Assessment of Digital Proficiency Levels Possessed Among Federal University Library Staff in North East Nigeria

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ABSTRACT: *This study assessed the digital proficiency levels of Federal University Library Staff in North East Nigeria. Five specific objectives were formulated to guide the study. They are: to find out the level of basic digital proficiency possessed; to find out the level of intermediate digital proficiency possessed; to find out the level of advanced digital proficiency possessed; to find out the challenges associated with digital proficiency possessed; and ascertain the strategies for enhancing digital proficiency levels possessed among library staff and the effectiveness of library operations in federal university libraries in the North-East. In line with the objectives, five research questions were answered. The study adopted a descriptive type of survey research design, using a total of two hundred and forty-seven (247) professional and paraprofessional library staff of the six federal university libraries in northeast Nigeria as the population of the study using purposive sampling techniques. A questionnaire was the main instrument used for data collection, and descriptive statistics were used to analyze the collected data using the mean and standard deviation. The study found that basic digital proficiency levels are possessed by the library staff to a very great level (3.50 ±.70). Intermediate digital proficiency levels are possessed by the library staff to a great level (3.35 ±.94). Advanced digital proficiency levels are possessed by the library staff to a great level (3.03 ± 1.04). Insufficiency of ICT facilities, outdated ICT facilities, and the poor state of the library ICT network were strongly agreed to be challenges associated with digital proficiency in federal university libraries in the northeast of Nigeria. Among the other recommendations made are: installation of internet facilities with increased broadband; organizing training programs on ICT skills for the library staff; etc.*

KEYWORDS: assessments, digital proficiency skills, federal university library staff, North- East Nigeria.

INTRODUCTION

The rationale behind the establishment of libraries of whatever type globally is to see to it that, the teaming users' information needs are readily made available. By implication, the room, building, or facilities that house such a compilation normally, but not always, achieve organizational goals to establish libraries in university settings. Without a good and usable library that will always serve as a repository of information, no university can be successful in its academic work. This implies that libraries must be up-to-date in this current information age. Given the aspirations of higher learning today, the library system must take on the burdensome task of ensuring that the user community is well-connected to the world of information. Libraries do not only supplement classroom learning, but they also help in providing research updates by offering a wide variety of resources, including engaging learners with books, complementary research, reference materials, and journals; offering a broad selection of scholarly tools and current literature on every topic for students, educators, and academic scholars; and maintaining a good reference and information system.

The ability to access information resources in libraries has a significant effect on the dissemination of information among library users, which is a function of library operations for effective service delivery. For libraries to understand the effectiveness of their services, it calls for the need to assess the relationship between the available resources and the degree of accessibility by the user community, and this has been the reason for the existence of libraries in our institutions. However, libraries require complete bibliographic control over their holdings to achieve their missions, and that has been difficult with the application of manual library operations owing to the introduction of ICT-driven information sources. The application of ICT to carry out library operations for effective service delivery is a battle that must be fought. Notwithstanding, success in applying ICT for effective library operations requires that the library staff possess a digital proficiency level to enable them to manipulate the machines correctly.

Studies have shown that library staff uses ICT to perform library operations for effective service delivery owing to the weaknesses of manual library operations (Aba, Ezeani, and Cyprian 2015), Arinola, Adigun, Oladeji, and Adekunjo (2012), and Oyedokun, Oyewumi, Akanbi, and Laaro (2018). It is obvious that ICT-literate or skilled library staff can access and download information resources from any library online, regardless of distance or time, breaking the clutter of insufficient information resources and the difficulties encountered in traditional library operations. Emezie and Nwaohiri (2017) reiterated that with ICT-literate and skilled library staff, university libraries have the potential to benefit from ICT in carrying out library operations such as electronic circulation services, online electronic public access catalogs, electronic cataloging, electronic acquisition, and serial control electronically. With all the advantages accrued from the use of ICT for effective

library operations, the federal university libraries in northeast Nigeria will be better off in providing effective and efficient service delivery.

