examinations, may not be adequately provided. Research evidence presented in the background of this study attest to the possibility of both facilitators and students of NOUN not possessing key computer competencies of general computer operational principles, file management, word processing, internet research , computer graphics among others. Since e-examination has recently become a key method of assessing students in NOUN, there is need to ascertain the extent to which these students possess these competencies.

No studies known to the researcher had attempted to determine the extent of possession of competencies required by NOUN students for electronic examinations in Enugu State. The dearth of studies in this area seems to cast shadow on the success of e-examinations and assessment of students in Open University as well as in other distance learning programmes in the country. Furthermore, the conflicting effect of variable like location of the study centres on the effective operation of e-exams and subsequently students' competencies in the use of computer had not been adequately addressed. This calls for special attention and investigation in these areas. Therefore, the problem of this study put in question form is to what extent do students possess key computer competencies required for e-examinations in urban and rural study centres in Enugu State?

Purpose of the Study

The purpose of this study was to investigate the extent of possession of computer competencies required for electronic examination by students in Enugu State Study Centres of National Open University of Nigeria. This study therefore determined:

1. The extent to which National Open University of Nigeria (NOUN) students in urban and rural Study centres in Enugu State possess competencies in general computer operational principles.
2. The extent to which NOUN students in urban and rural study centres in Enugu State possess computer competencies in file management.

Research Questions

The following research questions guided this study:

1. To what extent do NOUN students in urban and rural study centres in Enugu State possess competencies in general computer operational principles?
2. To what extent do NOUN students in urban and rural study centres in Enugu State possess computer competencies in file management?

Hypotheses

The following hypotheses to be tested at 0.05 level of significance guided this study:

1. There is no significant difference between the mean ratings of NOUN students in urban and rural study centres on the extent to which they possess competencies in general computer operational principles.
2. There is no significant difference between the mean ratings of NOUN students in urban and rural study centres on the extent to which they possess computer competencies in file management.

Method

The research design for this study is the descriptive survey design. Osuala (2017), asserted that descriptive survey research design involves studying both large and small populations by selecting and studying samples chosen from the population. Okebaram (2014), posited that the main objective of descriptive survey research is to get detailed and factual information about problems and describe them as they are. The study being a descriptive survey research will use a researcher-designed questionnaire to elicit relevant responses from the National Open University of Nigeria (NOUN)

students on the computer competencies required for electronic examinations. The choice for descriptive survey research design as the most suitable for the work was based on the fact that the researcher intends to investigate carefully, drawing out the opinions, attitudes, habits or other social issues directly from the students in the four study centres of the National Open University of Nigeria in Enugu State on the required computer competencies needed for e-examinations. The research will be carried out in Enugu State, Nigeria. Enugu State is one of the five States in South East States of Nigeria and it has 17 Local Government Areas with four Federal and eleven State-owned tertiary institutions of which NOUN is one of them. The tertiary institutions owned by the federal government are: University of Nigeria, Nsukka, Federal Polytechnic-Ohodo, Federal University of Dental Technology, Trans-Ekulu, and National Open Univerity of Nigeria, Trans-Ekulu, Enugu. Those owned by the state government are: Enugu State University of Science and Technology, Enugu State College of Education (Technical), Institute of Management and Technology (IMT), Enugu State Polytechnic, Iwolo, Enugu State Medical and Applied Sciences, Igbo-Eno, Enugu State Institute of Health Technology, Oji-River, Godfery Okoye University, Coal City University, Renaissance University, Caritas University and Maduka University. It has inter-State boundaries with Kogi and Benue State in the North, Abia State in the South, Anambra State to the West and Ebonyi State to the East. Enugu State is predominately made up of civil servants, artisans and famers of Igbo speaking tribe of Nigeria. It is also known for its rich cultural heritage, commercialization and artifacts. It is the heart of Igboland, the seat of Eastern Region whose indigenes were and still are characteristically known for their resilience and success in all life endeavours. Enugu State is selected for this study because the inhabitants have unique quest for education, tenacity of purpose in self-development and lifelong learning. The state has study centres located in both urban and rural areas and also for its proximity to the researcher.

