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**Competency Requirements and Acquisition among Catalogers for Effective
Application of Conventional and Online Complementary Cataloging in Nigerian
University Libraries**

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Abstract

The study investigated Competency Requirements and Acquisition among Catalogers for Effective Application of Conventional and Online Complementary Cataloging in Nigerian University Libraries. There were five research questions that guided the work. The study adopted a descriptive survey research design. The population of the study comprised 168 librarians drawn from six university libraries, including the University of Ife, University of Ibadan, University of Benin, University of Lagos, University of Port Harcourt and the University of Nigeria. The instrument used for data collection was a questionnaire (CAACOCCQ) which was face validated by three experts. Cronbach's Alpha reliability test procedure was used to determine the degree of internal consistency of the questionnaire items. The result of the trial test showed that the overall internal consistency of the questionnaire was 0.93. On the overall, 98.8 percent of the distributed copies of the questionnaire were correctly filled and returned and were used for discussions. Data obtained in the work were presented in tables and analyzed using percentages, means, and Standard deviations. The findings indicate that the catalogers required information management competence, proficiency with computer applications associated with cataloging and competence in the use of cataloging databases. They possessed very high competence in browser and search engine use, Internet navigation/web competence and data mining competence. The methods they required for competence acquisition and application were self-training and development and mentoring by colleagues in the profession, while the methods employed were mentoring by colleagues, self-training and development and formal education in library schools. The study concluded that libraries should make the complementary acquisition and application of conventional and online cataloging competencies easy for catalogers.

Keywords: Competency, Acquisition, Application, Online Cataloging, Conventional Cataloging, University Libraries

INTRODUCTION

University libraries are academic libraries, central to the universities' objective of promoting research and scholarship (Mole, 2010), and set up basically to satisfy the teaching, learning and research needs of their student population, staff, and visitors with information resources. They are a hub of knowledge and information services in their institutions and are usually established along with their mother institutions as an integral part (Abubakar, 2011; Mirza and Mahmood, 2009). As a result, they are always struggling to acquire and catalog printed and non-printed forms of materials (Hardesty as cited in Mole, 2010). Cataloging is one of the core functions of university libraries. It involves describing an item of a collection with a view to determining its bibliographical attributes (Ekere and Mole, 2014). Adeyemi (2002) defined cataloging as the correct and accurate description of the physical properties of a document, whether it is print, non-print, audio-visual or both.

There are basically two cataloging practices or modes: conventional and online. Conventional cataloging is the traditional method of cataloging documents. It refers to the descriptive and subject processing of information materials. It requires the mastery of a set of rules such as the AACR2 or other cataloging rules and the use of cataloging tools to catalog information materials while online cataloging deals with searching and locating cataloging data through online cataloging databases, which gives the cataloger access to an unlimited number of bibliographic data online (Ruteyan, 2007). In terms of competency, conventional cataloging may require competencies in descriptive cataloging, subject cataloging, critical and analytical thinking, and evaluation of information while online cataloging requires data mining competencies, computer and web navigation competencies, combined with system appreciation competencies. The advent of online cataloging has resulted in casting the traditional library operations in new methods of work; for conventional cataloging, it is searching the literature and asking critical questions, for online cataloging it is data mining. Online cataloging makes the task of finding metadata easy.

The task of cataloging is usually done by librarians trained as catalogers. Catalogers in university libraries are academic librarians; they undertake the task of describing information

materials for the catalog in the Library. They organize library materials for easy storage and retrieval by determining the main entry, added entries, subject headings and call numbers (Ode and Omakaro, 2007). Accuracy and consistency are usually cited as the competencies a good cataloger requires. Competency is synonymous with the term skill. It means the ability to execute a given work, as a result of experience, formal training or practice. It is the ability to combine and apply acquired expertise on a particular job. This involves the application of high levels of knowledge, standards and capacity to assigned work (Ofodu, 2015).

Complementary acquisition and application of conventional and online cataloging competencies amongst catalogers refer to the capacity of the cataloger to obtain and utilize corresponding skills in conventional and online cataloging for a dynamic and efficient practice of cataloging in the library. Adeleke and Olorunsola (2006) noted that in developed countries of the world, conventional and online cataloging complement each other. It is necessary that catalogers in these countries have dynamic competencies in processing library materials with conventional or online cataloging techniques complementing each other. However, as Srider (2004) noted the reality is that there is a significant gap between these countries and developing nations such as Nigeria. He nonetheless stated that with the advent of electronic driven library services, there is a decline in conventional cataloging competencies of librarians even in advanced countries.

In Nigeria, university libraries right from their outset practice conventional cataloging. In recent time, online cataloging is the preferred cataloging method (Adeleke and Olorunsola, 2009). This is because it is faster and less tedious than conventional cataloging in the cataloging of information materials. This may set a dangerous precedent as catalogers may no longer strive to develop their conventional cataloging competencies. This is very critical because conventional cataloging plays a vital role in confirming that metadata derived from these online cataloging databases are correct; besides, not all information materials in the library being cataloged are in these online cataloging databases which zero down to using

the conventional cataloging method to catalog these materials that are not found in the online cataloging databases. Catalogers could also switch to conventional cataloging when there is lack of power supply (usually experienced in Nigeria) to run the computer systems used for online cataloging in the federal university libraries.