The basic digital proficiency skill is the early stage of ICT literacy skill acquisition. At this stage, those who possess the skills can perform less challenging activities or tasks in the library. Most of the activities performed by those who possess basic digital proficiency include the ability to manage Microsoft Word, copy a file to another directory or folder from one disk, scan and turn on and off devices, upload machine files, open PowerPoint electronic presentations, data file backup, and deleting a machine file.

The intermediate digital proficiency skill is a stage of competency in which additional training has to be obtained ahead of the basic category. It is a stage of digital proficiency that describes the effective application of packages to achieve tasks in a work environment. These include: saving an image or graph from an e-mail page; document/database management; and attaching a picture or image to an e-mail message. Selection and acquisition of books online; cataloging: online copying; Internet use; public access; online catalogs Search Information Strategy: Worldwide Web Navigation says (Oyedokun, Oyewum, Akanbi, and Laaro, 2018).

The advanced digital proficiency skill is the highest operating level to achieve. Aside from the technical skills possessed, this category of skills enables library staff to perform the tasks carried out by those who possess both the basic and intermediate digital proficiency levels, in addition to highly advanced activities such as designs, repairs, and the like. Some of the tasks include programming; networks; automation and library application software; taxonomy and ontology; Ms. Access application; installation of computer software; participation in online conversation or chat; online database research; and so on. For a library that has ICT literacy and skilled library staff, ICT can best be used to handle the highly technical and repetitive library operations. (Oyedokun, Oyewum, Akanbi, & Laaro, 2018).

Consequently, good digital proficiency-driven library operations, by the library staff, will enable library users to have access to more worldwide information resources than traditional library operations, which are restricted to a single library's collections. In light of the foregoing assertions, the underutilization of ICT for library operations would affect the standards of universities around the world. To this end, without using ICT to carry out library operations, there will be no effective library operation that guarantees effective service delivery. This will eventually hinder both students and lecturers at the universities from accessing the right information exhaustively to satisfy their needs. This study therefore seeks to find out whether the lack of the required digital proficiency skills is irresponsible and why library activities are still performed manually despite the availability of lots of ICT technological facilities in federal university libraries in north-east Nigeria.

Objectives of the Study

The general objective of the study was to determine the effectiveness of digital proficiency levels among Federal University Library Staff in North East Nigeria, while the specifics were to:

1. Find out the level of basic digital proficiency skills possessed by library staff for effective library operations in federal university libraries in the North-East, Nigeria;
2. Find out the level of intermediate digital proficiency skill possessed by library staff for effective library operations in federal university libraries in the North-East, Nigeria;
3. Find out the level of advanced digital proficiency skill possessed by library staff for effective library operations in federal university libraries in the North-East, Nigeria;
4. Find out the challenges associated with digital proficiency skills among staff of federal university libraries in the north-east of Nigeria.
5. Ascertain the strategies for enhancing digital proficiency skills possessed by library staff and the effectiveness of library operations in federal university libraries in the Northeast.

Research question

1. What is the level of basic digital proficiency skills possessed by library staff for effective library operations in federal university libraries in the northeast of Nigeria?
2. What is the level of intermediate digital proficiency skill possessed by library staff for effective library operations in federal university libraries in the north-east of Nigeria?
3. What is the level of advanced digital proficiency skill possessed by library staff for effective library operations in federal university libraries in the north-east of Nigeria?
4. What are the challenges associated with digital proficiency skills among library staff and the effectiveness of library operations in federal university libraries in the north-east of Nigeria?
5. What are the strategies for enhancing digital proficiency skills among library staff and the effectiveness of library operations in federal university libraries in the Northeast?

