

Scholarly Communication Patterns of Academic Librarians in Two Federal Universities in South East Nigeria

Chinwe N. Ezeani¹, Felicia N. Ugwu² & Victoria N. Okafor³, Collins I Anyanwu⁴

Nnamdi Azikiwe Library, University of Nigeria, Nsukka^{1,2,3}, Department of Library & Information Science

University of Nigeria, Nsukka⁴

chinwe.ezeani@unn.edu.ng¹, felicia.ugwu@unn.edu.ng², victoria.okafor@unn.edu.ng³

ABSTRACT

Research publication is an indispensable cornerstone in education and it is essential in terms of wider national accreditation and development planning. Studies show that many librarians in South East have been found to possess less than the minimum publication requirement for promotion. This can be abated through enhanced training, collaboration, mentoring and support. This study examines the scholarly publication pattern of Librarians in Federal universities in South East Nigeria. Two federal universities were selected for the study; the University of Nigeria, Nsukka and Nnamdi Azikiwe University Awka both in South East Nigeria. Survey research design was adopted for the study. A structured questionnaire was used for data collection from the study sample consisting of sixty- one (61) academic male and female librarians in these institutions. Data was analyzed using descriptive statistics; frequency tables, mean and percentages. These were used to establish the relationship between variables of interest in the study. The study examined among other things, the views of the librarians on academic status and scholarly publications, patterns of scholarly communication, opportunities for research and promotion, constraints in research and publications among others. Findings of the study revealed that even though librarians adopt both single and collaborative pattern of publication, many librarians have less than the minimum publication required for promotion. Moreover, there is a strong relationship between status and scholarly publications, major challenges faced by Librarians of the South East zone such as lack of adequate time for research e t c. Recommendations were made in line with the challenges such as continued professional education, seminars, and workshops and improved collaborative research to drive research endeavors; mentorship of young academics by older scholars and long serving Librarians especially in the area of research and publications.

Keywords: Scholarly publication; Publication patterns; Scholarly Communication; Research; Academic Librarians.

Introduction

Research and publication have become a part of academic institution based on the fact that they are means of contributing to knowledge. Generally, information science professionals working in academic institutions are part of academics because they are involved in teaching, research and publishing. Linsay (2010) stated that for information science professionals working in the academic institutions, publishing is an important indicator of status, salary, tenure and influence which may be dependent upon publishing success. In a similar view, Ocholla, Ocholla and Onyancha (2013) emphasized that research is done to fulfill learning, domestic and career needs, to satisfy curiosity, egoistic reasons such as recognition and visibility, for career-related rewards, such as promotion, securing tenure or permanent appointment and for self-

development or growth. Apart from this, librarians are involved in research in other to maintain their status as academic staff, to earn promotions, and to have the opportunity to add to the body of knowledge that constitutes the literature of information science (Ocholla, Ocholla and Onyancha (2013). To the academic staff therefore, publishing helps to achieve the dual purpose of enhancing both one's position and the status of the library institutions. Ezeani (2009) contributing to this discourse maintained that the information science professional has two demand cycle – that of information service delivery to patrons and contribution of knowledge in the LIS profession. Publication is an indispensable cornerstone in education and as such, every academic institution must as a matter of fact consider it essential in terms of wider national accreditation and development planning.

The Australian Government Department of Higher Education Research Data Collection (HERD) (2010) defines research publications as books, book chapters, journal articles and or conference publications that meet the definition of research, and are characterized by substantial scholarly activity as evidenced by the discussion of relevant literature. Many authors write for the pleasure derived from the creative activity of writing and from sharing one's intellectual pursuits as well as the desire to advance human knowledge for the benefit of mankind. Publication is necessary in order to attain certain minimum requirements for getting a job or advancement in career as well as attaining certain academic standard. Besides communication of a piece of research finding, the written work forms the bases for further opinions, views and critiques from fellow professionals separated by time and distance. Nguyen (2015) observed that the interconnected relationships among environmental factors (individual academics and the institution), research motivational factors and research behavioral factors ultimately influenced the research productivity of academics.

Wilfred (2007) categorized the benefits of publication in terms of career, professional, institutional and practical. From the professional point of view, well established librarians gain recognition and acknowledgement as experts in the field and could be appointed as consultants, reviewers or editorial board members of a reputable journal. The fruits of research and scholarship are new knowledge or facts and these are disseminated to the academic community through publications and seminars among others. This knowledge sharpens the practical skills of librarians and enhances teaching of students. Institutionally, publication helps to get recognition for an individual, department and the university and serves as a link to centers with potential for training and research opportunities. Publications therefore, are an indispensable cornerstone in education and as such any academic institution must as a matter of fact consider it essential in terms of wider national accreditation and development planning.

Ocholla and Onyanacha (2013) stated that due to the significance attached to research and publications across all sectors, academic

librarians in public universities should also be expected to conduct research and publish their results in scholarly outlets. As academics, librarians working in university libraries in Nigeria are expected to write and publish research papers, books and journal articles in reputable journals like their teaching counterparts (university lecturers) for smooth career progression. Technically, librarians in universities are generally regarded as academics, but what is however not so certain is their ability to demonstrate to the academic community in which they operate the justification for the academic status so accorded them by way of research and publications. It follows that true academics would have to show substantial evidence of sustained productive scholarship to be so regarded.

According to Ochai and Nedosa (1998), experiences in a number of university libraries in Nigeria have shown that librarians always 'wobbled' through promotion exercises to get to their next salary grade level. The whole situation is often characterized by inconsistencies, uncertainties, confusion and lack of self belief. While in some institutions, librarians are regarded as administrators and their performances measured by the critical indices used in measuring administrators, in some other cases, they are viewed as academics and are so assessed in terms of quantity and quality of publications output. This is not only in Nigeria as Ocholla, Ocholla and Onyanacha (2012) in their study of African eastern librarian's publication pattern found that there is a dearth of research oriented librarians despite an abundance of well educated librarians. Linsay (2010) equally emphasized that despite the fact that women outnumber men in academic librarianship by ratio of approximately 3:1 (Association Research Libraries, 2008), men still publish more than women.

In order to determine the publication output of librarians in South East zone, this paper was limited to only academic librarians of two federal Universities in the South East zone of Nigeria. These are the University of Nigeria, Library and the Nnamdi Azikiwe Library Awka. Effort was made to cover all the academic librarians in these libraries with a view to determining their publication output,

patterns of publication; factors militating against their publication output; and proffer strategies for enhanced scholarly communication.

Statement of the Problem

The importance of publication cannot be overemphasized in view of the career, professional, institutional and practical benefits. As academics, librarians need to publish in order to advance in career, improve services in the library and boost institutional prestige. On the other hand, librarians as information workers deals with the provision of timely information in all formats to end users. In universities the world over, recognition and advancement of librarians rest largely on the quantity and quality of their research output in the form of books, journal articles, technical reports and other productive works. Publishing is an essential requirement for promotion and advancement of librarians in tertiary institutions but due to inadequate research and publications, librarians are caught up in the “publish or perish” syndrome existing in the universities. This is because many librarians have been found to have less than the minimum number of publications required to advance in career. Besselaar & Sandström (2016) noted in their study that within a 10 year period, productivity of male researchers has grown faster than of female researchers, thereby indicating that within performance differences, gender is an important determinant too. In Nigeria, Emmanuel, Oni, and Onyenania (2009) also corroborated that male librarians publish more than their female counterparts. This research also evaluates possible causes for the present scenario in terms of factors which militate against publication output of librarians. This paper therefore seeks to chart the way forward for librarians who are caught up in the web of “publish or perish” due to inadequate publications. The assumption is that if this publication quagmire is not immediately addressed then it portends that advancement in the profession may be stalled. Findings of the study will help librarians to reconsider and promote their research potential and enhance their publication pattern for increased publication output.

Research Questions

The following research questions guided the study

1. What is the extent to which librarians—male and female publish in South East Zone?
2. To what extent do librarians’ publication pattern (single authorship, co-authorship or both) vary?
3. What are the challenges that affect publication output of librarians?
4. What are the strategies for improving the publication output of librarians in the South East zone?

Review of Related Literature

Scholarly Publication Patterns of Librarians in Academic Libraries

Academic librarians globally, are expected to research extensively and publish to justify their positions as academic staff. Ideally, they are positioned to add value throughout the entire life-cycle of their parent institution. Based on the findings from two surveys, Samantha, et al. (2015) described the evolution of future directions in research involving research data policy, infrastructure, skills development and advisory services in universities with a focus on the role of the library in developing and supporting these activities. Hence in universities in Nigeria, librarians are widely engaged in these activities to increase expectations of publishing the required research papers and journal articles to facilitate their promotion to top librarianship positions. As noted in Ogbomo (2010), the publications requirement for academic librarians varies among different tertiary institutions. Patterns of publication and promotions equally vary country by country. For instance the pattern and requirement of publication and promotion in the United States may be different from that of Nigeria, Ogbomo (2010). Many studies have described the characteristics of academic librarians and their scholarly publication output. In Nigeria, librarians in university of Nigeria Nsukka and Nnamdi Azikiwe university Awka have no clearly marked distinction in their subject areas of research. Okafor (2011) however reported that between 1997 – 2007, the major area of research among academic librarians in South East zone of Nigeria is academic libraries while most

frequently covered subjects include library management/administration, user studies, collection development, publishing and special libraries and beyond 2007, information and communications technology in libraries, technical services, inter-library cooperation, professional education, indigenous knowledge and entrepreneurship. Okafor (2011) noted that Librarians in Nigeria mostly published in journals such as the college and research libraries, African Journal of Library, Archive and Information Science (AJLAIS), journal of Academic Librarianship, the Library Philosophy and Practice and Electronic Libraries. Another useful strategy is a detailed study of the publication of librarians in a single institution. Hart (1999) remarks that this narrow focus is particularly appropriate when looking at trends in publication because the type of college or university in which a faculty member works, position at work, years of service and educational attainment have been shown to be key factors influencing their publication patterns. These librarians believe that expectations for publication have generally increased in the past few years. Moreover, teaching faculties are also under pressure to increase their production of scholarly books and articles and communicate research findings in order to earn a certain level of pride and prestige. Dwight and Repp (1992: 34) explored this thought when they posited thus:

Research can provide a sense of self satisfaction that comes from communicating one's ideas to a broader audience, building an area of expertise, receiving recognition within and outside promotion, tenure or salary allocation. It can promote strong relationships with teaching faculty, foster a broad perspective of the field, and strengthen librarian's knowledge of current issues.

Would it not be right to say that librarians and the teaching faculty who have taken advantage of the above facts are those that are actually publishing? In line with this, Ezeani and Ezema (2011) stated that research outputs of any institution are considered to play critical roles in the assessment of intellectual and cultural growth of any society particularly in developing countries where knowledge production and dissemination have been considered very low. This explains why Watson, (1997) was able to make an empirical

conclusion from his study of American librarians that they had contributed significantly to the quantum of knowledge in their field, by asserting that 3.6% of his sample of American librarians was responsible for 25% of published output.