There are eighteen (18) federal universities in Southern Nigeria. Majority of these universities have standard functional cataloging sections practicing conventional and online cataloging. These university libraries use the Library of Congress Classification Scheme because of the scheme's suitability for organizing large library collections. Other tools used in cataloging include The Library of Congress Subject Heading List and the Cutter Sanborn Three-Figure Author Table.

Six federal universities were selected for this study, including Obafemi Awolowo University, Ile Ife, University of Benin, Benin, University of Ibadan, Ibadan, University of Lagos, Akoka, University of Nigeria, Nsukka, and the University of Port Harcourt, Port Harcourt. These six university libraries are owned and funded by the federal government of Nigeria. The six federal universities were established between 1960 and 1975. They have very large volumes of collections. These collections include monographs, periodicals, pamphlets, maps, rare books, government publications, journals, theses and dissertations (both physical and electronic), audio-visual materials covering various disciplines. Their institutional repositories are powered by D-space Institutional Repository Software. The holdings comprise thousands of physical information materials and millions of e-resources domiciled in international databases. These online resources are categorized into the password, Internet protocol, and open access based databases.

These university libraries serve the teaching, learning and research needs of staff, students, and visitors of the university. They have both card catalog and Online Public Access Catalogs (OPACs) through which users access the library holdings. The OPAC in these university libraries is powered by a library management software (LMS) known as KOHA. The university libraries have functional cataloging sections practicing both conventional and online cataloging. In these university libraries, catalogers catalog the library collections for

proper storage of the information materials and easy retrieval by users. In view of the critical role played by catalogers in cataloging the information resources of these university libraries for storage and easy access, this study is therefore undertaken to determine competency requirements and acquisition for application of online and conventional complementary cataloging Nigerian university libraries.

Statement of the Problem

Catalogers need to key into new techniques as well as the conventional practice of cataloging. However, these new methods and techniques may at the same time affect either the conventional cataloging competencies of catalogers thereby affecting their work output. This is sad because the preference of one cataloging method over another may, in the long run, affect the competencies of catalogers and their performance on the other. It is of great concern that many catalogers in Nigerian university libraries now prefer online cataloging to conventional cataloging which may, in the long run, make them lose critical cataloging competencies due to dependence on online cataloging.

Online cataloging was actually not introduced to replace conventional cataloging but to complement it. The researcher is worried about catalogers' inability to adopt online cataloging and acquire competencies in both conventional and online cataloging processes as the dynamics of the profession require. The researcher is also concerned that with the advent of online cataloging, catalogers seem to be losing focus and competency in conventional cataloging. This has left a negative impact on the cardinal objective of the university library in particular and the university in general.

It is of great concern that despite the pertinent need for a study to determine the competency requirement and acquisition for application of conventional and online complementary cataloging competencies amongst catalogers in Nigerian university libraries, no study has been carried out. This study is carried out to fill this gap. Therefore, the problem of this study put in question form is; what is the competency requirement and acquisition for

application of conventional and online complementary cataloging competencies amongst catalogers in Nigerian university libraries?

Research Questions

The following research questions were formulated to guide the study;

1. What competencies are required by catalogers for both conventional and online cataloging in the libraries?
2. What is the extent of competencies possessed by Catalogers in the application of both conventional and online complementary cataloging in the libraries?
3. What methods are required for the acquisition and application of conventional and online complementary cataloging competencies in the libraries?
4. What are the methods employed in the acquisition and application of conventional and online complementary cataloging competencies amongst catalogers in the Nigerian university libraries?
5. What strategies can be used for enhancing the acquisition and application of conventional and online complementary competencies amongst catalogers in the university libraries?

LITERATURE REVIEW

Cataloging is an essential process in any library or information center in order to provide information access to all learning resources to library patrons (SirsiDynix, 2008). Conventional cataloging is the system of organizing information material following the Anglo American Cataloging Rules (AACR) (Blake, 2000). Conventional cataloging is captured by Manitoba Education and Training (1997) as original cataloging which refers to cataloging an item by examining certain parts of it to obtain information needed to describe it. Manitoba Education and Training further argued that original cataloging allows for on-site, immediate, and locally applied to catalog.

Kao (2001) stated that conventional cataloging processes cause certain inconveniences including time-consuming, duplication of cataloging processes, and inconsistency in subject choice and class mark.

Online cataloging is referred to as the use of online cataloging databases to catalog information materials. According to Kao (2003) and Chandrakar and Arora (2010), it is the process of cataloging information materials using bibliographic data derived online.

Online cataloging, according to Gerolimos (2009), is copy cataloging. It is the adaptation of a pre-existing bibliographic records e.g. Online Computer Library Center (OCLC), Library of Congress (LC), Research Libraries Information Network (RLIN), or some other bibliographic database to fit the characteristics of the item in hand with little modification to reflect on the local cataloging agreement of the library. Catalogers can copy the bibliographic information of the work with a change in the Cutter number. The author/subject/ title number of the main heading must be changed, using the Three-Figure Author Cutter Sanborn Table of the library. Previously, the lack of access to current cataloging and classification tools in developing countries was a major problem hindering conventional cataloging (Reitz 2004). Beyond this was the inability of catalogers to catalog efficiently and accurately. This was due to the use of outdated tools in cataloging. New fields of knowledge are not covered well in the outdated cataloging tools; thereby bringing inconsistency in most of the Nigerian academic library catalogs. Ogunrombi (2010) stated that online cataloging involves a Machine-Readable Record (MARC) from other libraries in a network.