Theoretical framework

Connectivity Theory (Connectivism) (CT): Connectivity theory was propounded by George Siemens, a Canadian theorist, in December 2004 (Carreno, 2014). The theory is popularly called the "learning theory of the digital age" and takes its roots from the psychological learning theories of behaviorism, cognitivism, and constructivism. The theory states that: Learning is a process that occurs within nebulous environments of shifting core elements, not entirely under the control of the individual. Learning (defined as actionable knowledge), which can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the theoretical significance of e-resources and digital library connections that enable us to learn more is more important than our current state of knowing.
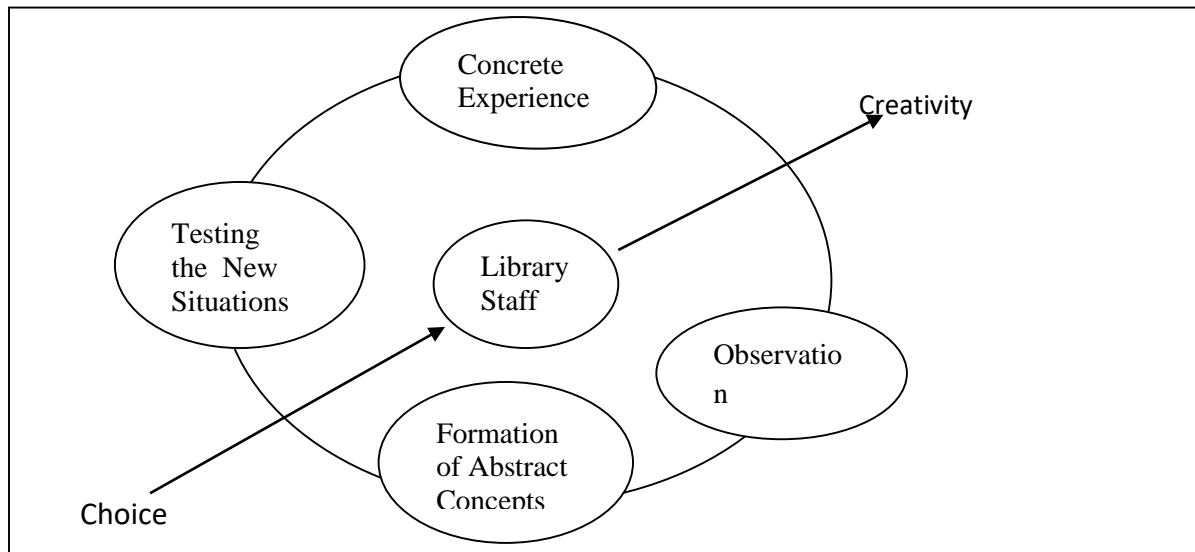
Fig. 1.2: Adapted Connectivity Theory (Connectivism) (CT) (George Siemens, 2004)

The principles guiding connectivity theory include:
- Learning is the process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Nurturing and maintaining connections is needed to facilitate continuous learning.
- Learning and knowledge rest in a diversity of opinions.
- The capacity to know more is more critical than what is currently known.
- The ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate and up-to-date knowledge) is the intent of all connectivist learning activities.
- Decision-making itself is a learning process (Siemens, 2005, p.

Based on this theory, the acquisition of digital proficiency skills is considered a new task that seems difficult to acquire by the library staff. The emphasis is placed on persistence and constant commitment by the learners, with proper provision of facilities and a good atmosphere for learning to take place. One will begin to imagine in some libraries that, despite the availability and adequacy of ICT facilities, they cannot use them for effective service delivery. It is therefore recommended that libraries strike a balance by providing standard ICT training skills for the various categories of library staff to ensure effective service delivery. This is because what is already known (manual library operation) is much easier than what needs to be learned (electronic library operations requiring digital proficiency level).

LITERATURE REVIEW

A related study was conducted by Atanda, Owolabi, and Ugbala (2021) on "Professional competence and attitudes of library personnel towards digital services in selected university libraries in Nigeria. Among the specific objectives of the study was to investigate the expertise and role of library employees in selected university libraries in Nigeria concerning digital resources. The results of the study revealed that electronic services are available in libraries. It was also discovered that the majority of the library's professionals possess the required proficiency skills in basic computer operations. A study was conducted by Abban (2018) on "Training and Development of Library Staff: A Case of Two University Libraries in Ghana." The study was to determine the benefits derived from the training and development of library staff and to find out the specific training and development needs of the library staff. The findings revealed that the majority of 40 (71%) respondents had low digital proficiency levels due to insufficient and inconsistent ICT training for library staff, while only 16 (29%) had improved their skills through training programs.