The population of this study was made of all the 428 students of National Open University of Nigeria in study centres in Enugu state. The population is made up of 309 students in Enugu study centre, 41 students in Opi Community study Centre, 25 students in Awgu study centre, and 53 students in Enugu correctional/ prisons service. This population is made up of only 100 and 200 level students of National Open University of Nigeria, Enugu study centres whose mode of examination is purely electronic in nature. The sample for this study consisted of all the 428 students of National Open University of Nigeria, in study centres in Enugu state. No census sampling was adopted because the population was small and manageable. Thus the researcher used all the 428 students of National Open University of Nigeria, study centres in Enugu state for the study. A structured questionnaire titled "Computer Competencies Required for Electronic Examination in NOUN Questionnaire (CCREEQ), developed by the researcher was used for data collection. The instrument was divided into two sections; A and B. Section A contained the respondents bio data while section B was divided into two clusters with 25 items, structured to provide answers to the research questions that guided the study. Cluster 1 was on general computer operational principles with 11 items, while cluster 2 was on file management with 14 items. The response format for the instrument was based on a 4-point scale of Very Great Extent (VGE) =4, Great Extent (GE) =3, Low Extent (LE) =2 and Very Low Extent (VLE) =2, The validity of the instrument was ensured as the drafted copies of the instrument together with the research topic, purpose of the study, research questions, hypotheses, and the developed instrument were given to three experts. Two experts in Educational Technology were from the Department of Educational Foundations while one expert in

Measurement and Evaluation is of the Department of Mathematics and Computer Education. All the experts are from the Faculty of Education, Enugu State University of Science and Technology, Enugu. The experts were requested to assess the relevance, adequacy, suitability and comprehensiveness of the items in addressing the research questions as well as the clarity of the instructions given to the respondents. The initial 32 items generated for the study were screened down to 25 items on the questionnaire. The validators' comments were used to draft the final instrument that was used for data collection.

The reliability of the CCREEQ was determined by administering 30 copies of the questionnaire to a sample of 12 urban and 18 rural National Open University of Nigeria students in Ebonyi State study centre, in order to ascertain the internal consistency of the instrument. The choice for Ebonyi State was due to its nearness to the state of the resesearcher as inconviniece is not a good condition in research. The respondents were assured of confidentiality of all the information they supplied. Data collected from the respondents' responses were analyzed using Cronbach Alpha Reliability Coefficient to determine the internal consistency of the instrument. The instrument was divided into two sections, each section yielded the following reliability coefficient; cluster 1 had .65, while cluster 2 had .61, the overall reliability coefficient was .63, indicating that the instrument is reliable and suitable for the study. The researcher administered the questionnaire to the respondents with the help of three research assistants. These assistants were properly briefed on the content of the questionnaire and its mode of administration. The administration of the questionnaire was done face to face with the researcher and the assistants. Later date was fixed for the collection of questionnaires not filled at the point of administration. The data collected with the questionnaire were analyzed using Mean ($\bar{x}$) with Standard Deviation (SD) to answer the two research questions. However, each of the null hypotheses was tested using t-test statistics at .05 level of significance. The analysis was done with the use of the Statistical Package for Social Sciences (SPSS). For **t**he decision rule; real limits numbers were applied, therefore, the upper and lower limits of the mean were interpreted as follows;

Mean scores from 3.50 – 4.0 (Very Great Extent)
Mean scores from 2.50 – 3.49 (Great Extent)
Mean scores from 1.50 – 2.49 (Low Extent)
Mean scores from 1.49 and below (Very Low Extent)

The null hypotheses was not rejected when their p-value is equal or less than .05 and was rejected when the p-value is more than .05 level of significance.

Results

Research Question 1: To what extent do National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in general operational principles?

Table 1: Mean and standard deviation ratings on the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in general operational principles n = 416

SN	Extent students possess general computer operational principles is reflected in their;	Urban		Rural		Overall		Decision
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	
1.	ability to start up the system	3.67	0.80	2.70	1.22	3.52	0.95	GE
2.	ability to shut down the system	2.88	1.12	2.72	1.25	2.86	1.14	GE

3.	detailed knowledge of the computer desktop	2.94	1.17	2.67	1.13	2.90	1.17	GE
4.	ability to access commonly used programmes	2.92	1.19	2.67	1.16	2.88	1.18	GE
5.	ability to create new files with these programmes	2.99	1.14	2.89	1.01	2.98	1.12	GE
6.	ability to do multitasks in a typical desktop computing session	3.00	1.14	2.58	1.22	2.93	1.16	GE
7.	ability to identify commonly used keyboard shortcuts	2.94	1.18	2.70	1.14	2.90	1.18	GE
8.	exhibition of the knowledge of operating system basics	2.72	1.13	3.55	0.92	2.85	1.14	GE
9.	understanding of the fundamental processes performed by system application software	2.73	1.13	3.55	0.96	2.85	1.15	GE
10.	appreciation of the significance of common computer specification such as processing speed	2.75	1.17	3.44	0.97	2.86	1.17	GE
11.	appreciation of the significance of common computer specification such as amount of installed RAM	2.71	1.11	2.67	0.89	2.70	1.08	GE
Grand $\bar{x}$ and SD		2.93	1.12	2.92	1.08	2.93	1.13	GE