However, the arrival of the online cataloging has actually revolutionized the accuracy, stability, and up-to-datedness of cataloged materials. Librarians today can rely on computer networks to perform cataloging and classification work (McCallum, 2004). Online cataloging has brought a huge relief to catalogers in the cataloging of information resources in this new information age (Saye and Bohannam, 2000). The Importance of online cataloging are as follows: it saves the time of the cataloger, maintains the accuracy of the work, maintains consistency, develops catalogers electronically, reduces duplication of efforts,

bibliographic details of cataloged resources of other libraries can be fully copied, collection of a library can be compared with other libraries collections, knowledge creation is enhanced, it increases cataloging efficiency of catalogers, it also improves speed and ease of accessibility of cataloged materials.

Ivey (2009) listed the following as barriers to online cataloging: lack of funds, lack of competencies and training lack of ICT and other infrastructural facilities like steady power supply, Internet facilities and even adequate number of computers to support online cataloging and inadequate numbers of professionals, most libraries in Nigeria do not have enough professionals to man their online cataloging and classification. Other factors as stated by Manaf et al (2009) include poor network; lack of power supply; a limited number of computers; unqualified online catalogers; lack of training on new development; the poor incentive to the catalogers.

Catalogers, according to Nwosu (2015), can be said to be the first service professionals whose identity, functions and requirements are well established, defined and understood. As stated by Ocholla (2009), catalogers have a key body of professional knowledge and a set of professional competencies which they deploy in the performance of their professional chores. Cataloging librarians are professionals that decide where in the library an item should be shelved using the classification scheme; they also create access to information resources for users. They are regarded as the most vital part of an effective and efficient library and information services (Cerbo, 2011).

Myung (2013) defined cataloging librarian as a librarian who has an MLIS or MLS degree and catalogs without managerial or supervising duties. His/her primary responsibilities are to prepare bibliographic records to represent items acquired by the library and to provide efficient access and retrieval for library users. A good cataloger, according to Myung, should have the qualities of competence, accuracy, efficiency, consistency, adaptability, judgment, problem-solving, commitment, research ability, and self-discipline.

Nwosu and Nwokocha (2015) maintained that catalogers are moving into new roles as they provide enhanced access to information resources not only books, but also CD-ROMs,

computer discs, and multi-format items and add the records they create to a shared international database. They glossed around the concept of dynamics of competencies in the contemporary period; they, however, failed to address the issue of retaining traditional competency when acquiring online cataloging competencies.

On a similar note, Park and Lu as cited in Nwosu (2014) noted that traditional cataloging tasks and practices are still highly relevant and are being integrated with the activities of metadata creation and electronic resources management that characterize the key roles that metadata professionals play in the digital environment. Nwosu, after evaluating the threats on traditional cataloging competencies emphasized that people are questioning traditional practices, the expense on cataloging operations, and the usefulness of library catalogers themselves. Catalogers all over the world are required to possess competencies for the purpose of being efficient in the cataloging process. Every cataloger should possess the competency on how to use the cataloging rules for uniformity.

Research Methodology

The design of this study is a descriptive survey. The area of study is in Southern Nigeria. Southern Nigeria is one of the two major blocks of the country and made up of three geo-political zones, namely: South East, South South, and South West. There are 17 states in Southern Nigeria. Each of these geopolitical zones has six states except the South East which has five. There are eighteen federal universities spread across the three geopolitical zones (National Universities Commission, 2009).

The population of this study comprised librarians (catalogers) in eighteen (18) federal universities who were involved in the cataloging of information materials in the university libraries in Southern Nigeria. The population of librarians (catalogers) who cataloged information materials in the eighteen federal universities is two hundred and ninety-three (293), (Librarians Registration Council of Nigeria, 2014).

The sample for this study is one hundred and sixty-eight (168). This was drawn from six university libraries located in the South East, South West and South South geopolitical zones of Nigeria. The universities for this study were selected based on purposive sampling

technique. Therefore, a number of criteria were set as a standard for selection. These include the existence of a standard and functional cataloging section in the university libraries; application of conventional cataloging the university libraries must be; application of online cataloging in the university libraries, and duration of application for at least five (5) years.

In using the above criteria for selection of the universities for this study, six (6) federal universities met these standards thus they were selected for this study. The total population of catalogers in the six selected universities is one hundred and sixty-eight (168). Since the population of this study is not too large, there was no need for further sampling.

A Questionnaire was used to elicit responses from the respondents. For decision making, any mean rating of 2.50 and above was considered positive or accepted, while any mean rating below 2.50 was considered negative and rejected.

Results

The presentation of the result is guided by the five research questions. The results of the study were presented in tables according to individual research questions.

Research Question 1: What competencies are required by catalogers in both conventional and online cataloging in the libraries?

The Summary of the result is presented in Table 1.

Table 1: Mean Response of the Respondents on the Competencies Required by Catalogers for both Conventional and Online Cataloging in the Libraries (N=166).