A study was carried out by Tech-Terms (2019) on "Status of Technological Competencies of Library Professionals in Colleges in Kerala: An Analytical Study." The basic aim of the present study is to examine the information and communication technology (ICT) competencies of college library professionals in Kerala. The study found that librarians possess intermediate digital proficiency in carrying out all library operations. However, it was realized that most of the library staff acquired their skills through in-house training. Another study was conducted by Oyedipe and Popoola (2019) on the "Influence of Age, Employment Status, Digital Proficiency Level, and ICT Use on Public University Library Performance at Work." The purpose of the survey was to evaluate the effects of the digital proficiency level of library staff on the implementation and use of ICT. According to the findings, only 87 (32 percent) of the 268 library professionals possessed intermediate ICT literacy, implying that the remaining 181 (68%) were ICT illiterate. Only 28 (8%) of the 268 paraprofessionals in those libraries were ICT-literate.

A similar study was conducted by Olufunke (2017) on "digital proficiency level and electronic information resource use by lecturers at two private universities in Oyo State, Nigeria." The purpose of this study was to investigate the influence of information and communication technology (ICT) literacy skills on electronic information resource (EIR) use among lecturers at two private universities in Oyo State, Nigeria. The results revealed that ACU lecturers have advanced ICT literacy abilities, whereas LCU lecturers have high computer operations, Internet browsing, Internet searching, and computer appreciation skills in general computer operation. Furthermore, Odu and Omosigho (2017) conducted a study on "Digital literacy and the implications of Nigerian digital libraries," which is another research project that has an interest in the ICT literacy training of library staff. The study intends to examine the implications of being

digitally illiterate in electronically operated libraries to encourage and promote academic libraries in Nigeria. The discovery demonstrates that, while the library staff possessed internet literacy skills, this did not imply that they were highly advanced in literacy.

The North East of Nigeria, being the focus study area, has become important and necessary to determine what could have been responsible for the under-utilization of ICT for effective library operations in federal university libraries. Given the above assertion, the need to carry out a study to find out the level of digital proficiency skills among the library staff of federal university libraries in the North East, Nigeria, is the reason for this research.

METHODOLOGY

The study adopted the descriptive research design of the survey types. This was suggested by Ali (2006) that a survey research design is a descriptive study that seeks or uses sample data from an investigation to document, describe, and explain what is existent or non-existent in the present status of a phenomenon being investigated. The population of the study is 247 library staff, which consists of professional and para-professional staff in federal university libraries in the northeast of Nigeria, using the purposive sampling technique. A self-designed questionnaire was used as the instrument for data collection. Descriptive statistics of mean and standard deviation were adopted for data analysis.

Data presentation and interpretation
Out of the two hundred and forty-seven (247) questionnaires administered, two hundred and thirty-one (231) representing 93.5% were successfully retrieved and found usable for the analysis.

Research Question 1: To what level are basic digital proficiency levels possessed by library staff in federal university libraries in the North-East, Nigeria?

Table 1: *Mean and Standard Deviation Ratings on the Level of Basic* Digital Proficiency level *Possessed by Library Staff*

s/n	Basic digital proficiency level	N	Mean	Std	Rank	Dec
1	Skill in using ICT to directional service	231	3.56	.70	1st	**VGL**
2	Skill in using ICT for bulk text messages	231	3.56	.64	1st	**VGL**
3	Skill in using ICT for overdue fine notices	231	3.54	.66	2nd	**VGL**
4	Skill in using ICT to send orders for the acquisition of information resources	231	3.52	.65	3rd	**VGL**
5	Skill in using ICT for reprographic services	231	3.52	.75	3rd	**VGL**
6	Skill of using ICT to register new members/issue out library clearance	231	3.50	.67	4th	**VGL**
7	Skill in using ICT for statistical records.	231	3.46	.71	5th	**GL**
8	The skill of word processors to write letters	231	3.40	.77	6th	**GL**
9	Skill in using e-mail for messaging	231	3.37	.76	7th	**GL**
	Cluster Mean		**3.50**	**.70**		**VGL**

n = Sample Size, Std = Standard Deviation, Dec = Decision, VGL = Very Great Level*, GL = Great* level