Factors militating against Publication Output of Librarians

Some of the factors militating against the publication output of librarians include, but are not limited to: difficulty in writing a quality and acceptable article in impact factor rated journal; very high publishing costs; lack of institutional support and mentorship, lack of support from NGO's among others. Generally, Nwakpa (2015) identified incessant power failure, inadequate funding, increasing cost of research, dilapidated infrastructure, poor research management culture, misplacement of priority and corruption as major challenges that inhibit meaningful research in Nigeria. In addition, Onuka and Adesoye (2015) also gave other challenges of research as lack of academic integrity of some researchers, inadequate knowledge of the essence of research and evaluation, over-dependence on the use of old materials, conflict between objectives of some research and evaluation and local customs and uncooperative attitude of some respondents during data collection as well as lack of institutional motivation and lack of collaboration on the part of librarians.

In discussing this construct of publication output of librarians, Black and Leysen (1994) explained that a conflict exists between service to users and research expectations. If librarians according to him are expected to move fully into research, the quality of library service may diminish. He also posited that most librarians do not enjoy a flexible work schedule and may not have enough time to make significant contributions to the profession. Some other authors have adduced the low level of scholarly communication by librarians as arising from low educational preparedness of some members. These authors agree that lack of adequate education may hinder the acquisition of adequate research skills and identification of research problems. Quite often, people gate-crash into the profession without significant educational qualification. They enroll into the profession and begin to learn the ropes from scratch. For such people it

may take a long time to actually settle down to the profession. Again, many do not advance beyond the masters' degree level. However, times have changed especially with the new bench mark by National Universities Commission (NUC), a regulatory agency for all universities in Nigeria, which requires that academic librarians should have the same qualifications and also be equally assessed as faculty members. Interestingly, in Nigeria, the number of academic librarians who have obtained the PhD has continued to increase year by year.

Many authors have posited that librarians may not be publishing as required because of their ignorance of reputable and relevant journals where they can publish their research findings. Ogbomo (2010), succinctly discussed this by explaining that it is one thing to write a well-researched work and another to know the adequate publication channel for the work. In line with this thread of discussion, Emmanuel, Oni, and Onyenania (2009) observed that male and female librarians publish mainly in the African continent and this may be as a result of not being conversant with foreign publication channels for their output. This in fact may limit the visibility and global reach of their research endeavors.

Strategies for motivating Librarians for enhanced Publication Output

Motivation is a feeling of enthusiasm, interest or commitment that makes somebody want to do something or spurs someone into action. Motivation as those factors or incentives which have the capacity to bring out the greatest productivity effort or the greatest service from those engaged in production or service. This can be achieved through interactions with senior researchers and colleagues and begins with face to face conversations and interactions on platforms such as face book, shared video on YouTube. According to Ochai (1998), librarians' academic status should in fact be the greatest motivation ever for them. With it librarians have tremendous benefits such as separate academic salary structure, opportunities for attending conferences, going on sabbatical leave and an extended retirement age of sixty-five and now seventy for librarians at the professorial cadre i.e. Deputy University Librarians and University Librarians.

Another strategy for improved publication output is collaboration. This in no small way drives research activities in academic libraries and enhances the quality of the research output thereby enhancing the acceptability of articles. An important research issue in this regard is the nature of the current and evolving patterns of collaborative research and publishing through the use of social media by academics all over the world. These have undoubtedly lead to the increasing trend of research collaboration between individuals, and universities across national and international dimensions (Rosaria, Papagni and Sapio, 2013). Mentorship is another strong point advanced by Ochai and Nedosa, (1998) as a way of helping young librarians learn first-hand from their older colleagues.

In summary, this review has covered several literature related to the study at hand. Scholars globally have established the need for librarians to publish maximally in their field and to continue to contribute to the growing body of knowledge in the library and information science profession. Several empirical studies have also been carried out in several states in Nigeria especially in the North and in the West with regard to the topic at hand. However, such studies known to the authors have not been carried out in the South East zone of Nigeria leading to the gap in knowledge which this study intends to fill.

Research Methods

The design of this study is survey research design. According to Nworgu (2006), survey research is that type in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group. This research design has been adjudged appropriate for this work since this paper deals with collecting data from two institutions as a representation of the South East zone. The chosen institutions of study for the research is Nnamdi Azikiwe Library, University of Nigeria Nsukka, Enugu State and Festus Nwako library, Nnamdi Azikiwe University Awka, Anambra State. These two institutions were chosen considering the number of years they were established. The population consists of all the professional/academic librarians in the two institutions totaling sixty one (University Librarian's Office, 2012). Given

the relatively small population size involved, all academic librarians in these libraries were sampled. The instruments for data collection were both the use of questionnaire and document observation. The document observation instrument was deployed to examine the appraisal forms of these academic librarians in the two institutions under study. The appraisal form of each staff was scrutinized and number of publications recorded and also the publication patterns were also recorded. The document observation was used largely to corroborate or negate the data filled in the questionnaire. It was believed to be a more authentic source and was used in the few cases of disparity. The questionnaire was face validated by three experts and senior colleagues in the profession to ensure it met the required specifications for proper data analysis. The questionnaire contained both open-ended and structured questions. It

addressed such issues as the socio-demographic characteristics of the respondents, publication output, publication patterns, factors that hinder publication and strategies to enhance publication among librarians. Although all sixty one librarians were sampled, only forty seven useable questionnaires were useful for analysis. The analytical technique is mainly descriptive. In this sense, frequency tables, as well as percentages were employed in establishing the relationship between variables of interest in the study.

Results

In a bid to ascertain the publication output of librarians in the South East Zone, the respondents were asked to give information about their publication output. The respondents’ publication output were grouped into five categories viz: 1-5, 6-10, 11-15, 16-20, 21+.

Table 1: Extent to which Librarians publish

Number of Publications	Male	Female	Frequency	Percentage
1-5	0	6	6	13 %
6-10	0	4	4	8.5 %
11-15	5	2	7	14.6 %
16-20	7	6	13	27.6 %
21+	9	8	17	36.1 %
Total	21	26	47	100 %

Table 2: Extent do Librarians pattern of publication vary

Publication pattern	Male	Female	Frequency	Percentage
Single authorship	5	5	10	21.3 %
Co-authorship	6	11	17	36.1 %
Both	10	10	20	42.6 %
Total	21	26	47	100 %

Table 3: Challenges that affect publication output among Librarians

Response	Male	Female	Frequency	Percentage
Indifferent attitude towards scholarship	13	10	23	48.9 %
Poor financial support	12	18	30	63.8%
Lack of quality publishers	4	6	10	21.3%
Interference of domestic chores	10	19	29	61.7%
Lack of incentive to publish	14	12	26	55.3%
Cost of publishing	14	22	36	76.6%
Lack of time/too much load at the work place	16	24	40	85.1%
Other, please specify	2	2	4	8.5%

The data in table 1 reveals that no females and six (6) males have between 5-10 publications. These are the most recently employed. This is followed by two (2) females and two (2) males having between 11 – 20 publications. While five (5) females and two (2) males have between 21 – 30 publications. Also, seven (7) females and 6 males have 31-40 publications

while 8 females and 9 males a total of 17 librarians have 40 publications and above. The term ‘publication’ in this case means the total creative output of each librarian sampled.

In table 2 above, one would observe that librarians in the South East adopt both single and co-authorship modes of publication. The co-authorship pattern of publication is largely

preferred by the female librarians than the male. The reasons that may be adduced for this is that females will have to consider some factors such as lack of time/workload at place of work, as well as cost of research and publication and marry these to their domestic chores thus giving rise to the need to work together with colleagues male or female for effective scholarly output.

Table 4 above reveals that 16 males as against 24 females totaling (85.1%) of the respondents are of the view that lack of time/too much work load at the work place hinders publication among librarians. This is however touchy because the female librarians face this problem both in their work places and at their various homes more than their male counterparts, and this inadvertently stalls research and publication among the female librarians. This assertion is followed by 14 males/22 females constituting (76.6%) as saying that cost of publishing poses a big problem to publication output. 63.8% observed that poor financial support is another factor. As bread winners of their families, male librarians may occasionally put family needs into

consideration. Collaborating with a female colleague in this regard can prove very helpful since some of the female colleagues may be more disposed to fund research projects. This observation is preceded by 61.7% saying that interference of domestic chores stalls publication. Expectedly more females 19 against 10 alluded to this variable as affecting their ability to publish maximally. In another view 55.3% opine that lack of incentive or institutional support undermines publication.

In a general view, only 4 males as against 6 females totaling (21.3%) of 47 respondents see lack of quality publishers as a problem that could hinder publication. There are several authentic publication channels springing up in the field of librarianship. Many Impact Factor Journals in the field are becoming known to librarians who hitherto had very limited channels of publishing their creative output. Also, only 2 male and 2 female librarians or (8.5%) indicated lack of mentorship, social and religious commitments, attitude of publishers and proper motivation as other factors that could hinder publication.

Table 4: Strategies that can enhance publication output of librarians

Response	Male	Female	Frequency	Percentage
Research grant	21	24	45	95.7%
Making the act of publishing enterprising	13	18	31	67%
Collaboration in publication	19	21	40	85.1%
Constant appraisal of librarians	14	18	32	68.1%
Conducive working environment	19	23	42	89.4%
Reducing workload of academic librarians	21	26	47	100%
Conference attendance	19	24	43	91.5%
Others, please specify	1	1	2	4.3%

In table 4 above, all the 47 respondents or 100% are of the view that reducing the workload of librarians will unarguably enhance publication among them. That is to say that all 21 male respondents and all 26 female respondents are positive about this point. However, since most women see domestic chores as interfering in their career lives, it will be heartening to say that reducing the workload at work places will still create a better avenue for improvement in the scope and quality of content of their publications. This is equally applicable to the male librarians.

Provision of research grant is one of the strongest strategies to enhance publication as testified to by 21 males and 24 female

librarians or (95.7%) of the sample. Research grant could go a long way in enhancing publication for those male/female librarians who could not muster enough funds for effective research and publications.

Other factors generally highlighted by male/female librarians that could advance publications among librarians are: Conference attendance (91.5%), conducive working environment (89.4), and collaboration in publication (85.1%), constant appraisal of the librarian (68.1%). One female and one male librarian (4.3%) responded that making available literature of other authors worldwide, free Internet availability and accessibility and encouraging staff to see what is going on in other libraries through in-service training are

factors that could enhance publication among librarians.

Summary of Major Findings

From the data presented, the major findings of this research indicate that librarians in South East Zone need to beef up publication output. Most librarians in these institutions adopt a combination of both patterns (single and collaborative) publications. However, female librarians prefer the co-authorship pattern of publication. The female librarians do not see cost of publishing as a factor that could hinder their publication output. Most males also prefer a combination of both patterns of publication with only 5 opting for the single authorship pattern.

Furthermore, the result of the study identifies lack of time/heavy work load as the major problem that hinders publication among librarians. On the other hand, all the 47 respondents suggested reducing the workload of the librarians as a major boost to publication output especially for female librarians as they identified family chores as hindering their research and publication output.