Items	OAU n=28		UI n=29		UNIBEN n=26		UNILAG n=28		UNIPORT n=28		UNN n=27		OVERALL n=166		RANK	DECISION
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD		
Information management competence	3.96	0.89	3.72	0.45	3.92	0.27	3.68	0.48	3.64	0.49	3.89	0.32	3.88	0.40	1 st	VHR
Proficiency with computer applications associated with cataloging	3.96	0.19	3.76	0.41	3.92	0.27	3.75	0.44	3.54	0.69	3.89	0.32	3.81	0.44	2 nd	VHR
Competence in the use of Cataloging databases	3.85	0.19	3.66	0.44	3.92	0.27	3.71	0.46	3.61	0.50	3.89	0.32	3.81	0.40	2 nd	VHR
Competence in subject classification	3.79	0.42	3.79	0.41	3.85	0.37	3.79	0.42	3.75	0.44	3.85	0.36	3.80	0.40	3 rd	VHR
Bibliographic resource description competence in cataloging	3.79	0.42	3.86	0.35	3.85	0.37	3.68	0.61	3.61	0.63	3.85	0.36	3.77	0.48	4 th	VHR
Subject cataloging competence	3.75	0.44	3.72	0.45	3.77	0.43	3.71	0.46	3.75	0.44	3.78	0.42	3.75	0.44	5 th	VHR
Ability to use subject heading tools	3.79	0.42	3.69	0.47	3.85	0.37	3.64	0.49	3.64	0.49	3.81	0.40	3.73	0.44	6 th	VHR
Data mining competence	3.90	0.31	3.56	0.67	3.85	0.37	3.61	0.69	3.57	0.69	3.78	0.42	3.72	0.56	7 th	VHR
Competence on rule use/interpretation	3.75	0.44	3.69	0.47	3.77	0.43	3.61	0.57	3.64	0.56	3.78	0.42	3.70	0.48	8 th	VHR
Competence in the use of MARC and similar resources	3.89	0.36	3.66	0.55	3.77	0.43	3.64	0.56	3.57	0.57	3.74	0.45	3.70	0.50	8 th	VHR
Knowledge of Language and semantics	3.75	0.44	3.80	0.48	3.77	0.43	3.61	0.50	3.64	0.56	3.70	0.47	3.69	0.48	9 th	VHR
Descriptive cataloging competence	3.71	0.46	3.69	0.47	3.77	0.43	3.57	0.57	3.64	0.56	3.78	0.42	3.69	0.49	9 th	VHR
Copy cataloging competence	3.75	0.44	3.62	0.49	3.69	0.47	3.64	0.49	3.64	0.49	3.74	0.45	3.68	0.47	10 th	VHR
Competence in the use AACR2, FRBR and RDA	3.71	0.46	3.66	0.48	3.77	0.43	3.57	0.57	3.57	0.63	3.78	0.42	3.67	0.51	11 th	VHR
Competence in subject analysis	3.54	0.51	3.62	0.49	3.46	0.51	3.79	0.42	3.68	0.48	3.67	0.48	3.63	0.49	12 th	VHR
Competence in Browsers and search engines	3.57	0.50	3.59	0.50	3.54	0.51	3.68	0.48	3.68	0.48	3.67	0.48	3.62	0.49	13 th	VHR
Ability to use cataloging schemes	3.54	0.51	3.62	0.49	3.46	0.51	3.79	0.42	3.61	0.50	3.67	0.48	3.61	0.49	14 th	VHR
Computer appreciation competence	3.67	0.48	3.52	0.57	3.62	0.50	3.57	0.57	3.57	0.57	3.70	0.47	3.61	0.53	14 th	VHR
Internet/web navigation competence	3.67	0.48	3.56	0.51	3.61	0.50	3.61	0.50	3.54	0.50	3.70	0.47	3.61	0.49	14 th	VHR
Competence in use of Cutter Table	3.60	0.50	3.55	0.51	3.54	0.51	3.61	0.50	3.64	0.49	3.62	0.49	3.59	0.49	15 th	VHR
Word processing competence	3.64	0.49	3.52	0.57	3.62	0.50	3.57	0.57	3.43	0.69	3.70	0.46	3.58	0.55	16 th	VHR
Web search competence	3.61	0.50	3.48	0.51	3.54	0.51	3.57	0.50	3.54	0.51	3.67	0.48	3.56	0.50	17 th	VHR
Total	3.74	0.45	3.65	0.49	3.72	0.43	3.65	0.51	3.61	0.54	3.76	0.43	3.69	0.48		

Where VHR = Very Highly Required, HR = Highly Required, LR = Less Required, NR = NOT REQUIRED (Criterion Mean = 2.50)

The results in Table 1 shows the mean rating of the sampled universities (OAU, UI, UNIBEN, UNILAG, UNIPORT, and UNN) on competencies required by catalogers for both conventional and online cataloging. The results revealed that information management, proficiency with computer applications associated with cataloging, competence in the use of cataloging databases, competence in subject classification and bibliographic resource description competence in cataloging recorded the highest mean ratings of 3.88, 3.81, 3.80 and 3.77 respectively for competencies required for conventional and online cataloging.

From the results also, web search competence, word processing competence, Competence in the use of cutter Table and ability to use cataloging schemes recorded the lowest overall means of 3.56, 3.58, 3.59 and 3.61 respectively for competencies required for conventional and online cataloging. As evident from the analysis, information management competence, proficiency with computer applications associated with computers and Competence in the use of cataloging databases were competencies highly required amongst catalogers. This is in tandem with the assertion that in today's rapidly traditional boundaries is being broken down by technological forces (Caborero and Dolendo, 2013). This reveals that catalogers require competencies that are related to online cataloging more than the ones that relate to conventional cataloging.