Table 1 shows the result of the level to which basic digital proficiency levels are possessed by library staff in federal university libraries in the North-East, Nigeria. The result shows that to a very great level the library staff possesses the skill of using ICT to provide direction of service, the skill of using ICT to disseminate information through bulk text messages, the skill of using ICT to process overdue fine notices, the skill of using ICT to send orders for the acquisition of information resources, the skill of using ICT to provide reprographic services, the skill of using ICT to register new members and issue a library clearance with mean scores mean that range from 3.56 to 3.50. The skill of using work processes to prepare letters and notices and the skill of using email to disseminate information was found to be possessed to a great level by the library staff. The cluster mean of 3.50 ±.70 indicates that the library staff possesses a basic digital proficiency level to a very great level. The standard deviation scores that range from .77 to .64 indicate that the library staff are not far from each other in their possession of basic digital proficiency level.

Research Question 2: To what level are intermediate digital proficiency levels possessed by library staff in federal university libraries in the North-East, Nigeria?

Table 2: *Mean and Standard Deviation Ratings on the Intermediate* digital proficiency level *Possessed by Library Staff*

s/n	**Intermediate** digital proficiency level	**N**	**Mean**	**Std**	**Rank**	**Dec**
1	Skill in using ICT to charge and discharge materials by using ba barcode	231	3.56	.70	1st	**VGL**
2	Skill in using ICT to indicate the cataloging instructions used by coding	231	3.46	.70	2nd	**GL**
3	Skill in using ICT to access information on storage devices	231	3.43	.83	3rd	**GL**
4	Skill in using ICT to access files or titles of books from the OPAC	231	3.41	.76	4th	**GL**
5	Skill of using ISBN to access every book's bibliographic details needed for acquisition	231	3.33	.72	5th	**GL**
6	Skill in using ICT to catalog and classify materials on the webs	231	3.28	.78	6th	**GL**
7	Skill in using ICT to view and reuse previous searches using history	231	3.27	.85	7th	**GL**
8	Skill in using ICT to search, notify, and recall books loaned out	231	3.26	.86	8th	**GL**
9	Skill in using ICT to view and reuse previous searches using History	231	3.19	.92	9th	**GL**
	Cluster Mean		**3.35**	**.94**		**GL**

n = Sample Size, Std = Standard Deviation, Dec = Decision, VGL = Very Great Level*, GL = Great* Level

Table 2 presents the results of the level to which intermediate digital proficiency level are possessed by library staff in federal university libraries in the North-East, Nigeria.. The result shows that only the skill of using ICT to charge and discharge materials by using barcode (3.56) is possessed to a very great level by the library staff. While, the other intermediate digital proficiency level such as skill of using ICT to indicate the cataloguing instructions used by coding, skill of using ICT to access information on the storage devices, skill of using ICT to access files or titles of books from the OPAC, skill of using ISBN to access every bibliography details needed about books for acquisition are possessed to a great level by the library staff with mean scores that range from 3.46 to 3.19. The cluster mean score 3.35 ±.94 suggests that the library staff possess intermediate digital proficiency level to a great level. The standard deviation scores range from 0.96 but 92 to .71 shows there is low variation between the library stuff possessions of basic digital proficiency level.

Research Question 3: To what level are advanced digital proficiency levels possessed by library staff in federal university libraries in the North-East, Nigeria?