Discussion of the Findings

Findings have shown that the extent of publications among librarians in South East zone of Nigeria has been relatively average as only 17 librarians comprising 9 males and eight females and constituting 36.1% of the respondents have 40 publications and above. This result implies that publications of many librarians are grossly inadequate and will be a constraint to their career progression. For instance, in university of Nigeria Nsukka, librarians with less than twenty publications will not be promoted to the Deputy University librarian cadre. In addition, they have to publish a certain number of papers in the Thomson Reuter journals indexed by the web of science.

Other findings gleaned from this study include the fact that in all the appraisal forms examined, males have published relatively more than the females in the profession. This is in line with the findings of Emmanuel, Oni and Onyenania (2009) who did a survey of librarians in Edo and Delta states of Nigeria and posited that male librarians publish more than their female counterparts. A lot of factors may be responsible for this - males ostensibly

have more time at their disposal for research than females. They may also have a stronger network of professional friends who may be available to discuss research activities and possible channels of publishing research outputs than their female counterparts.

The application of publications as a key criterion for assessment and promotion of academic librarians is premeditated on some basic assumptions namely:

- That librarians are academics
- That as academics the facilities for research are open to them
- That qualified academic librarians have the training, competence and discipline for research

Furthermore, in the university environment the world over recognition and advancement of individual staff rests on the quality and often, the quantity of their research output in form of books, journal articles, and technical reports among other productive work. The emphasis on research output is such that the librarians' career tends to depend on it more than on the quality of professional duties. The typical faculty member's attitude towards librarians has been something like, "since they say they are academics, librarians would have to be measured with the same parameters that are used for assessing other academics for promotion" (Ochai and Nedosa, 1998).

Librarians in South East zone adopt both single and co-authorship patterns of publication with the co-authorship pattern largely preferred by the females than the males. In this study, preference for single authorship, co-authorship and both single and co-authorship vary in the ratio of 1:1.6:2. A reason which portends that females will have to consider some factors such as lack of time/workload at place of work, as well as cost of research and publication and marry these to their domestic chores thus giving rise to the need to work together with colleagues male or female for effective scholarly output. Adoption of both single and co-authorship patterns have been seen to play significant roles of encouraging self assessment and improvement in research, increasing the quality of research work and maximizing output. Never the less, the eagerness or enthusiasm to publish is an interplay of many variables as seen in the study.

Several variables bring about increase in publication output among librarians. It is possible from the findings that a few males and female librarians who have worked for over a decade have a greater number of publications than those who have spent less number of years. This is so because of their accumulated experiences in research and publishing, will power to succeed and the determination not to perish in the academic high seas.

Females were seen to be more involved in research collaboration than males. However, what is unclear from the study is whether the females collaborate more with females or with males. In discussing this, several reasons may be adduced to be responsible for this trend. Females may wish to collaborate with males and possibly fund the research because they have limited time at their disposal. Again some females may not initially have the confidence to embark on a research endeavor alone and may need to be mentored to a level that they can take up from. Whatever, the case, collaboration is often encouraged in research as people bring in their diverse opinions, skills, and experiences to research enriching and authenticating the research process. Librarians must therefore research and subsequently publish in order to sustain their career progression.

Many challenges affect publication output among librarians in these institutions of study. Prominent among them are lack of time, lack of incentive to publish, interference of domestic chores and the increasing cost of publication in the developing economies. Lack of time/too much work load (85.1%) has been identified as the strongest constraint to the publication. This is followed by cost of publishing, poor financial support and interference of domestic shores. As a major objective, librarians strive to contain the office workload and render prompt services to the incessant demands of clients so as to uphold the ethics of the profession. They must therefore put in extra hours in their day to day activities to be able to publish maximally. Female librarians (65%) are constrained by domestic activities more than the males hence they opt for collaboration especially with the male counterparts who stand to serve as motivators and helpers. Financing for research work should have been a major driving force

for greater output, but in these institutions, financing has been grossly inadequate which 76.6% of respondents rated as a factor affecting their ability to publish maximally. Generally, the cost of publishing research output is very exorbitant in developing economies where most journals are solely sustained by publication fees paid by journal contributors. Whereas most foreign based journals are often funded by different grants and grant awarding institutions. In fact it is becoming increasingly difficult for one person to fund a research work in Nigeria.

Respondents agreed that part of the strategies for enhancing publication output include, reducing workload of librarians which more female than male librarians responded to. Both male and female librarians agree that the provision of research grants will in no small way drive research activities in both institutions. Encouraging librarians both males and females to attend conferences can also help to improve the research process. Providing a conducive working environment for the librarians, continually encouraging collaboration and exercising mentorship especially on younger librarians would be a sure way of sustaining the research and publication momentum in institutions. This is shown by the positive responses that combination of both patterns facilitates publication among librarians. This is true because several factors such as indifferent attitude toward scholarship, poor financial support, cost of publishing, lack of incentive etc that hinder publication could be eliminated or averted when librarians adopt co-authorship pattern of publication or a combination of both single authorship and collaborative pattern of publication.

Recommendations

In view of the findings of this research, the following recommendations are hereby made:

- ❖ Experience and competence play a major role in every librarian's academic and professional life, it is therefore imperative for every librarian in the Federal universities in the South East zone to maximize the benefits of the university environment and remain productive in their profession.

- ❖ Librarians should be able to adopt, internalize and access the Internet which is now at their beck and call for research, scholarship and other professional duties.
- ❖ Inexperienced librarians should scale up their experience by regularly attending workshops, seminars, symposia, in-service training, ICT training is equally vital as this will aid in understanding the computerization going on in other libraries globally and how to publish in globally accepted journals. This is crucial since Ezeani and Ugwuanyi (2010) had earlier observed that lack of adequate IT skills have been a major impediment to publishing in foreign journals by librarians.
- ❖ Librarians whose promotion is stunted or stagnating should research extensively in order to publish quality documents and increase the quantity of their publications, since publication is one of the criteria for promotion to a certain grade level.
- ❖ Mentorship at all levels should be encouraged. This would include the peer-to-peer mentorship,
- ❖ The mentor-mentee relationship in helping to improve research activities in the South East zone

In conclusion, this work has examined the publication patterns of academic librarians in two federal universities in Nigeria. The work first and foremost examined the publication output of male and female librarians, investigated their patterns of publications, espoused the challenges faced by male and female librarians in their publication effort and proffered strategies for enhanced publication output of male and female librarians in the South East zone of Nigeria. The findings of this research, is geared towards helping male and female librarians find proactive ways to improve their publication output in order to enhance their promotion prospects and advancement in their career. Also, library management and university authorities should work towards funding researches and creating the right atmosphere in order to encourage librarians to publish.

Limitations of the Study

This research work would give a radically different result if conducted now. A lot has happened in the tertiary institutions in Nigeria especially in universities within the last one or two years. Most universities have reviewed their appointment and promotion pattern. In the University of Nigeria, Nsukka there is a premium placed on foreign publications especially publications indexed by Thomson Reuters. This has helped publications to swell up. Generally between last year and now several scholarly publications by librarians in the two institutions under study have littered several scholarly journals within and outside Nigeria.

Suggestion of Further Research

A similar topic could be researched into with a wider coverage possibly a Nigerian study. An in depth analysis on the possible role the Nigerian government can play to drive research is also advocated.

References

- Aina, L .O. (2004). *Library and Information Science text for Africa*. Ibadan: Third World Information Services Ltd.
- Besselaar, P.V.D. and Sandstrom, U. (2015). Gender differences in research performance and its impact on careers: a longitudinal case study. *Scientometrics*, 106, issue 1. Pp.143-162. At: <https://link.springer.com/article/10.1007/s11192-015-1775-3>
- Dwight, F. and Repp, J. (1992). Factors Associated with Academic Librarian's Publishing in the 70s: Prologue for the 80s, in options for the 80s: Proceedings of the second National Conference of the ACRL Greenwish, Conn: JAIP 395-404.
- Emmanuel E. Baro, Osaheni Oni, George O. Onyenania, (2009) Gender and publication output of librarians in Edo and Delta State university libraries in Nigeria, *Performance Measurement and Metrics*, Vol. 10 (3) 180 – 192
- Ezeani, C.N. (2009). Gender as a Determinant of Job Satisfaction of Academic Librarians in Nigeria. *Ghana Library Journal* Vol.20 (2), 50-63
- Ezeani, C.N. & Ugwuanyi R.N.C. (2010) Technostress in Academic Libraries: Strategies for its Management. *The Information Technologist* Vol. 7(1) 157-165
- Ezeani, C.N. & Ezema, J.I. (2011). Digitizing research output of university of Nigeria Nsukka. *Library Philosophy and Practice (e-Journal)*. Available at: www.webpages.unidaho.edu/~mbolin/ezeani-ezema.htm

- Gregory, G.M. and Medford, N.J. eds (2006). The successful academic librarians: winning strategies from library leaders. <http://www.ala.org/ala/acrpubs/crjournl/backissues2006a/mayerl/gregoryreviewcfm>
- Jam Z (1991). The Information Needs of Academic Staff of College of Agriculture, Yandev. Ibadan University, M. L.S Thesis.
- Joswick, K.E. (1999). Article Publication Pattern of Academic Librarians: An Illinois case study. Joswick.p65-340.full.pdf.
- Linsay, R. (2010). Gender and citation in two Library and Information Science E – Journals: A bibliometric analysis of LIBRES and Information Research: Library and Information Science Research Electronic Journal, 20 (1). <http://libres.curtin.edu.au/> accessed in Nov, 13 2014.
- The New International Webster’s Comprehensive Dictionary of the English Language (2005)
- Nguyen, Q.H. (2015). Factors Influencing the Research Productivity of Academics of the Research-oriented University in Vietnam. Theses submitted to the School of Education & Professional Studies in Fulfilment of the requirements for the degree of doctor of education.
- Nwakpa, P. (2015). Research in tertiary institutions in Nigeria: Issues, challenges and prospects: Implications for educational managers. *IOSR Journal of Humanities and Social Science*, 20 (6), 45- 49. ISSN- 2279-0837.
- Nworgu, B. G (2006) *Educational Research: Basic Issues and methodology*. Nsukka: University Trust.
- Obetta, S. I (2008) Factors Affecting Librarians Productivity in Nnamdi Azikiwe Library, UNN and Enugu State University of Science and Technology Library Enugu. Unpublished Project Report, University of Nigeria Nsukka.
- Ochai, A. and Nwafor, B. U. (1990). Publishing as a Criterion in Nigerian Universities: *A review of form and content higher education policy* 3 (3) 46 – 49.
- Ocholla, D.N.; Ocholla, L. and Onyancha, O.B. (2012). Research visibility, publication patterns and output of academic librarians in Sub-Saharan Africa: a case of Eastern Africa, *Aslib Proceedings*, 64 (5), 478-493.
- Ocholla, D.; Ocholla, L. and Onyancha, B.O. (2013). Insight into the research publication and output of academic librarians in Southern African public universities from 2002 to 2011. *African Journal of Library Archival and Information Science*, 23 (1), 5-22.
- Ogbomo, Esoswo Francisca (2010). Publication Output of Librarians in Tertiary Institutions: A Case Study of Delta State University, Abraka, Nigeria. *Library Philosophy and Practice* (e-journal).
- Okafor, V.N. (2011). Comparative Analysis of Output of Federal Universities in South East Nigeria. *Library Philosophy and Practice ISSN-1522-0222*.
- Onohwakpor J.E. and Tiemo P.A (2006) The Pains and Gains of the Publication Requirement: a Survey of Librarians at Delta State University, Nigeria. *Library Philosophy and Practice* Vol. 8, (2) Onuka, A.O.U. & Adesoye, O. (2015). Challenges of and possible solutions to educational research and evaluation in Nigeria. *African Higher Education Research Online (AHERO)*. Academic publication in the institute of education, University of Ibadan. ISSN: 1116-0381. Available at: http://ahero.uwc.ac.za/index.php?module=cshe&action=viewtitle&id=cshe_534
- Rosaria, M.C. and Alessandro, (2014). Collaboration networks in basic and applied scientific research. Available at: <http://www.chainconference.wur.nl/Collaboration%20Networks%20in%20Basic%20and%20Applied%20Scientific%20Research.htm>
- Samantha, S. Malcom, W. Natasha, S. & Joannz, R. (2015). Librarians as Partners in Research Data Service Development at Griffith University Program. *Electronic Library and Information Systems*, 49 (4): pp.440-460. Available at: <https://doi.org/10.1108/PROG-02-2015-0013>
- Stein, A. H M. M. Bailey (1973). The socialization of Achievement Motivation in Females. *Psychology Bulletin* 80: 345-366pp
- Watson, P. De Simone (1997). Publications Activity among Academic Librarians. *College and Research Libraries* 38 (5) 375-384.
- Wilfred, C.G. (2007). Scientific Writing and Publishing: Its Importance to Radiologists. *Biomedical Imaging and Intervention Journal* 3(3). ISSN- 1823-5550. <http://www.bijj.org/2007/3/e55/>.