Catalogers in university libraries require online cataloging competencies more than conventional cataloging competencies because online cataloging enables them to catalog information materials at a very fast speed. They require more skills in conventional cataloging because they feel it is difficult and is very slow when used to catalog information materials. This confirms the statement made by Nwosu and Nwokocha (2015) that catalogers are moving into new roles as they provide enhanced access to information resources. Thus, catalogers require both conventional and online cataloging competencies for them to be active in the cataloging process.

Research Question 2: What is the level of competencies possessed by Catalogers in the application of both conventional and online cataloging in the libraries?

The Summary of the result is presented in Table 2.

Table 2: Mean Response of the Respondents on the Extent of Competence Possessed by Catalogers for both Conventional and Online Cataloging in the Libraries (N=166).

Items	OAU n=28		UI n=29		UNIBEN n=26		UNILAG n=28		UNIPORT n=28		UNN n=27		OVERALL n=166		RANK	DECISION
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD		
Competence in Browsers and search engines	3.50	0.51	3.66	0.48	3.50	0.51	3.82	0.39	3.50	0.51	3.52	0.51	3.58	0.49	1 st	VHP
Internet/web navigation competence	3.50	0.51	3.59	0.50	3.50	0.51	3.75	0.44	3.46	0.51	3.52	0.51	3.55	0.50	2 nd	VHP
Data mining competence	3.50	0.51	3.59	0.57	3.50	0.51	3.68	0.55	3.46	0.58	3.48	0.51	3.54	0.54	3 rd	VHP
Competence in the use of MARC and similar resources	3.50	0.51	3.55	0.57	3.50	0.51	3.54	0.74	3.46	0.51	3.44	0.58	3.50	0.57	4 th	VHP
Basic Computer appreciation competence	3.39	0.50	3.55	0.51	3.42	0.50	3.78	0.42	3.36	0.49	3.44	0.51	3.49	0.50	5 th	VHP
Competence in the use AACR2, FRBR and RDA	3.29	0.66	3.24	0.64	3.35	0.63	3.07	0.54	3.25	0.70	3.30	0.67	3.25	0.64	6 th	HP
Proficiency with computer applications associated with cataloging	3.00	0.00	3.38	0.49	3.00	0.00	3.71	0.46	3.04	0.19	3.00	0.00	3.19	0.40	7 th	HP
Competence in the use of Cataloging databases and MARC	3.00	0.00	3.28	0.53	3.00	0.00	3.46	0.92	3.04	0.19	2.96	0.44	3.13	0.51	8 th	HP
Descriptive cataloging competence	3.00	0.00	3.17	0.38	3.00	0.00	3.21	0.52	3.04	0.00	3.00	0.19	3.07	0.26	9 th	HP
Competence in subject analysis	3.00	0.00	3.14	0.35	3.00	0.00	3.14	0.36	3.04	0.19	3.00	0.00	3.05	0.23	10 th	HP
Subject cataloging competence	3.00	0.00	3.17	0.38	3.00	0.00	3.14	0.52	3.00	0.00	2.96	0.19	3.05	0.29	10 th	HP
Competence in subject classification	3.00	0.00	3.14	0.35	3.00	0.00	3.07	0.47	3.04	0.19	2.96	0.19	3.04	0.27	11 th	HP
Ability to use subject heading tools	3.00	0.00	3.10	0.31	3.00	0.00	3.11	0.31	3.00	0.00	3.00	0.00	3.04	0.19	11 th	HP
Knowledge of Language and semantics	3.00	0.00	3.10	0.62	3.00	0.00	2.96	0.88	2.96	0.19	2.92	0.27	2.99	0.46	12 th	HP
Cutter Numbering	2.89	0.31	3.14	0.52	2.92	0.27	3.11	0.73	2.93	0.38	2.85	0.46	2.98	0.48	13 th	HP
Competence on cataloging rule use/interpretation	2.89	0.31	3.07	0.46	2.92	0.27	3.14	0.52	2.89	0.31	2.93	0.38	2.98	0.40	13 th	HP
Ability to use cataloging schemes	2.89	0.31	3.10	0.49	2.92	0.27	3.14	0.52	2.89	0.31	2.89	0.32	2.98	0.40	13 th	HP
Bibliographic resource description competence in cataloging	2.89	0.31	3.03	0.50	2.92	0.27	3.04	0.51	2.92	0.38	2.89	0.32	2.95	0.39	14 th	HP
Total	3.12	0.25	3.27	0.48	3.14	0.24	3.33	0.54	3.13	0.31	3.11	0.34	3.19	0.48		

Where VHP = Very Highly Possessed, HP = Highly Possessed, LP = Less Possessed, NP = Not Possessed (Criterion Mean = 2.50)

Table 2 presents the opinions of the respondents on the level of competences possessed by catalogers in OAU, UI, UNIBEN, UNILAG, UNIPORT, and UNN. Regarding the extent of competencies possessed by catalogers, the results in Table 2 indicates that competence in browsers and search engines, Internet navigation competency, data mining competency and competence in the use of MARC and similar resources had the highest mean ratings of 3.58, 3.55, 3.54 and 3.50 respectively. On the flip side, the results showed that bibliographic resource competence in cataloging, ability to use cataloging schemes, competence in cataloging rule use/interpretation, knowledge in language and semantics, ability to use subject heading tools and competence in subject classification recorded the lowest mean ratings of 2.95, 2.98, 2.99 and 3.04 respectively.