Table 3: *Mean and Standard Deviation Ratings on the Advanced* digital proficiency level *Possessed by Library Staff*

s/n	Advanced digital proficiency level	N	Mean	Std	Rank	Dec
1	Skill to develop a website that can be used to advertise library services	231	3.23	1.02	1st	**GL**
2	Skill to use publisher to create packages that can produce advertising material	231	3.23	.96	1st	**GL**
3	Skill in using ICT to include all Unicode characters in the bibliographic record	231	3.16	1.01	2nd	**GL**
4	Skill in using ICT to prepare library records' backup through cloud computing	231	3.03	1.04	3rd	**GL**
5	Skill to prepare and upload library holdings for people to access online via the library portal.	231	2.99	1.06	4th	**GL**
6	Skill in fixing faulty ICT facilities in the library	231	2.93	1.09	5th	**GL**
7	Skill to navigate all the packages in the library	231	2.92	1.05	6th	**GL**
8	Skill in using ICT to search for the appropriate authority files	231	2.91	1.07	7th	**GL**
9	Skill in using ICT to store information on tertiary memories such as robotic memories	231	2.80	1.07	8th	**GL**
	Cluster Mean		**3.02**	**1.04**		**GL**

n = Sample Size, Std = Standard Deviation, Dec = Decision, VGL = Very Great Level*, GL = Great* Level

Table 3 shows the level to which advanced digital proficiency levels are possessed by library staff in federal university libraries in the North-East, Nigeria. The results show that all the identified advanced digital proficiency levels such as the skill to develop a website that can be used to advertise library services, the skill to use publisher to create packages that can produce advertising materials, the skill of using ICT to include all Unicode characters in the bibliographic record, the skill of using ICT to prepare library records backup through cloud computing, the skill of fixing faulty ICT facilities in the library, among others are possessed to a great level by the library staff with mean scores that range from 3.23 to 2.80. The cluster mean of 3.03 ±1.04 suggests that the library staff possess advanced literacy skills to a great level. The standard deviation score from 1.09 to .96 is an indication that there is low response variation among the library staff.

Research Question 4: What are the challenges affecting the digital proficiency level possessed for effective library operations by library staff in federal university libraries in North-East, Nigeria?

Table 4: *Mean and Standard Deviation Ratings on the Challenges Affecting the* digital proficiency level *Possessed by the Library Staff*

s/n	Items Statement	N	Mean	Std	Rank	Dec.
1	Insufficiency of available ICT facilities	231	3.56	.63	1st	SA
2	Outdated ICT facilities in the libraries	231	3.55	.56	2nd	SA
3	The poor state of library ICT network connectivity	231	3.54	.64	3rd	SA
4	Irregular power supply	231	3.33	.64	4th	A
5	Poor ICT training programs for the library staff	231	3.19	.67	5th	A
6	Poor retrospective conversion practices from manual forms to digital formats	231	3.08	.60	6th	A
7	The uncooperative attitude of library staff toward ICT skills acquisition	231	2.95	.82	7th	A
8	Poor maintenance culture leads to government property being nobody's property	231	2.90	.90	8th	A
9	Lack of support from management as a result of budget constraints	231	2.77	1.03	9th	A
	Cluster Mean		**3.20**	**.72**		**A**

SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree

Table 4 shows the result of the challenges affecting the digital proficiency level possessed for effective library operations by library staff in federal university libraries in the North-East, of Nigeria. The results showed that insufficiency of available ICT facilities, outdated ICT facilities in the library, and poor state of library ICT network connectivity, were strongly agreed upon as challenges associated with digital proficiency level and library operations. The other challenges such as irregular power supply, for ICT training programs for the library staff, poor retrospective conversion practices, and uncooperative attitude of library staff towards ICT skills acquisition were rated agreed upon. The cluster mean of 3.20 ±.72 indicates that the identified challenges affect the acquisition of digital proficiency level and library operations carried out for effective service delivery in the libraries. The standard deviation scores range from 1.03 to .56 showing high response variation among the library staff.

Research Question 5: What are the strategies for ameliorating the challenges affecting the digital proficiency level possessed for effective library operations by library staff in federal university libraries in the North-East, Nigeria?