Awareness and Utilization of Reference Resources by Fisheries Undergraduate Students in Universities in North Central, Nigeria

Osasu T. Makinde¹, Aba, Jane² & Esther Bolade³

Ambrose Alli University Library, Ambrose Alli University, Edo State- Nigeria^{1,2,3}
makindetheresa023@gmail.com¹, abajane@auuekpoma.edu.ng², & talk2ozondu@yahoo.com³

Abstract

This study is on awareness and utilization of reference resources by fisheries undergraduate students in universities in North-Central, Nigeria. Descriptive survey research design was adopted and structured questionnaire was used to collect data. Four hundred and fifty seven (457) fisheries undergraduates were sampled using purposive sampling technique. Data were analyzed using percentage, frequency, mean and standard deviation and Null hypothesis was tested. Results revealed that reference resources were available but extents of accessibility and utilization were generally low, constrained included inadequate professional reference staff, outdated and irrelevant resources and waste of time when searching for materials. Null hypothesis was rejected which implies that opinions on accessibility and utilization of reference resources differed significantly.

Key words: Awareness, Utilization, Reference resources, Fisheries students

Introduction

University libraries are major points of awareness through provision of reference resources for quality teaching, learning and research. Reference resources are provided for use through indexing and abstracting services in print and electronic format. Reference resources are information bearing materials in personnel, prints and electronic form used by reference librarians to provide specific and timely information for users. Reference resources include: personnel such as reference librarians, support staff; print materials such as: dictionaries, encyclopedias, research monographs, directories, biographies, almanacs; information retrieval tools such as indexes, abstracts, bibliographies, catalogues and electronic materials such as computers, projectors, CD-ROMS and internet, e-journals, database and e-prints. Unlike other library materials, reference resources are special unique to users because they contain facts that have been brought together from varied sources which are organized for easy and quick access for specific use. They are not meant to be read from cover to cover or borrowed out of the library but are used as sources of finding precise information (Abdulahi & Mamza, 2014). Reference resources are gold-mines of the reference section, their value is inestimable to users who need them to obtain relevant information (Attama, 2013). It should be noted that availability of reference resources in

university libraries does not imply automatic utilization of reference resources instead awareness facilitates users' interest; it is only when students are aware of the available reference resources in university libraries that the issue of utilization can arise. Ademodi (2015) emphasizes that availability of reference resource does not really enhance utilization of the resources; it is only when undergraduates are aware of the availability of the resources that utilization can come into play.

Awareness is a state of being "in the know" or pre-informed about the presence of an item or facility in an environment. In this study, awareness of reference resources means the extent to which library users are pre-informed and knowledgeable about the reference resources available in different formats in the library. This is to enable students know the right resources for a particular information. Iroaganachi and Ilogho (2012) emphasized that it is very important for students to know the appropriate resources to satisfy specific information needs. It is therefore necessary for the proper awareness of reference resources to be provided, otherwise these resources will become old and irrelevant with time and considered as underutilized.

Utilization is the ability to exploit and benefit from certain facilities, items or environment to extent to which library users are able to exploit

and benefit from reference resources in different format to satisfy an information need. Effective utilization by students enhances knowledge and overall academic performance. Mucai (2013) views utilization as taking advantage of an item and benefiting from it, emphasizing that utilization of appropriate resources play an important role in the achievement of educational goals. The extent of utilization determines the quantity and quality of information obtained and consequently, the quality of research output of users. Research output in this study refers to fisheries student's performance in different academic areas such as examination, assignments, seminar papers, undergraduate project report as well as level of technical skill required for quality fish production. There are different categories of library users; they include the public, community or group of specialized users. In the library, fisheries students could be classified as specialized users due to the restricted nature of the course. Ukih (2012) asserts that library users consist of undergraduates, post-graduates; lecturers and research fellows who are mostly subject specialists concentrating on their subject fields.

Fisheries undergraduate students, popularly called "fisher folks" are subject specialists at undergraduate levels of higher institutions undertaking a course of study in fishes and other aquatic organisms as prawns, crabs, periwinkles, in partial fulfillment for the award of Bachelor degree in fishery B. Agric. (Fishery). The Fisheries Society of Nigeria (FISON) and Fishery academics mostly refer to any individual in the field of fishery as "The Basis for Quality Fish Protein Production and Sustainability". Fish is an important source of easily digestible high - quality animal protein (40% crude protein) which offers nutritional values compared to meat and other dairy products (milk). Fish is also an excellent source of Omega H3 fatty acids (fish oil) which is essential for brain development in human. Fish complements the high carbohydrate diets of many regions (FAO, 2007). Currently, one billion people worldwide are reported to rely on fish as their main source of animal protein (Milestone & Lang, 2006). Health workers worldwide often advise on intake of fish for at least once a day to ensure

good health and longevity. Thus, the ultimate goal of any individual in the field of fishery, either as a lecturer, consultant, fishery scientist, fisheries students, should be geared towards obtaining quality information that will enhance quality fish production. This will guarantee sustainability and consumption of quality fish.

Fishery students seems not to be making judicious use of appropriate information resources that can provide quick answers to fisheries-based specific questions which can increase their level of research activities. A close observation by the researcher revealed that the reference shelves are always left desolate while students cluster round other shelves in search of specific information especially textbooks, journals among others. This implies that fisheries students are either not aware of reference services and resources in their university libraries or lack the required skill to retrieve and use vital information from reference resources through the use of information retrieval tools such as indexes, abstracts among others. An investigation into this study is therefore important because when there is an awareness of appropriate reference resources, the provision and use of specific information that may likely enhance practical / productive skill and knowledge in the classroom and fish farm by fisheries students cannot be overemphasized.

Purpose of the Study

The main purpose of this study is to investigate whether fisheries students are aware of reference resources and the extent to which they utilize them. Specifically, the study seeks to;

- i. identify the reference resources available in university libraries in north-central.
- ii. determine the extent of awareness of reference resources by fisheries students in universities in North Central, Nigeria.
- iii. determine the extent of utilization of reference resources for research by fisheries students in universities in North Central, Nigeria.
- iv. identify the constraints to effective awareness and utilization of reference resources in university libraries in North Central, Nigeria.

Review of Related Literature

A plethora of studies have been carried out on library awareness and use. This is to enable users make use of the resources they are aware of. Unawareness of library resources could lead to lack of use of library resources which might result to non- existence. Awareness is the act of being knowledgeable or familiar about item(s) or facilities in an environment. The goal of university libraries will not be fully realized if students are not initially aware of the resources rendered. Ademodi (2015) emphasized that the expectations of the library will be fully met if the resources provided are properly structured to facilitate its use adding that librarians are curious of the need to provide services that enhance students' knowledge of resources available in the library as well as the need to maximize utilization of library resources. Awareness of resources facilitates interest for use, it could be ascertained if the resources are relevant or not. If proper awareness of reference resources are not provided, these resources becomes automatically old and irrelevant with time and considered as underutilized and a waste of resources. Jonathan and Udoh (2015) further implied that information sources which users are not aware of would be underutilized and what is fundamental to library information provision and utilization is to create users awareness of their available resources. This will go a long way to determine the extent of use.

To effectively discharge their services, the operations of university libraries will largely depend on awareness and use of its resources otherwise the resources and services will become old and irrelevant with time. Popoola and Zaid (2007) found that faculty status, membership of library committees, frequency of use of information products and services and frequency of consultations with the library personnel are dependent on faculty awareness of library information product and services. However, availability does not automatically translate to accessibility and use. Ademodi (2015) further noted that apparently, availability of reference resources does not translate to utilization of library resources without awareness. while Namugera (2014) indicates that lack of knowledge among library

users of library resources. The extent of awareness of library resources including reference resources will go a long way to determine users' level of utilization of these resources.

Utilization of a resource is the extent of use to satisfy a need. Utilization can be achieved if there is adequate access to information. Utilization of information resources is the practical and maximum use of library information resources identified by a user for the purpose of solving a problem (Adegboye, 2015). Uhegbu (2007) viewed utilization as the appropriate use of acquired information. Iroaganachi and Ilogho (2014) posited that utilization of resources implies taking advantage of available resources. Proper utilization of reference resources by fisheries students can improve research and overall productivity of fisheries sector in North Central, Nigeria.

Reference resources have been variously defined. Popoola and Haliso (2009) stated that reference resources are information- bearing materials in print and electronic formats used in the library to answer specific and direct questions such as textbooks, journals, indexes, abstracts, newspapers and magazines, reports, CD-ROMS, database, the internet/E-mail, video tapes/ cassettes, diskettes, computers, and so on. The print and non-print materials used in satisfying reference queries are called Reference Resources denoted by "Ref" or "R". Reference services are carried out by Reference Librarians at a Reference Desk. These information materials are the raw materials that libraries acquire, catalogue; stock and make available to users. They are materials needed for reference and information services. Okiki (2013) defined reference resources as materials or books that are only meant for reference purpose. Reference resources according to Ogbuiyi (2015) include dictionaries, atlases, and almanacs e.t.c which are research tools that are used in writing papers or projects. Onifade and Sowole (2011) also defined reference resources as books, collections, or materials that are consulted in the library alone and not meant to be borrowed out, they are not to be read from cover to cover but to answer specific question.