It is pertinent to note that the mean ratings recorded in Table 2 are higher than the criterion mean of 2.50. Given the results, the study adopted all the listed competencies on the table are possessed by catalogers for conventional and online cataloging in the universities under study.

The study showed that competence in browsers and search engines, Internet web navigation competence and data mining competence were competencies highly possessed by catalogers. This is against the backdrop that every cataloger should fully possess both conventional and online cataloging competencies to be able to catalog information materials in the library (Calhoun 2006; Mason, 2015). These are competencies related to online cataloging. This means that they possessed more competencies in online cataloging than in conventional cataloging. Conventional cataloging competencies such as descriptive cataloging competency, subject cataloging competency were rated lower by the catalogers. It is a common phenomenon across many university libraries because online cataloging is less tedious and convenient to use. In addition, it saves the time of the cataloger, maintains the accuracy of the work, maintains consistency, develops catalogers electronically and reduces duplication of efforts. It reduces the repetitive nature of cataloging information materials in libraries (Cloete, 2003)

The trend in contemporary society today tilts towards using concepts that save time and make work to be done faster. Catalogers are not left out in the present dispensation and state of affairs. It is therefore not surprising that they possessed more of online cataloging competencies than conventional cataloging competencies.

Research Question 3: What methods are required for complementary acquisition and application of conventional and online cataloging competencies in the libraries?

The Summary of the result is presented in Table 3.

Table 3: Mean Response of the Respondents on the Methods Required for Complementary Acquisition and Application of Conventional and Online Cataloging in the Libraries (N=166)

Items	OAU n=28		UI n=29		UNIBEN n=26		UNILAG n=28		UNIPORT n=28		UNN n=27		OVERALL n=166		RANK	DECISION
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD		
Self-training and development	3.79	0.42	3.58	0.73	3.92	0.27	3.29	0.81	3.71	0.53	3.74	0.53	3.67	0.61	1 st	VHR
Mentoring by colleagues in the profession	3.79	0.42	3.55	0.74	3.92	0.27	3.21	0.79	3.75	0.44	3.74	0.53	3.66	0.60	2 nd	VHR
Linkage programmes in other libraries	3.75	0.44	3.62	0.56	3.92	0.27	3.21	0.63	3.71	0.46	3.70	0.54	3.65	0.53	3 rd	VHR
Correspondence programmes	3.75	0.44	3.51	0.74	3.92	0.27	3.04	0.79	3.71	0.46	3.67	0.62	3.60	0.64	4 th	VHR
Seminars on cataloging and classification	3.42	0.50	3.48	0.51	3.46	0.51	3.50	0.51	3.39	0.50	3.44	0.51	3.45	0.50	5 th	VHR
Formal education in library schools	3.32	0.48	3.34	0.48	3.15	0.37	3.64	0.49	3.21	0.42	3.33	0.48	3.34	0.47	6 th	HR
On-the job training	3.32	0.48	3.38	0.49	3.15	0.37	3.54	0.64	3.25	0.44	3.26	0.53	3.31	0.51	7 th	HR
Workshops on cataloging and classification and similar areas	3.32	0.48	3.34	0.48	3.15	0.37	3.46	0.51	3.21	0.42	3.30	0.47	3.30	0.46	8 th	HR
Conferences	3.25	0.44	3.38	0.49	3.07	0.27	3.43	0.50	3.25	0.44	3.19	0.39	3.27	0.44	9 th	HR
Training in informal cataloging classes by private organizations	3.32	0.48	3.07	0.65	3.15	0.37	3.04	0.64	3.14	0.45	3.22	0.42	3.15	0.52	10 th	HR
Total	3.50	0.46	3.43	0.59	3.48	0.33	3.34	0.63	3.43	0.46	3.46	0.50	3.44	0.53		

Where VHR = Very Highly Required, HR = Highly Required, LR = Less Required, NR = Not Required (Criterion Mean = 2.50)

The respondents' response as presented in Table 3 indicates that self training, mentoring, linkage programs in other libraries, and correspondence programs had the highest total mean ratings of 3.67, 3.66, 3.65 and 3.60 for methods required for complementary acquisition and application of conventional and online cataloging competency in the libraries. On-the-job training, workshops on cataloging and classification and similar areas, conferences, training in informal cataloging classes by private organizations recorded lower mean ratings of 3.31, 3.30, 3.27 and 3.15.

Based on the results in Table 3, it is pertinent to note that the mean ratings recorded are higher than the criterion mean of 2.50. Given the results, the study adopted all the listed competencies on the table as methods required for complementary acquisition and application of conventional and online cataloging in the libraries under study.

The results of the study revealed that respondents agreed that self-training and development and mentoring by colleagues were methods required for complementary acquisition and application of conventional and online cataloging in the libraries. This is, however, in contrast with the views of Rowley (2015). Self-training and mentoring by colleagues in the profession is very essential for complementary acquisition and application of conventional and online cataloging competencies amongst catalogers in the libraries and should not be overlooked.