Results of analysis in Table 1 showed the mean and standard deviation ratings on the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in general operational principles. The results showed that the overall mean responses of items 1 to 11 were higher than the cut-off point of 2.50. The overall grand mean response was high for respondents in urban ($\bar{x}$ = 2.93, SD = 1.12) and rural ($\bar{x}$ = 2.92, SD = 1.08). The value of the overall mean response ($\bar{x}$ = 2.93, SD = 1.13) was also higher than the cut-off point. This implied that the extent to which National Open University of Nigeria students in urban and rural study centers in Enugu State possess computer competencies in general operational principles was to a Great Extent.

Research Question 2: To what extent do National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in file management?

Table 2: Mean and standard deviation ratings on the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in file management n = 416

SN	Extent students possess general computer competencies in file management is reflected in their:	Urban		Rural		Overall		Decision
		$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	
12.	thorough knowledge of file management utility	2.25	1.00	2.14	.85	2.23	.98	LE
13.	understanding of file extensions within the	2.28	.97	1.94	.83	2.22	.96	LE

	Windows operating system							
14.	ability to access files on local drives	2.25	1.01	2.02	.85	2.21	.99	LE
15.	ability to access folders on network drives	2.25	.99	2.08	.74	2.22	.96	LE
16.	ability to create folders on local or network drives	2.27	.99	1.89	.78	2.21	.97	LE
17.	ability to open previously created files	2.34	.97	1.94	.91	2.27	.97	LE
18.	ability to update previously created files	2.27	1.00	2.17	.79	2.25	.97	LE
19.	ability to save previously created files	2.30	.97	1.94	.81	2.25	.96	LE
20.	ability to copy files between folders	2.28	.99	2.05	.88	2.24	.98	LE
21.	ability to move files between folders	2.29	.99	2.02	.85	2.25	.97	LE
22.	skills to delete un-needed files	2.29	1.02	2.05	.84	2.25	.99	LE
23.	skills to properly connect common peripheral device such as USB drives	2.31	.99	2.03	.82	2.26	.97	LE
24.	skills to properly connect common peripheral device such as auxiliary disk drives	2.24	.99	2.08	.82	2.22	.97	LE
25.	skills to properly connect common peripheral device such as digital camera	2.24	1.01	1.98	.88	2.20	1.00	LE
Grand $\bar{x}$ and SD		2.27	0.99	2.02	0.83	2.24	0.97	LE

Results of analysis in Table two showed the mean and standard deviation ratings on the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in file management. The results showed that the overall mean responses of items 12 to 25 were less than the cut-off point of 2.50. The overall grand mean responses were low for respondents in urban ($\bar{x}$ = 2.27, SD = 0.99) and rural ($\bar{x}$ = 2.02, SD = 0.83). The value of the overall mean response ($\bar{x}$ = 2.24, SD = 0.97) was also less than the cut-off point of 2.50. This implied that the extent to which National Open University of Nigeria students in urban and rural study centres in Enugu State possess computer competencies in file management was to a Low Extent.

Hypothesis 1: There is no significant difference in the mean rating of National Open University of Nigeria Students in urban and rural study centers in Enugu state on the extent to which they possess computer competencies in general operational principles.

Table 3: t-test of Mean Ratings of Respondents in Urban and Rural Study Centres on the extent they possess computer competencies in general operational principles

Location	N	Mean	Std. Deviation	t-cal	df	Sig.	Dec.
Urban	352	2.93	0.76	0.12	414	0.92	NS
Rural	64	2.92	0.57				

Table 3 shows that the t-value for the difference in mean ratings of National Open University of Nigeria Students in urban and rural study centers in Enugu state on the extent to which they possess computer competencies in general operational principles is 0.12 at 0.05 level of significance and 414 degree of freedom. Since the significance value (Sig. =0.92) is higher than 0.05 level of significance, the null hypothesis is, therefore, not rejected as stated. Hence, there is no significant difference between the mean ratings of National Open University of Nigeria Students in urban and rural study centres in Enugu

state on the extent they possess computer competencies in general operational principles.