Utilization of reference resources especially in the developing countries has not been without problems. Tahir, Mahmood and Shafique (2008) identified the following problems to include: poor library organization, lack of user skills; poor funding of libraries, lack of current information resources; lack of adequate/relevant materials, poor IT infrastructure; non-conducive reading environment, poor power supply; lack of technical support and lack of user education programs. Most fisheries students in North Central Universities do not have access to fisheries related information materials while others claimed not to be aware or lack knowledge of what reference services and resources is about in the library. Abdulahi and Mamza (2014) are of the view that lack of access to current information resources could

be challenging in the use of academic libraries by students.

Methodology

The study adopted a survey research design. The population of the study comprised 1,630 fisheries undergraduate student. Out of this 457 fisheries undergraduate students were sampled using purposive sampling technique. The research instruments was a structured questionnaire titled “Questionnaire on Awareness and Utilization of Reference Resources by Fisheries Undergraduate Students in Universities” (QAURRFSU). A response rate of 436(95.4%) was recorded. Data collected were analyzed using frequency counts, percentages (%), Mean (\bar{X}) and Standard Deviation (SD) to answer research questions.

Results

Table 1: Frequencies and Percentages of Availability of Reference Resources

	Reference resources:	Available Freq%	Not Available Freq%	Remark
1	Encyclopedias	421 (96.6)	15 (3.4)	Available
2	Dictionaries	422 (96.8)	14 (3.2)	Available
3	Biographies	423 (97.0)	13 (3.0)	Available
4	Indexes	279 (64.0)	157 (36.0)	Available
5	Abstracts	280 (64.2)	156 (35.8)	Available
6	Encyclopedia Americana online	140 (32.1)	296 (67.9)	Not Available
7	Encyclopedia Britannica online	125 (28.7)	311 (71.3)	Not Available
8	Computers/printers	378 (86.7)	58 (13.3)	Available
9	AGRIS	238 (54.6)	198 (45.4)	Available
10	AGORA	225 (51.6)	211 (48.4)	Available
11	FAO	120 (27.5)	316 (72.5)	Not Available
12	EBSCOHOST	87 (20.0)	349 (80.0)	Not Available
	Total/Average Availability	261 (60.0)	175 (40.0)	Available

Table 1 shows the frequencies and percentages of responses on availability and non-availability of reference resources. Result reveals that reference resources such as Encyclopedias has 421 (96.6%) and 15 (3.4),

Dictionaries has 422 (96.8%) and 14 (3.2), Biographies 423 (97.0%) and 13 (3.0), Indexes 279 (64.0%) and 157 (36.0%), while Abstracts has 280 (64.2%) and 156 (35.8). However, Encyclopedia Americana On-line has 140

(32.1%) and 296 (67.9), Encyclopedia Britannica On-line has 125 (28.7%) and 311 (71.3),while computers / printers has 378 (86.7%) and 58 (13.3). Also, AGRIS has 238 (54.6%) and 198 (45.4%), AGORA 225 (51.6%) and 211 (48.4), FAO 120 (27.5%) and 316 (72.5) and EBSCOHOST 87 (20.0%) and 349 (80.0). Thus items 1, 2, 3, 4, 5, 8, 9 and 10

are available with percentages above 50% while items 6, 7, 11 and 12 are not available with percentages below 50%. The average percentage availability of reference resources is 261 (60.0%) while average non-availability is 175(40.0). This shows that reference resources are available.

Table 2: Mean and Standard Deviation of Extent of Awareness of Reference Resources (N=436)

Reference resources	Mean	SD	Remark
Encyclopedias	3.08	0.85	Great ext.
Dictionaries	3.16	0.81	Great ext.
Biographies	2.16	0.73	Low ext.
Indexes	1.94	0.79	Low ext.
Abstracts	2.12	2.17	Low ext.
Encyclopedia Americana online	1.82	0.78	Low ext.
Encyclopedia Britannica online	1.79	0.74	Low ext.
Computers/printers	2.70	0.72	Great ext.
AGRIS	2.16	0.76	Low ext.
AGORA	2.39	0.82	Low ext.
FAO	2.01	0.63	Low ext.
EBSCOHOST	1.92	0.62	Low ext.
Cluster mean	2.27	0.71	Low ext.

Table 3: Mean and Standard Deviation of Extent of Utilization of Reference Resources (N = 436)

Areas of Research	Mean	SD	Remark
I use reference services and resources for research on my assignment	2.51	0.86	Great ext.
I use reference services and resources for research for examination	2.43	1.14	Low ext.
I use reference services and resources for research on my project work	2.42	1.02	Low ext.
I use reference services and resources for pleasure	1.98	1.79	Low ext.
I use reference services and resources to know more about people and events in the world	2.42	0.94	Low ext.
Cluster mean	2.35	1.15	Low extent

Table 2 shows the mean and standard deviation of responses on extent of awareness of reference resources. Results revealed that the extent of awareness of reference resources such as; Encyclopedias is ($\bar{X} = 3.08$, $SD = 0.85$), Dictionaries is ($\bar{X} = 3.16$, $SD = 0.81$), Biographies ($\bar{X} = 2.16$, $SD = 0.73$), Indexes ($\bar{X} = 1.94$, $SD = 0.79$), while Abstracts is ($\bar{X} = 2.12$, $SD = 2.17$). Also, Encyclopedia Americana Online is ($\bar{X} = 1.82$, $SD = 0.78$) while Encyclopedia Britannica online is (1.79, $SD = 0.74$). Computers / Printers is ($\bar{X} = 2.70$, $SD = 1.02$), AGRIS ($\bar{X} = 2.16$, $SD = 0.78$), AGORA ($\bar{X} = 2.39$, $SD = 0.82$), FAO ($\bar{X} = 2.01$, $SD = 1.02$) and EBSCOHOST $\bar{X} = 1.92$,

$SD = 1.02$), The cluster mean for extent of awareness of reference resources is ($\bar{X} = 2.27$, $SD = 0.71$) which shows that awareness of reference resources is low.

Table 3 shows the mean and standard deviation of responses on the extent of utilization of reference resources in different areas of research. The result revealed that the extent of use of resources for Assignment has ($\bar{X} = 2.51$, $SD = 0.86$), examination has ($\bar{X} = 2.43$, $SD = 1.14$), project work ($\bar{X} = 2.42$, $SD = 1.02$), pleasure ($\bar{X} = 1.98$, $SD = 1.79$) and to know more about people and events in the world ($\bar{X} = 2.42$, $SD = 0.94$). The cluster mean for use of reference services and resources in

different areas is (\bar{X} =2.35, SD= 1.15). This implied that the extent of utilization of

resources in different areas of research is low.

Table 4: Mean and Standard Deviation of Constraints to effective Awareness and Utilization of Reference Resources. (N = 436)

Constraints	Mean	SD	Remark
Inadequate professional staff to assist me.	2.76	0.78	Agree
There are old and irrelevant resources for my course.	2.75	0.95	Agree
lack of skill / knowledge by students	2.64	0.74	Agree
I waste a lot of time when searching for materials.	2.72	0.86	Agree
The librarians are not user-friendly.	2.67	0.91	Agree
Cluster mean	2.71	0.85	Agree

Table 4 shows the mean and standard deviation of responses on the constraints to effective access and use of resources in the library. The result revealed that inadequate professional reference staff has (\bar{X} = 2.76, SD =0.78), old and irrelevant resources has (\bar{X} = 2.75, SD =0.95), lack of skill / knowledge on how to use reference resources (\bar{X} =2.64, SD =0.74). Waste a lot of time (\bar{X} =2.72, SD =0.86), the librarians are not user-friendly (\bar{X} = 2.67, SD =0.91). The overall cluster mean for constraint is (\bar{X} = 2.71, 0.85). This shows that there are constraints militating against effective awareness and utilization of reference resources by fisheries students.

However, these findings disagreed with Abdulahi and Mamza (2014) that reference resources were not readily available to the undergraduate students.

Extent of awareness of reference resources for research by fisheries students

Results revealed that the extent of awareness of reference resources by fisheries students in universities in North Central, Nigeria was generally low. This implies that information resources which users are not aware of are likely underutilized. The findings of this study supports the findings of Ademodi (2004; 2015) that majority of the undergraduate students were not aware of reference resources available in the university libraries. In the same vein, the findings of this study agrees with findings of Namugera(2014) that the low level of awareness services offered in a Ugandan University library were not sufficient to propel effective use of the library resources. The findings of this study is also in line with findings of Osinulu in Onifade., Ogbuiyi and Omeluzor (2013) that lack of awareness of library services and resources results in low extent of use by students. However, the findings of this study disagree with findings of Abdullahi and Mamza (2014) that majority of respondents were aware of reference services and resources as well as their functions and values. Furthermore, the opinions of fishery students in these libraries were found to differ significantly on the awareness and utilization of reference services and resources. This probably implies that students do not have knowledge of reference resources and as such do not know their values and functions in seeking specific information. From the result on awareness, it can be deduced that the low extent of awareness was perhaps as a result of inability of university libraries to create

Discussion of Findings

Availability of reference resources for fisheries students

Results revealed that reference resources were readily available in the university libraries understudy. This implied that university libraries have the capacity to provide effective and efficient reference resources delivery to meet institutional goals of teaching, learning and research and as such, fisheries students can benefit from them to meet specific information needs. The findings agreed with Ogbuiyi (2015) that reference resources were available to the undergraduate students for maximum use in Babcock University Library, Ogun State, Nigeria. The result also agrees with Adegboye (2015) that information resources were available to users. Similarly, the findings correspond with Azubuike (2014) that the resources were available to the undergraduate students in Colleges of Education in Anambra and Enugu State, Nigeria. Findings are in tandem with Aba (2013) that electronic reference resources were greatly provided.

effective awareness services such as exhibitions and display, and inactive participation of the libraries in book selection policy.

Extent of utilization of reference resources for research by fisheries students

Results revealed that the extent of utilization of reference resources by fisheries students was generally low. The results of this study negate the main purpose of reference resources because reference resources basically provides users with specific, timely and accurate information, besides the extent of utilization is expected to determine the quantity and quality of information obtained for research output of users. This result is very surprising as fisheries students in all the libraries under study did not utilize reference resources in majority of the different areas of research except majorly for assignment purpose. The findings of this study is in accordance with the findings of Abdulahi and Mamza (2014) that majority of the undergraduate students utilized reference resources for assignment purpose to a great extent. The findings of this study also confirm the findings of Ademodi (2015) that assignment purpose recorded a great extent of use. The outcome of the result of this study that the extent of utilization was low corresponds with the outcome of the study by Adegboye (2015) and Azubuikwe (2014) that the extent of utilization of reference resources was not impressive. However, the findings of this study negates the findings of Afebe and Ebeye (2008) that reference services and resources were mostly utilized by staff to prepare lecture notes for teaching. From the result on utilization, it is possible that the low extent of utilization was perhaps attributed to low extent of awareness and accessibility of reference resources.