Research Question 4: What are the methods employed in the acquisition and application of conventional and online cataloging competencies amongst catalogers in Nigerian university libraries?

The summary of the result is presented in Table 4.

Table 4: Mean Response of the Respondents on the Methods Employed in Acquiring Conventional and Online Cataloging in the Libraries (N=166).

Items	OAU n=28		UI n=29		UNIBEN n=26		UNILAG n=28		UNIPORT n=28		UNN n=27		OVERALL n=166		RANK	DECISION
	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD	\bar{X}	SD		
Mentoring by colleagues in the profession	3.57	0.50	3.69	0.60	3.92	0.27	3.61	0.50	3.43	0.69	3.44	0.58	3.61	0.56	1 st	VHR
Self-training and development using online resources	3.57	0.50	3.72	0.53	3.92	0.27	3.54	0.58	3.39	0.69	3.51	0.51	3.61	0.55	1 st	VHR
Self-training and development using physical cataloging resources	3.50	0.51	3.79	0.41	3.92	0.27	3.50	0.58	3.54	0.58	3.44	0.58	3.61	0.52	1 st	VHR
Formal education in library schools	3.54	0.51	3.34	0.48	3.77	0.42	3.29	0.53	3.68	0.55	3.18	0.40	3.57	0.52	2 nd	VHR
Correspondence programme	3.46	0.51	3.75	0.44	3.92	0.27	3.39	0.74	3.32	0.72	3.19	0.83	3.51	0.66	3 rd	VHR
Seminars on cataloging and classification	3.43	0.50	3.44	0.51	3.46	0.51	3.36	0.56	3.54	0.64	3.44	0.58	3.45	0.55	4 th	VHR
On-the job training	3.54	0.51	3.31	0.47	3.15	0.37	3.32	0.47	3.64	0.49	3.67	0.48	3.44	0.50	5 th	HR
Workshops on cataloging and classification and similar areas	3.54	0.51	3.31	0.47	3.15	0.37	3.17	0.48	3.75	0.44	3.48	0.64	3.40	0.53	6 th	HR
Training in informal cataloging classes by private organizations	3.54	0.51	3.28	0.53	3.65	0.49	3.14	0.52	3.36	0.87	3.40	0.69	3.39	0.63	7 th	HR
Conferences on cataloging and classification	3.46	0.51	3.28	0.47	3.07	0.37	3.14	0.48	3.71	0.44	3.44	0.64	3.36	0.52	8 th	HR
Linkage programmes in other institutions	3.43	0.50	3.34	0.48	3.31	0.47	3.36	0.56	3.29	0.60	3.29	0.82	3.34	0.58	9 th	HR
Total	3.51	0.51	3.48	0.49	3.57	0.37	3.35	0.55	3.51	0.61	3.41	0.61	3.48	0.56		

Where VHE = Very Highly Employed, HE = Highly Employed, LE = Less Employed, NE = Not Employed (Criterion Mean = 2.50)

Table 4 captured the mean responses of catalogers in the six sampled universities: OAU, UI, UNIBEN, UNILAG, UNIPORT, and UNN on methods employed for complementary acquisition and application of conventional and online cataloging competencies in the libraries. The respondents' response indicates that, mentoring by colleagues in the profession, self-training development using online resources, self-training using physical cataloging resources and formal training in library schools garnered mean responses of 3.61, 3.61, 3.61, and 3.57 respectively. The results on the table reveal that training in informal cataloging classes by private organizations and conferences generated mean ratings of 3.39, 3.36 and 3.34 respectively on methods required for complementary acquisition and application of conventional and online cataloging competencies in the libraries.

The analysis of the results reveals the methods employed in the complementary acquisition and application of conventional and online cataloging competencies amongst catalogers in Nigerian university libraries. These methods are mentoring by colleagues in the profession, self-training using online resources, self-training using physical cataloging resources and formal education in library schools. This statement contradicts the assertion made by Hill (2014) that catalogers are unaware of a whole lot of competencies waiting to be obtained. The knowledge of the methods means that the catalogers understand how they could enhance the complementary acquisition and application of conventional and online cataloging competence in the libraries. However, libraries having newly graduated degree holding librarians may lack the competent professional staff that holds the key to managing it successfully.

Research Question 5: What strategies can be used to enhance complementary acquisition and application of conventional and online competencies amongst catalogers in the libraries?

The summary of the result is presented in Table 5

Table 5: Mean Response of the Respondents on Strategies for Enhancing the Complementary Acquisition and Application of Conventional and**Online Cataloging in the Libraries (N=166).**