Hypothesis 2: There is no significant difference in the mean ratings of National Open University of Nigeria students in urban and rural study centres of Enugu state on the extent to which they possess computer competencies in file management.

Table 4: t-test of Mean Ratings of Respondents in Urban and Rural study centres on the extent they possess computer competencies in file management.

Location	N	Mean	Std. Deviation	t-cal	df	Sig.	Dec.
Urban	352	2.27	0.67	5.22	414	0.00	S
Rural	64	2.02	0.26				

Table 4 shows that the t-value for the difference in mean ratings of National Open University of Nigeria students in urban and rural study centres of Enugu state on the extent to which they possess computer competencies in file management is 5.22 at 0.05 level of significance and 414 degree of freedom. Since the significance value (Sig. =0.00) is less than 0.05 level of significance, the null hypothesis is rejected as stated. Hence, there is significant difference between the mean ratings of National Open University of Nigeria students in urban and rural study centres of Enugu state on the extent they possess computer competencies in file management.

Discussion

The findings indicated that the extent of computer competencies related to general operational principles among National Open University of Nigeria (NOUN) students in both urban and rural study centres in Enugu State was notably high. Further analysis through hypothesis testing revealed no significant difference between the mean ratings of students in urban centres compared to those in rural centres, highlighting adequacy in their level of competencies regarding general operational principles. These results align with the finding of Batez (2021) which revealed competencies in the use of ICT to deepen knowledge, among distance learning students. The results, on the other hand, contradict the observations of Omoike (2015), who reported a low level of utilization of electronic information resources among students, suggesting a broader trend of insufficient digital literacy that affects academic engagement and resource usage. This underscores the need for targeted interventions to enhance computer competencies across all study centres, particularly in rural areas.

The results in table 2 revealed that the extent of computer competencies in file management among National Open University of Nigeria (NOUN) students in both urban and rural study centers in Enugu State was notably low. Additionally, the hypothesis testing indicated a significant difference between the mean ratings of students in urban centres and those in rural centres, further illustrating a disparity in their competencies regarding file management. This finding highlights a critical gap in the assertion made by Ailakhu (2023), who emphasized the importance of proficiency in file management for students to effectively view both current and historical records of their academic performance. Ailakhu posited that mastering operational systems and managing files are foundational skills that lead to further proficiency in word processing and other advanced digital tasks. The low levels of file management competency among NOUN students suggest that many are unprepared to efficiently organize and retrieve their academic materials, potentially impacting their overall academic performance and engagement. This underscores the urgent need for targeted training and support to enhance file management skills among students, particularly those in rural study centres.

Educational Implications of the Findings

This study has a number of educational implications for students, facilitators, and other stakeholders.

The findings of this study have important educational implications for students of the National Open University of Nigeria (NOUN). The low levels of computer competencies across both urban and rural study centres, coupled with significant disparities in favour of urban students, highlight a critical need for enhanced digital literacy training and infrastructure development, especially in rural areas. Without sufficient computer skills, students may struggle to engage effectively with NOUN's e-learning, e-examinations and platform, limiting their access to course materials, research tools, and communication channels. To improve learning outcomes, NOUN must prioritize closing the digital divide by providing equal access to computers, reliable internet, and targeted training programmes. This will not only enhance academic performance but also equip students with the necessary skills to thrive in an increasingly digital world.

The findings of this study have important educational implications for facilitators at the National Open University of Nigeria (NOUN). The low computer competencies among students, particularly in rural centres, suggest that facilitators must adopt more proactive approaches to integrating digital skills into their instruction. This includes offering additional support and training in areas like word processing, file management, internet research, and graphics presentation. Facilitators may need to incorporate blended learning strategies, leverage technology to enhance learning experiences, and provide students with more hands-on practice opportunities. Additionally, addressing the significant gap between urban and rural students requires facilitators to tailor their teaching methods to bridge this digital divide, ensuring equitable access to learning resources and fostering the necessary computer literacy for academic and career success.

The findings of this study have significant educational implications for other stakeholders, including policymakers, administrators, and curriculum developers at the National Open University of Nigeria (NOUN). The overall low computer competencies, especially among rural students, highlight the urgent need for investment in digital infrastructure, such as reliable internet access, modern computer labs, and adequate power supply, particularly in rural centres. Policymakers should prioritize policies that bridge the urban-rural digital divide by providing equal access to technological resources. Administrators need to organize regular digital literacy workshops and ensure that students are adequately supported with the tools they need to succeed. Curriculum developers should revise course materials to integrate more digital skill-building exercises, ensuring that students across all locations develop essential computer competencies critical for modern learning and employment.