Constraints of awareness and utilization of reference resources

Results revealed that fisheries students in the universities under study were constrained by numerous factors among which were; inadequate professional reference staff, old and irrelevant resources, waste of time when searching for materials, unfriendly attitude of staff and lack of skill / knowledge on how to use information retrieval tool e.g abstract to access vital information. These could imply

that fisheries students were not satisfied with the reference resources provided by the universities under study. The result of findings of this study is in agreement with the findings of Onifade and Showole (2011) that reference materials available to students were very old and not relevant for use. Findings of this study agrees with findings of Afebe and Ebeye (2008) that challenges militating against the use of library resources were due to lack of current books, journals, E-resources, irrelevant database and materials. This result of this study also corresponds with the findings of Oyewusi and Oyeboade (2009) that the major challenges encountered by students were lack of professional staff and waste of time. The outcome of this study further supports the findings of Ajayi (2010) that a good number of students do not make use of library resources for various reasons such as lack of awareness, lack of professional staff, unconducive library atmosphere. In the same vein, the result of this study confirms the result of Onifade (2011) that information utilization is constrained by lack of awareness, bibliographic obstacles, hostile environment, poor infrastructure, inadequate professional staff, non-involvement of staff in book selection and SDI (Selective Dissemination of Information) services.

Conclusion

It is the conclusion of this study that fisheries undergraduate students in North-Central Nigerian universities lacked awareness of reference resources. This has also hinders to utilization of these resources. Usage was low despite the availability of reference resources to fisheries in the libraries. This has negatively affected the level of research among fisheries undergraduate in universities in North-Central Nigeria.

Recommendations

The following recommendations are made based on the findings of the study:

1. awareness programs on the available reference resources in the library should constantly be given to students to increase the level of awareness of information provision in the library. This would further enhance the extent of students' use of reference resources.

2. provision of adequate reference resources to meet the information needs of Fishery students for research work.
3. Fishery students should be encouraged to use reference resources for research work and other academic purposes since the Universities under study have the capacity to provide reference resources. This will go a long way to improve utilization.
4. the constraint of inadequate professional staff encountered by fisheries students could be addressed if reference librarians are encouraged to vigorously pursue continuous training programs through seminars/workshops and other professional education courses on reference services and resources to improve themselves and become relevant in their profession.

References

- Aba, J. (2013). *Application of Computer Technologies to Information Services in University and Research Libraries in the North Central Zone of Nigeria*. Ph.D. thesis. Department of Library and Information Science, University of Nigeria, Nsukka, Nigeria. 186pp.
- Ademodi, T. D. (2015). Empirical Study of Awareness and Use of Reference Services and Resources by Undergraduates in Adekunle Ajasin University Library. *Information and Knowledge Management*. 5 (8): 1-20.
- Adegboye, G. O. (2015). *Availability, Accessibility and Utilization of information services and resources by prison inmates in North-Central, Nigeria*. PGD Project Report. Department of Library and Information Science, Amadu Bello University, Zaira.
- Aguolu, C. C. & Aguolu, I. E. (2002). *Libraries and Information Management in Nigeria: Seminar Essays on Themes and Problems*, Maiduguri, Ed. Linform Services. .
- Iroaganachi, M. A. & Ilogho, J. E. (2012). Utilization of Reference Books by Students: A Case Study of Covenant University, Nigeria. Chinese Librarianship. *An International Electronic Journal*, 34, 48-54.
- Jonathan, N. & Udo, N. (2015). Availability and Awareness of Electronic Information Resources by Postgraduate Library Users in South-east, Nigeria, Federal Universities. *International Journal of Library Science*, . 4(1), 7 – 12.
- Milestone, E. & Lang, T. (2006). *The Atlas of Food. Who Eats What, Where and Why?* Earth Scan Publishers, London. U.K. p.25.
- Obguiyi, S. U. (2015). Availability and Use of Reference Sources and Services in Babcock University Library, Ogun. *International Journal of Recent Research in Social Sciences and Humanity*, 2(1): 44-49.
- Ochogwu, M. G. (2007). The Internalities and Externalities of Library and Information Delivery Services in Nigeria. *Nigerian Libraries*, Vol. 40.
- Okiki, O. C. (2013). Availability of Information Resources for Research Output: Perception of Academic Staff Members in Nigeria Federal Universities. *International Journal of Computer Science and Telecommunications*, 4(8): 26-33.
- Onifade, F. N. & Sowole, A. O. (2011). Awareness and Perception of Reference Services by Undergraduate Students: A Case Study of the University of Agriculture, Abeokuta, Nigeria *Gateway Library Journal*, 14 (1): 54-65.
- Popoola, S. O. & Zaid, Y. A. (2007). Faculty Awareness and Use of Library Information Products and Services in Nigerian Universities. *Library Progress International*, 27(2): 127- 137.
- Ugah, A. D. (2011). Staff and Quality of Information Sources and The Use of Library Services in University Library. *Library Philosophy and Practice*. Retrieved Dec. 26, 2014 from www.webpages.uidaho.edu/~mbolin/ugah8.htm
- Ugah, A. D. (2008). Availability and Accessibility of Information Sources and Use of Library Services at Michael Okpara University of Agriculture. *Library Philosophy and Practice*. Retrieved February 22, 2010 from <http://www.webpages.uidaho.edu/~mbolin/ugah.htm>.

Big Data management for effective service delivery in Federal University libraries in South East Nigeria

Victoria N. Okafor¹, Ngozi E. Osadebe², Chika P. Madumere³, Ezi Njoku⁴ & Chibuzor L. Dim⁵

Nnamdi Azikiwe Library, University of Nigeria, Nsukka

victoria.okafor@unn.edu.ng¹, ngozi.osadebe@unn.edu.ng², chika.madumere@unn.edu.ng³,

ezzinne.njoku@unn.edu.ng⁴, chibuzor.dim@unn.edu.ng⁵

Abstract

The purpose of this paper is to investigate the availability and use of big data in federal University libraries in South East Nigeria. Analysis of big data in libraries will help in decision making for effective information service delivery. The design of this paper is survey. Purposive sampling was used to select librarians and system analysts that oversee sections that deal with various data sets. Questionnaire, observation checklist and interview were used for data gathering. The data collected were analyzed using frequency and percentages. The findings of this paper revealed that Big Data sets exist in university libraries in South Eastern Nigeria in both analogue and digital forms. Various methods were employed in capturing the data. However, none of the Big Data software was available in any of the libraries studied. The major challenges of managing big data in libraries are inadequate funding, lack of infrastructure and software tools for managing big data. The paper recommended ways in which Big Data management can be improved for effective service delivery in university libraries. Creating awareness and training of librarians are major ways of improving management of Big Data in the libraries.

Keywords: Big Data, Software Tools, Information Service Delivery, Datasets, University Library, Nigeria.

Introduction

Technological developments of the 21st century have helped in generating a lot of information and a lot of data which is termed “big data”. Big data is concerned with large digital data which cannot be managed using normal computer storage system such as Hard Disk Drive’s (HDD’S). Wangi, Xu, Cheen and Chen (2016) and Gandomi and Haide (2015) opined that Big data are characterized by high volume, high velocity in generating and high variety in content. TechAmerica Foundation Federal Big Data Commission (2012) defines Big Data as “a term that describes large volumes of high velocity, complex and variable data that requires advanced techniques and technologies to enable the capture, storage, distribution, management and analysis of the information”.

Many establishments like the health sector, government, business and allied components are quite aware of this big data that when analyzed can help in decision making. Considering the characteristics of Big Data as enunciated by Wangi, Xu, Cheen and Chen

(2016) and Gandomi and Haide (2015), one may ask, “is data collected in academic libraries especially in developing countries like Nigeria where some data are still kept in analogue, form part of Big Data? In answer to this, Bieraugel, (2017) emphasized that the size of the data depends on the institution. Therefore, university libraries data can fit into big data especially in developing countries like Nigeria. Such data include the number of users that visited the library, collection development list, inventory of answered and unanswered reference questions, circulation data etc. Wangi et al. (2016) noted that in China, such library data has been digitized and is being used for data mining or big data technology. On the other hand, libraries in Nigeria that have repositories are contributing to big data since institutional repository data are in digital form and are freely accessible. Apart from this, library users contribute to big data through use of twitter, text messages, facebook, blogs, when populations in these institutions are considered.

Looking at the attributes of big data, as it concerns the library, in terms of volume, Gandomi and Haider (2015) emphasized that big data volumes are relative and vary and can be affected by such factors as time and type of data. Kumari and Priyadarini (2016) agreed that velocity characteristics of big data could be found in the library in terms of files on the servers.

Accumulated data sets in the library over the years are big data. These data sets when analyzed should give valuable insight in decision making of the library. This could be in terms of who is using the library, how are they using it and what resources are mostly used. Such information can be used to predict future use and services that need to be offered. In other words, the analysis of library big data can help the library to develop and maintain effective & efficient library services.

However, there are some challenges in terms of tools that can be used to manage, monitor, store and analyze library big data for relevant use. Despite these, big data are supposed to be accumulated in libraries. Yet, it is not clear whether these data are available, analyzed and used for research and decision making in Nigerian university libraries, hence this study investigated this based on these objectives.

1. Identify the types of data sets available in academic libraries for effective service delivery in South East Nigeria
2. Determine the methods used in generating the big data.
3. Identify the software tools used by the libraries in analyzing big data.
4. Ascertain how big data has affected service delivery in academic libraries in South East, Nigeria.
5. Identify the challenges of applying big data in libraries.

Literature Review

Datasets in libraries

There are different types of data sets available in libraries. Wittmann (2014) mentioned library renewal & registration data, circulation and collection development data, institutional repositories and grant proposal data from

faculties. The author opined that library registration and renewal data can be analyzed to provide predictive information relating to enrollment trends within and across the academy while the collection development data can be analyzed to aid the library in making decisions relating to weeding, introduction of new services and collection development. Some libraries have data management departments. These departments arose out of the need to manage post research data emanating from the academy. Recently, grant given institutions made it compulsory that successful grant seekers should formulate Data Management Plans (DMP). Lacking the capacity to manage such data, the grant seekers turn to their academic library for management. This has forced many academic libraries to create data service departments. Such data service department exists in New York University (NYU), Cornell University and Massachusetts Institute of Technology (MIT) to mention a few.

Wittman (2014) also noted that some university libraries maintain institutional repositories to manage research outputs accruing from the faculties. Institutional repository is an effective way for libraries to manage research outputs for their institutions as well as provide useful information to their clients e.g. Purdue University Research Repository. Federer (2016) noted that institutional repositories can be subject-based or very specific to an aspect of a subject. Such subject specific repository is the Data one which to host information on earth and environmental sciences data. Repositories that are very specific to an aspect of a subject include the Mouse Genome Informatics which as its name implies accepts data related to the mouse genome. There are other general repositories like Figshare and Dryad which accepts data from all fields and have few restrictions on data format, standard or scope. Accepting data from all fields is common to institutional repositories in Nigerian universities.

Another data set that can be found in academic libraries is library catalogue transactions which is believed to be an important source of big data in libraries (Chen, Doty, Mullman, Niu, Yu and Zhang 2015). There are also data from

social networks which gives insight into group activities. Social network data provide data on interactions among group members in social networks showing active and none active participants (Corno & Anderman (2016).