Items	OAU n=28		UI n=29		UNIBEN n=26		UNILAG n=28		UNIPORT n=28		UNN n=27		OVERALL n=166		RANK	DECISION
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD		
Making it easy for catalogers to acquire cataloging competence	4.00	0.00	3.72	0.45	3.92	0.27	3.64	0.49	3.86	0.35	3.85	0.36	3.83	0.37	1 st	VA
Elimination of problems of diversification amongst catalogers	4.00	0.00	3.66	0.48	3.73	0.45	3.57	0.50	3.82	0.39	3.62	0.49	3.73	0.44	2 nd	VA
Libraries should provide relevant cataloging tools to encourage catalogers to practice conventional cataloging	3.89	0.31	3.62	0.49	3.88	0.33	3.64	0.49	3.61	0.57	3.78	0.42	3.73	0.46	2 nd	VA
Laying of adequate foundation in cataloging	4.00	0.00	3.76	0.44	3.26	0.45	3.71	0.46	3.79	0.42	3.78	0.42	3.72	0.45	3 rd	VA
Provision of adequate cataloging tools	3.96	0.19	3.72	0.45	3.31	0.47	3.64	0.49	3.75	0.44	3.67	0.48	3.68	0.47	4 th	VA
Provision of enabling environment for adequate ICT competence	3.89	0.31	3.66	0.48	3.23	0.43	3.79	0.42	3.60	0.50	3.81	0.40	3.67	0.47	5 th	VA
Catalogers should show adequate interest in cataloging	3.89	0.31	3.62	0.50	3.19	0.40	3.71	0.46	3.64	0.58	3.74	0.45	3.62	0.50	6 th	VA
Dynamic leadership in libraries	3.89	0.31	3.62	0.62	3.23	0.43	3.50	0.75	3.68	0.48	3.67	0.62	3.60	0.58	7 th	VA
Elimination of transition challenge/Phobia E.g. Fear, Conservatism, Ageism	3.96	0.19	3.55	0.74	3.23	0.43	3.46	0.79	3.68	0.61	3.56	0.64	3.58	0.63	8 th	VA
Total	3.94	0.18	3.66	0.52	3.44	0.41	3.63	0.54	3.71	0.48	3.72	0.48	3.68	0.49		

Where VA = Very Appropriate, A = Appropriate, FA = Fairly Appropriate, NA = Not Appropriate (Criterion Mean = 2.50)

Table 5 displays the mean response of the respondents based on the sampled six universities (OAU, UI, UNIBEN, UNILAG, UNIPORT, and UNN) on strategies for enhancing complementary acquisition and application of conventional and online cataloging competencies in the libraries. The respondents' response revealed that making it easy for catalogers to acquire cataloging skills and elimination of problems of diversification amongst catalogers generated the highest mean ratings of 3.83, and 3.73 respectively.

In addition, other strategies for complementary acquisition and application of conventional and online cataloging competencies amongst catalogers which are dynamic leadership and elimination of transition challenge/phobia, e.g. fear, conservatism, and ageism generated lower mean ratings of 3.60 and 3.58 respectively.

The study identified some strategies for enhancing the complementary acquisition and application of conventional and online cataloging competencies amongst catalogers in Nigerian university libraries. There should be easy and affordable training, workshops and conferences on cataloging and classification in libraries for catalogers (Imeremba, 2011); elimination of problems posed by diversification amongst catalogers and the provision of relevant cataloging tools to encourage catalogers to practice conventional cataloging. This is in consonance with the assertion that current cataloging tools should be made available in libraries (Omeje, 2010) because of the importance of current cataloging tools in proper cataloging practice (Carvalho, 2005).

The provision of relevant cataloging tools will encourage catalogers to practice conventional cataloging effectively in the libraries. This is apparently why it is difficult for them to transit from one cataloging practice to the other. These bottlenecks should be

eliminated so that the catalogers can achieve complementary acquisition and application of conventional and online cataloging competencies.

Recommendations

The following recommendations have been made based on the findings of the study:

1. Library management should ensure that none of the two cataloging practices suffers neglect as a result of a preference for one in the library.
2. Policies should be made and implemented to make conventional and online cataloging effectively complement each other in the libraries.
3. The competency required by catalogers and the methods employed for complementary acquisition and application of conventional and online cataloging should be consolidated to boost the capacity of catalogers to practice conventional and online cataloging efficiently in the libraries.
4. Appropriate and relevant tools should be provided by university libraries to stimulate the interest of catalogers to practice conventional and online cataloging in the libraries without hindrance.
5. Poor ICT skills amongst catalogers should be eliminated by giving catalogers regular training on ICT capacity building of catalogers as this would ensure that the ICT competencies of the catalogers are constantly updated and developed so that they could handle any type of cataloging work before them.
6. Acquisition of complementary cataloging competency should be made easy by libraries for catalogers by subsidizing or providing sponsorship for competency building and development in the libraries.

Conclusion

The support of teaching, learning, and research in universities require information materials. Access to these information materials is determined by the complementary acquisition and application of conventional and online cataloging competencies amongst catalogers in the university libraries. Despite this fact, catalogers seem to be losing focus and competency in conventional cataloging and are not enhancing their complementary acquisition and application of conventional and online cataloging competencies. This is sad because the preference of one cataloging method over another may, in the long run, affect the competencies of catalogers and their performance on the other. The study investigated competency requirements and acquisition for the application of online and conventional complementary cataloging Nigerian university libraries.

The findings indicate that the catalogers required information management competency, proficiency with computer applications associated with cataloging and competence in the use of cataloging databases. They possessed very high competence in browsers and search engines to use Internet navigation/web competence and data mining competence. The methods they required for competence acquisition and application were self-training and development and mentoring by colleagues in the profession, while the methods employed were mentoring by colleagues, self-training and development and formal education in library schools. In conclusion, libraries should make the complementary acquisition and application of conventional and online cataloging competencies easy for catalogers, eliminate the problem of diversification amongst catalogers and provide relevant cataloging tools to encourage catalogers to practice complementary cataloging in the university libraries.

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