Table 5: *Mean and Standard Deviation Ratings on the Strategies for Ameliorating the Challenges Affecting the* digital proficiency level *Possessed for Effective Library Operations*

s/n	Strategies	N	Mean	Std	Rank	Dec
1	Installation of Internet facilities with increased broadband	231	3.77	.52	1st	**VA**
2	Organizing training programs on ICT skills for the library staff	231	3.71	.53	2nd	**VA**
3	Purchasing new ICT facilities to increase acquaintance	231	3.70	.55	3rd	**VA**
4	Re-orientation of library staff on emerging digital proficiency level	231	3.66	.55	4th	**VA**
5	Training of library staff on ICT maintenance	231	3.61	.59	5th	**VA**
6	Creating fund packages to support digital proficiency level acquisition	231	3.48	.67	6th	**A**
7	Installation of alternative power supply such as solar energy	231	3.44	.77	7th	**A**
8	Training of the library staff on retrospective conversion	231	3.42	.71	8th	**A**
9	Upgrading the existing ICT facilities to the latest versions	231	3.13	.93	9th	**A**
	Cluster Mean		**3.54**	**.64**		**VA**

VA = Very Appropriate, A = Appropriate, LA = Less Appropriate and NA = Not Appropriate

Table 5 shows the result of the strategies for ameliorating the challenges affecting the digital proficiency level possessed for effective service delivery by library staff in federal university libraries in the North-East, Nigeria. The results show that the installation of internet facilities with increased broadband, organizing training programs on ICT skills for the library staff, purchasing new ICT facilities to increase their acquaintance, reorientation of library staff on the acquisition of emerging digital proficiency level, and training of library staff on ICT maintenance are the very appropriate strategies for ameliorating the challenges affecting the acquisition of digital proficiency level for effective service delivery. Consequently creating fund packages to support digital proficiency level acquisition, and installation of alternative power supply, among others were found to be appropriate strategies. The cluster mean score of 3.54 ±.64 is an indication that the strategies are very appropriate if implemented for the amelioration of the challenges affecting digital proficiency level for effective library operations. The standard deviation scores that range from .93 to .53 show that the library staff are far from each other in their responses.

SUMMARY OF MAJOR FINDINGS

The following is the summary derived from the result in response to the research questions that guided the study:

❖ Basic digital proficiency levels are possessed by the library staff to a very great level (3.50 ±.70). This includes the skill of using ICT to provide direction of service, the skill of using ICT deserving minutes information through bulk text messages, the skill of using ICT to process overdue notes, among others.

❖ Intermediate digital proficiency levels are possessed by the library staff to a great level (3.35 ±.94). This includes the skill of using ICT to charge and discharge materials by using a barcode, among others.

❖ Advanced digital proficiency levels are possessed by the library staff to a great level (3.03 ±1.04). This includes the skill to develop a website that can be used to advertise library services, and the skill to use publishers to create packages that can produce advertising materials, among others.

❖ Insufficiency of available ICT facilities, outdated ICT facilities in the library, and poor state of library ICT network connectivity were strongly agreed as challenges associated with digital proficiency level and library operations.

❖ Installation of internet facilities with increased broadband, organizing training programs on ICT skills for the library staff, purchasing new ICT facilities to increase their acquaintance, reorientation of library staff on the acquisition of emerging digital proficiency level, and training of library staff on ICT maintenance are the very appropriate strategies to enhance digital proficiency level of the library staff.

CONCLUSION AND RECOMMENDATIONS

Conclusively, it is obvious that the relevance and usefulness of ICT in carrying out routine operations in university libraries cannot be compromised as the world is becoming virtually information-oriented, The inability of the management of the federal university libraries to equip their staff with the necessary digital proficiency skills and be relevant, it will be difficult for them to make meet the required service delivery. Failure to provide the necessary conditions or requirements will result in no effective library operations that will guarantee effective service delivery that will meet the user community's information needs. This translates to the fact that library users in federal university libraries in northeast Nigeria will be denied access to the world of information, especially in research and development. The implication is that the products of such universities cannot compete with other university products in the country due to the inability to have the right information at the right time.