Method of Big Data Acquisition in Libraries

Libraries employ various methods in acquiring big data. Khan, Yaqoobi, Hashen, Inayat, Ali, Alam, Shiraz, Gani (2014) stated that Big Data can be acquired in libraries through Log files, sensors, network, zero copy, mobile and eye tracking equipment: Log files are commonly used to collect data by automatically recording file through a data source system. Log file can be collected through nearly all digital equipment. For example, web servers notes the number of visits, clicks, click rates and other property records of web users in log files. In websites and servers, user activities are captured in three log files formats. These are public log file format, expanded log format and IIS log format. To ensure query efficiency, log information is stored in databases rather than text files. Other log files that collect data are stock indicators in financial applications and files that determine operating status in network monitoring and traffic management. Data captured through sensors are known as sensory data. There are various categories of sensory data. These include sound wave, vibration, voice, chemical, automobile, current, pressure, weather and temperature. Data capturing through sensors can occur through wired or wireless networks. An example of the wired sensor network is the Video Surveillance System. Wireless networks are very useful in capturing data where the specific phenomenon to capture is unknown and where power and communication are not functional or have not been set up. Partridge (2014) stated that sensors play key roles in gathering a wide range of operational data when placed in strategic positions such as in forklift, conveyors, sorters and other mechanical equipment in distribution centres.

Network Data Capture is yet another method of capturing big data Khan, Yaqoobi, Hashen, Inayat, Ali, Alam, Shiraz, Gani (2014). Network data is captured through web crawler, task system, word segmentation system and index system. Web crawler helps to download and store web pages. It gets access to other link

pages through the Uniform resource Locator (URL). It makes use of other applications on the web like web catching and search engines to capture data. Zero -copy: (ZC) is a method of sending and receiving information without making use of the Central Processing Unit. In using ZC the information passes directly from the user buffer of applications through the network applications to external network. Whelan (2011) emphasized that the method is called Zero Copy because it does not give the user application the opportunity to copy the file. Vasiliadis, Antonatos, Polychronakis, Markatos, and Ioannidis (2008) observed that ZC is used mostly in intrusion detection systems. Mobile equipment such as the smart phone, ipad, camera, positioning systems, microphones and tablets can be used in generating big data of various types. For instance, information on geographical locations can be obtained using positioning systems, audio information can be collected using microphones, videos and pictures can be captured using camera while touch screens and gravity sensors can be used to assemble information on body gestures and body language information. Eye tracking is another means of capturing data as mentioned by Khan et al.(2014). Corno & Anderman (2016) noted that eye tracking data gives information on the movement of the human eye. The authors observed that by keeping data on the movements of the human eye, insights can be gained on areas where people pay attention to more and whether the attention is brief or extended.

Software Tools used by Libraries in Analyzing Big Data

Over the years, methods of storing data have continued to evolve. Goda and Kitsuregawa cited in Khan et. al. (2014) showed the percentage of data storage from 1986-2007 worldwide as Hard Disk Drives's (HDD's) 52%, optical storage 28%, digital tapes 11%, paper-based storage 33%. With the emergence of big data, new methods of storage also emerged. Khan et. al. (2014) noted that big data requires the procurement of additional online storage. Gandomi and Haider (2015) posited that there are five stages of analyzing big data which can be classified under two main sub-processes namely: data management

and analytics. The authors stated that data management involves processes and supporting technologies to acquire and store data and to prepare and retrieve it for analysis. Analytics, on the other hand refers to techniques used to analyze intelligence from big data. In the developing countries such as Nigeria, many libraries are harvesting data in both analogue and digital formats and uploading them on the platform where they become visible.

Big Data can be managed using different software tools such as Google Big table, Simple DB, Not only SQL (NoSQL), Data Stream Management Systems (DSMS), MemcacheDB, and Voldemort. In addition, Hadoop is another Big Data management tool which could handle and put together difficult large amount of data unable to manage before with other tools. It is composed of Hbase, Hcatalog, Kafka, Hadoop Distributed File System (HDFS) and MapReduce being the main component for Big Data, Others include Mahout, Avro, Chukwa and flume. These softwares can manage large volume with high cost and super computers (Chen, Mao, and Liu, 2014) However, the techniques for analyzing big data are data mining, visualization, statistical analysis, and machine learning (O'Lery cited in Khan et. al. 2014).

Advantages of Big Data for Effective Service Delivery in University Libraries

Big data can be a promising field and provide insight from large data sets when analyzed. Its potentials are great and have tremendous effects on education, business, and health care and library services. University libraries generate large volumes of data stored in hard copy form but are being digitized (Dembosky cited in Raghupathi and Raghupathi, 2014). Big data when analyzed can help library management to make informed decisions and facilitate research process (Bieraugel, 2015 and Feldman, Martin, Skotnes cited in Raghupathi and Raghupathi, 2014). Big data technologies as noted by Rani and Roa (2015) can help in processing large amount of data thereby making the work easier. It can also link different data sets, detect patterns in real time, predict outcomes, undertake dynamic risk scoring and test hypothesis. Cox and Jantti (2012) emphasized that the rise of big data

makes data collection tasks easier and faster. In addition, it enables libraries to move beyond simple counting to compiling statistical measures and to engage in complex data analysis like learning analytics and research performance analysis.

Big data analysis affects service delivery in university libraries by providing value-added information services and access to wide digital information (Wang, 2016). It could be argued that the added value of big data lies on identification of useful data as well as analyzing them. In so doing it becomes useful information which will facilitate service delivery in different sections of the libraries such as circulation, cataloguing, special collections and reference.

Furthermore, big data analytics could be applied in examining students' entry on a course assessment, discussion board entries, blog entries or wiki activity which could generate thousands of transactions per student and per course. These data could be collected in real or near real time as it is transacted and then analyzed to suggest courses of action. (Daniel, 2013). This shows that big data is useful in universities especially in libraries where they could be utilized in all areas of library services.

The Challenges of Collecting and Applying Big Data in Libraries

The collection and application of big data in libraries are faced with different challenges. Pinfield, Cox and Smith (2014) emphasized that the different forms in which big data exist poses a challenge to data management. Kaiser, Armour, Espinosa & Money as cited in Khan et.al. (2014) noted that rapid data growth, transfer speed, diverse data and security are some of the challenges encountered in collecting and analyzing big data. In addition, Chen, Mao, Liu (2014); Goda & Kitsuregawa (2012) maintained that fast growth of volume, variety, velocity, value, complexity, management, security, data inconsistency and completeness, scalability, timeliness and lack of developed policy for authors privacy, leakage of data, large amount of data in the cloud platform constitute challenges of collecting and applying big data in libraries.

High cost of infrastructure is one of the biggest challenges of Big Data as Sivarajah, Kamal, Irani & Weerakkody (2017) pointed out. They observed that hardware equipment is not affordable even with the advent of cloud computing technology. They also argued that lack of adequate manpower affects Big Data management negatively. Others include challenges in process in such areas as techniques in capturing, integrating, transforming, selecting, right modelling for analysis and providing results of data.

Poor funding is another challenge encountered by libraries in managing and analyzing big data. Chen, Doty, Mollman, Niu, Chien, and Zhang (2015) noted that inadequate funding and lack of funding opportunities hinder the management of big data. Igbo and Dike (2010) noted that the major source of funds for academic institutions in Nigeria is through government grants. From these yearly grants, 10% of the total recurrent grant of each academic institution goes to university library operations. From the ongoing, it is obvious that the library votes cannot cater for resources needed for managing and analyzing big data.

Overdependence on log information is another challenge as much big data analysis is over dependent on log information. Log information most times lack contextual information such as user's motivation, information needs, and step by step actions of the users. Log information alone has the danger of reaching oversimplified conclusions about search behavior without appropriate understanding of the task context and users' preferences (Chen, et al. (2015). This implies that analyzing information on users of library catalogue which is a big data in library context could be difficult and librarians may not have the required skills and software to manage it effectively.

Methodology

Survey research design was used for the study. A total of 65 librarians and system analysts responsible for data keeping in the five federal university libraries in South East Nigeria made up the population of the study. These universities are University of Nigeria, Nsukka (UNN), Nnamdi Azikiwe University, Awka

(NAU), Federal University of Technology, Owerri (FUTO), Micheal Okpara University of Agriculture, Umudike (MOUAAU) and Federal University, Ndufu Alike, Ikwo (FUNAI).

Instruments used for data collection were questionnaire, observation checklist and interview. These instruments were validated by experts in Library and Information Science. The authors personally distributed copies of the questionnaire carried out the observation and interviewed the appropriate staff of each university. Out of the 65 copies of questionnaires distributed, 51 usable questionnaires were retrieved for the study. Thus, the response rate was 77%. The response rate according to each university is UNN (14, 27.5%); NAU (5, 9.8%); FUTO (9, 17.19%); FUNAI (13, 25.5%) and MOUAAU (10, 19.6%). The questionnaire was divide into sections A and B. Section A was on the demographic information of the respondents namely, name of university, gender and professional status. Section B was on methods used in collecting data, uses of big data in libraries and challenges of utilizing big data in service delivery. The observation checklist was used to find out the types of data sets available and software tools used in managing big data. Based on the Information from the questionnaire and observation the researchers were prompted to collect more information through interview from library system analysts and digital librarians. Information from the interview was used to complement the one's from questionnaires and observation checklist.

Data from the questionnaire and observation checklist were analyzed using frequency and percentages. The results of the interview were presented in narrative form alongside that of questionnaire and observation checklist.

Presentation of results

Out of 51 respondents, 21 (41.2%) were male, while 36 (58.8%) were female. The professional level of respondents was as follows: System Analyst 3(5.9%); Assistant Librarians 12(23.5%), Librarian II (10, 19.6%); Librarian I 5(9.8%); senior librarians 17(33.3) and Deputy University librarians 4(7.8%).

The availability of Datasets in different Libraries surveyed is presented in table 1.

Table 1: Datasets available in academic libraries in Federal Universities in South East Nigeria

s/n	Available Data sets	NAU		FUNAI		FUTO		MOAU		UNN	
		A	NA	A	NA	A	NA	A	NA	A	NA
1	Research Data from Faculty	√		√		√		√		√	
2	Institutional Repository	√		√		√		√		√	
3	Library membership registration	√		√		√		√		√	
4	Library book renewals	√		√		√		√		√	
5	Circulation users clearance data	√		√		√		√		√	
6	Collection development data	√		√		√		√		√	
7	Library Catalogue transactions	√		√		√		√		√	
8	Reference services data	√			×	√		√		√	
9	Serials use data	×		×		√		√		√	
10	Special collections use data		×		×	√			×	√	
11	Door count		×		×		×		×		×
12	Clock in data		×		×		×		×	√	

Note: A=Available √, NA=Not available ×

Table 1 shows data sets available in academic libraries in Federal Universities in South East Nigeria. Research data from faculty, institutional repository, library membership registration, library book renewals, circulation users clearance data, collection development data and library catalogue transactions (items 1-7) exist in all the libraries under study. Reference service data is available in all the libraries except at FUNAI. Serials data use is available in FUTO, MOUAU and UNN but not available at NAU and FUNAI. Door count data is not available in any of the libraries while clock in data exist in only UNN.