Recommendations of the Study

Based on the findings of the study, the researcher recommends as follows:

1. Educational stakeholders should prioritize the improvement of digital infrastructure in rural study centres.
2. NOUN should develop and implement comprehensive digital literacy training programmes tailored to address the specific needs of students in both urban and rural centres. These programmes should focus on enhancing skills in general operational principles, file management, word processing, internet research, and graphics presentation. Regular workshops and hands-on training sessions will equip students with the practical skills needed for academic success.
3. Curriculum developers should revise and enhance course materials to incorporate digital skills training as a core component of the learning experience. By integrating technology into the curriculum and emphasizing the importance of computer competencies across all subjects, NOUN

can better prepare students for the demands of a technology-driven workforce and promote equitable skill development among all students.

References

Ailakhu, U.V. (2023). Best Practice in Records Management in Open and Distance Learning (ODL): A Case Study of National Open University of Nigeria (NOUN). Philosophy and Practice. -759

Batez, M. (2021). ICT Skills of University Students from the Faculty of Sport and Physical Education during the COVID-19 Pandemic. Sustainability 2021, 13, 1711. https://doi.org/10.3390/su13041711

Campus Open Education (2023), BC Campus Press Books Catalogue https://opentextbc,ca>chapter>bas

Demirkan, H., (2016). Digital innovation and strategic transformation. IT Professional. 18(6). 14 – 18. https://doi.org/10.1109/MITP.2016.115

Ingram, D. (2016), Management of Operational Management System https://smallbusiness.chron.com

Jensen, T. (2019). Higher education in the digital era. The current state of transformation around the world. 14.04.2021. Source: https://iau-aiu.net/IMG/pdf/technology_report_2019.pdf

Musingafi, M. C. C., Mapuranga, B., Chiwanza, K. & Zebron, S. (2015). Challenges for Open and Distance learning (ODL) Students: Experiences from Students of the Zimbabwe Open University, Journal of Education and Practice, 6 (18), 59-66.

Naniamo, U. (2024), Required Computer Competencies https://management.viu.ca/business

NOUN, (2022). NOUN at a glance. A publication of the Vice-Chancellor's Office National Open University of Nigeria Abuja, Nigeria.

Ogunlela, V. B. & Ogunleye, B. O. (2014). Promoting quality assurance practices for ODL programmes in West African higher education institutions: The role of RETRIDAL. International Open and Distance Learning Journal. 4th ACDE 2014 Special Edition, 95-108.

Ogunleye, B. O. (2020). Teachers' perceived barriers to successful implementation of ICT in the teaching and learning of science subjects in Nigerian secondary schools. Nigeria Journal of Computer Literacy, 8 (1), 15-31.

Okopi, F. O. & Ogunleye, B. O. (2016). Staff and students' assessment of quality of learner support services in the National Open University of Nigeria. International Journal of Education, Science, Humanities, Mathematics and Environmental Studies, 8 (1 & 2), 138-153.

Olusegun, E. A. & Adesoji, F. F. (2017). Gender Influence of ICT Competence of Undergraduates in State – Owned Universities in the South – West Nigeria. Journal of Applied Information Science and Technology, 10 (1), 140-151.

Omoike, D. A. (20015). "Use of Electronic Resources by Distance Students in Nigeria: The Case of the National Open University,

Lagos and Ibadan Study Centers". Library Philosophy and Practice (e-journal). 915. https://digitalcommons.unl.edu/libphilprac/915

Osang, F. (2017). Electronic Examination in Nigeria, Academic Staff Perspective—Case Study: National Open University of Nigeria (NOUN). International Journal of Information and Education Technology, 2(4), 304-307

Shraim, K. (2018). Palestine (West Bank and Gaza Strip). In: Weber A., Hamlaoui S. (eds) E-Learning in the Middle East and North Africa (MENA) Region. Springer, Cham, 309-332.

Tan, E. (2017). Learning to learn: Beyond 2020. In M. C. Stracke, O. Tveiten, & M. Shanks (Eds.), Smart Universities: Education's Digital Future: Official Proceedings of the International WLS and LINQ Conference. (pp. 13-20). Norway: Logos Verlag Berlin GmbH.