Based on the findings of the study, the following recommendations are made: There is a need to effectively tackle the following problems militating against the application of ICT for effective

library operations: Poor library networking system; insufficient ICT facilities; Poor funding of libraries; inadequate digital proficiency level; outdated ICT facilities in libraries, and irregular power supply. The ability to settle these challenges is the only way for federal university library staff to be digitally proficient it also calls for the need that the library management of the federal university libraries in North-East, Nigeria should urgently consider adopting the following strategies to achieve effective use of ICT for library operations: Installing Internet facilities with increased broadband; Adequate ICT facilities should be purchased; Improved funding; Training programs on ICT skills and competence should be organized for library staff. An alternative power supply should be made available such as solar energy or generating plants, among others.

REFERENCES

Aba, J., Exeani, C.N., and Cyprian, U. (205). Application of Computer technologies to Circulation Services in University and Research Institute Libraries in North Central Nigeria in Information and knowledge management. Accessed on 16/3/2021 at: https://www.iiste.org/Journals/index.php/knowledge IKM/article/view/20585

Abban, S. (2018). Training and development of library staff: A case of two University Libraries in Ghana. *Library Philosophy and Practice (e-journal, 5(1), 1-26*. Accessed at: https://digitalcommons.unl.edu/libphilprac/1794 on 23/4/2019

Arinola, A. A., Adigun, G. O., Oladeji, B. O. & Adekunjo, O. A. (2012). Impact of ICT on cataloging and classification of library materials; A case study of some selected University libraries in South-West Nigeria: *American International Journal of Contemporary Research; 2(6), 122-127*. Accessed at:: http://www.aijcrnet.com/journals/ /15.pdf on 17/6/2019

Atanda, A. D., Owolabi, K.& Ugbala, C. (2021) Professional competence and attitudes of library personnel towards digital services in selected university libraries in Nigeria. Accessed on 12/12/2021 at : *DOI:10.1108/DLP-08-2020-0076*

Carreno, I. D. C. (2014). Theory of connectivity as an emergent solution to innovative learning strategies. *American Journal of Educational Research*, 2(2), 107-116. Accessed at *DOI: 10.12691/education-2-2-7 on 10/8/2019*

Emezie, N. A. & Nwaohiri, N. M. (2017). Century librarians and effective information service delivery in information impact: *Journal of information and knowledge management. 4(2), 30–43*. Accessed at: *http://www.academicjournals.org/IJLIS on 2/12/2019*

Odu, A. O. & Omosigho, N. A. (2017). Digital literacy and the implication on Nigerian Digital Library. *International Journal Of Library And Information Science Studies, 3(2), 13-19*. Accessed at:: *www.eajournals.org on 25/5/2019.*

Olufunke, A. O. (2017). ICT skills, social media use and service delivery by librarians in Federal Universities in South-West, Nigeria: a masters dissertation submitted to the Department of

Information Resources Management School of Management Babcock University Ilishan-remo Ogun State, Nigeria

Oyedipe, W. J. & Popoola, O. (2019). Influence of age, job status, digital proficiency level, and ICT use on task performance of library personnel in public universities. *International Journal of Knowledge Content Development & Technology*. 9(3), 43-61. Accessed at: *http://ijkcdt.net/xml/21160/21160.pdf on 4/4/2021.*

Oyedokun, T. T., Oyewumi, F. A. Akanbi, M.L. & Laaro, D. M. (2018). Assessment of ICT competencies of library staff in selected universities in Kwara State, Nigeria. *Library Philosophy and Practice (e-journal), 8(4),* 1-36. Accessed at: *https://digitalcommons.unl.edu/libphilprac/1797 on 14/12/2018*

Tech-Terms (2019). The Tech Terms Computer Dictionary; Super Sharpened Production; Accessed at:: https://techterms.com/definition/ict on 25/8/2019