Interview with sectional heads shows that different sections of the libraries collect data based on the transactions of the section. Unfortunately, most of the data exist in analogue format in tick cover note books. Each

section of the library has backlogs of these note books except in NAU. Electronic data on the use of institutional repository and online resources are available at UNN, FUTO and MOUAU. Observation at UNN shows the presence of non-functional door count equipment. Online registration of members (Library membership) commenced recently at NAU. At UNN, it was gathered that the library tried to capture membership data online in 2016 but could not continue in that trend due to technical and logistics problems. Recently at UNN and FUTO library users are encouraged to tweet the library. Online referencing is available in all the libraries and UNN, FUTO and MOUAU have face book pages where library transactions are discussed in less technical terms. At UNN and FUTO, library staff are encouraged to blog.

Table 2: Method of Capturing Big Data in Federal University Universities in South East Nigeria

s/n	Methods of capturing big data	NAU		FUNAI		FUTO		MOAU		UNN	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
13	Web servers	√		√		√		√		√	√
14	Websites	√		√		√		√		√	√
15	Sensors		×		×	√			×		×
16	Web crawlers		×		×	√			×	√	×
17	Index system	√			×	√		√		√	
18	Zero copy		×		×		×		×		×
19	Smart phones	√			×	√		√		√	
20	Iphones		×		×	√		√		√	
21	Camera	√			×	√		√		√	
22	Positioning systems		×		×	√		√		√	
23	Touch Screen		×		×		×		×		×
24	Eye tracking equipment		×		×		×		×		×
25	Analogue method (Pen and Paper).	√		√		√		√		√	

Table 2, shows methods used in the libraries under study to capture data. Web servers, websites and analogue method are used in all the libraries to capture data. Sensors, eye tracking and touch screen equipment are used only in FUTO while web crawler is used in FUTO and UNN. Index system, smart phones

and camera are in use in all the libraries except FUNAI while none of the libraries used Zero copy. Iphone is used in acquiring data in FUTO, MOUAU and UNN but not in FUNAI and NAU. Positioning system is not used in NAU and FUNAI.

Table 3: Software Tools Used in Analyzing Big Data

Big Data Softwares	NAU		FUNAI		FUTO		MOAU		UNN	
	A	NA	A	NA	A	NA	A	NA	A	NA
1 Google Big table		x		x		x		x		x
2 Simple DB		x		x		x		x		x
3 Not only SQL (NoSQL)		x		x		x		x		x
4 Data Stream Management System		x		x		x		x		x
5 Memcache DB		x		x		x		x		x
6 Voldemort		x		x		x		x		x
7 Hadoop		x		x		x		x		x
8 Hbase		x		x		x		x		x
9 Hcatalog		x		x		x		x		x
10 Kafka		x		x		x		x		x
11 Distributed File System		x		x		x		x		x
12 MapReduce		x		x		x		x		x
13 Mahout		x		x		x		x		x
14 Avro		x		x		x		x		x
15 Chukwa		x		x		x		x		x
16 Flume		x		x		x		x		x

Key: Not Available = NA – (×); Available = A (√)

Table 4: Percentage response on the effect of Big data analysis on service delivery

S/N	Statements	NAU %	FUNAI %	FUTO %	MOAU %	UNN %
1	Analyses of volumes of data help in decision making in different sections of the library	90	79	95	90	98
2	It helps to show areas in the library where efforts should be concentrated in service delivery.	95	96	95	95	95
3	It helps show areas in the library where more funds should be directed for collection development.	95	92	95	93	91
4	It help the library to know the categories of its users .	95	83	89	93	88
5	It helps the library to identify the materials that are most frequently used	95	69	95	98	98
6	It helps to identify staff who are actively involved in service delivery through library social networks	85	60	81	88	91
7	It helps library management to make informed decisions on how to manage the library	95	79	95	95	100
8	It helps to foster collaboration between library and faculty through library advisory services to the faculty	80	67	78	95	92
9	It helps the library to utilize available funds in the library more economically	85	62	86	93	84
10	It makes information readily available for students' research.	90	79	89	98	98
11	It helps to identify staff who are actively involved in online service delivery	80	64	83	75	89
12	It makes information readily available for researchers	90	83	92	85	91

Table 3 above shows software tools used for analyzing big data. It specifically reveals that none of the big data software tools is available in Nnamdi Azikiwe University, Awka (NAU),

Federal University Ndufu-Alike, Ikwo (FUNAI), Federal University of Technology, Owerri (FUTO), Micheal Okpara University of Agriculture, Umudike (MOUAAU) and University of Nigeria, Nsukka (UNN). These big data software tools are: Google Big table, Simple DB, Not only SQL (NoSQL), Data Stream Management System (DSMS), Memcache DB, Voldemort and Hadoop, Hbase, Hcatalog, Kafka, distributed File system, MapReduce, Mahout, Avro, Chukwa and flume.

Interview with sectional heads of the various sections in the five University Libraries and System Analyst attached to the libraries shows that the libraries are still using traditional methods of data analysis to analyze some of the library data in analogue form while the ones in digital form were left un-analyzed. Moreover, many of the sectional heads were not familiar with the word “Big Data” . For instance, at one of the universities under study (NAU), one sectional head commented “This term you use to qualify library statistics is amusing”. “How did you come about it?”. The System Analysts were more conversant with the term big data. One System Analyst from FUTO said he heard the term at a Conference in 2015 and has since then has been reading around it. Unfortunately, the library has no software for him to practice what he learnt at the conference. The University of Nigeria, Nsukka it was discovered that the library has operating system that was running earlier on

12.0 Long Term Support (LTS) which was later upgraded to more friendly 16.04 LTS.

The result in Table 4 shows the percentage response on the effect of Big Data Analysis on service delivery in federal university libraries in South East, Nigeria. Result revealed that all the listed items (items 1-12) have scores between 60% and 100%. This shows that the respondents from the various universities believed that big data analyses help in decision making in all sections of the library, help to show areas in the library where effort should be concentrated, where more funds should be directed and to know the categories of users that visit the library. Result also revealed that big data analysis helps to identify the materials that are most frequently used, identify staff that are active in service delivery through social networks, foster collaboration between library and faculty through library advisory services to the faculty, help the library to utilize available funds economically and make information readily available to students and researchers. All the listed items (items 1-12) are therefore the effects of big data analysis on service delivery in federal university libraries in South East Nigeria. The high percentage scores (above 90%) of some of the items are indications of visibility of Big Data use in decision making. It is significant to note that FUNAI has low compared to other universities in almost all items. FUNAI is a new University that started in 2011 and may not have accumulated much data compared to the other institutions.

Table 5: Challenges of using big data in libraries

Challenges	NAU	FUNAI	FUTO	MOAU	UNN
	%	%	%	%	%
1 The rate of growth of big data creates difficulty in management.	80	94	80	80	89
2 Big Data existing in different datasets requires different data management technologies to handle.	80	92	86	88	84
3 Difficulty in analyzing unstructured data.	85	92	78	80	86
4 Inadequate funding.	85	98	86	83	86
5 Unskilled personnel for managing big data.	80	98	86	80	89
6 Problem of data security.	80	91	86	80	89
7 Inadequate infrastructure.	85	83	81	85	95
8 Overdependence on big data over other data sources.	0	0	20	5	10
9 Standard tools have not been designed to search and analyze datasets.	80	71	78	85	82
10 Existing technologies in libraries cannot be used to process big data.	75	77	81	78	80
11 Existing methods of data analysis cannot be used to analyze big data in libraries.	80	71	86	70	77
12 Lack of developed policy for author’s privacy.	80	98	81	78	93

Table 5 displays some of the challenges posed in collecting and using Big Data in University libraries. From the table, there is a general high percentage score (70% and above) on all the listed items except on item 8 (Overdependence on big data over other data sources) by the universities studied. This indicates that the respondents believed all the listed items which includes rate of growth of big data, variety, nature, inadequate funding and infrastructure are some of the challenges encountered in

using big data in libraries. Among other challenges of using big data in libraries that have high percentage scores are lack of policy for author privacy, lack of standardized tools for analysis and that existing methods and technologies in libraries cannot be used in managing big data. Over dependence on big data over other data sources (item 8) is the only item with a percentage score less than 50 in all the universities used for the study.

Table 6: Suggested strategies for improving use of Big data in Libraries

s/n	Strategies	Frequency	Rank
1	Training of staff on Big data use through workshop, conferences and seminars	27	1st
2	Funding	15	2nd
3	Provision of hardware and software tools to handle Big data	9	3rd
4	Provision of innovative techniques to capture and analyzed big data	7	4th
5	Provision of steady electricity through, stand by generators, inverters	6	5th
6	Awareness should be created among researchers on the use of big data	5	6th
7	Improve internet bandwidth	3	7th
8	Infrastructure	3	7th
9	Creation of awareness	2	8th
10	Employ more staff/ Increase manpower	2	8th
11	Develop policy for authors privacy	1	9th
12	Specialist should be employed	1	

Table 6 shows suggested strategies for improving Big Data use in Federal University Libraries in South East, Nigeria. Among the suggested strategies, training of staff on Big Data use through workshop, conferences and seminars was ranked highest. This was followed by funding and provision of hardware and software tools to handle Big Data. Provision of techniques to capture and analyze big data ranked fourth while provision of steady electricity through standby generator and inverters ranked fifth. The respondents also suggested the development of policy for authors' privacy and employment of specialist in big data management and analysis.

Discussion of Findings

Findings show that datasets inform of research data from faculty, institutional repository, library membership registration, library book renewals, circulation clearance data, collection development data and library catalogue transaction exist in all the libraries used for the study. This is not surprising knowing fully well that membership registration, renewals, clearance, collection development and

catalogue use takes place in all libraries. Wittmann (2014) observed that library registration and renewal data can be analyzed to provided predictive information relating to enrollment trends within and across the academy while the collection development data can be analyzed to aid the library in making decisions relating to weeding, introduction of new services and collection development. Many libraries too have developed institutional repositories to make research output from their universities visible to the world. This is not limited to universities in Nigeria but Universities globally, (Haye's, 2005). FUTO and UNN have more data sets than other universities because they are older than the other universities. Door count data is not available in all the university libraries in South East Nigeria though at UNN , observation show the presence of a non-functional door count equipment.

Web servers and websites are used by all the universities used for the study in capturing data. Khan et al. (2014) noted that through websites and servers, user activities on the internet are captured and stored in log files.

FUTO and UNN have richer methods of capturing data. This may be because the two universities were among the first and second generation universities in Nigeria. They have acquired more infrastructures over the years compared to newer universities in Nigeria. Among the Universities, FUNAI is the most recently established and had fewer data capturing method. Mobile equipments like smart phone, iphone and camera are used for data capturing in FUTO, MOUAU, and UNN but not in NAU. Khan et al. (2014) posits that these mobile equipment can be used to capture audio information, videos and pictures.

The findings of the study also revealed that big data software tools for analyzing big data are not available in the universities studied. Big data software tools are useful for analyzing and managing large data generated in libraries. Chen, Mao, and Liu (2014) noted that software tools are useful for analyzing big data especially Hadoop which comprises of Hbase, Hcatalog, Kafka, Hadoop Distributed File System (HDFS), MapReduce, Mahout, Avro, Chukwa and flume.

Some of the Librarians interviewed were not aware of the existence of the software tools and many are not conversant with the term “Big Data” itself. Non-availability of software for analysis of big data indicates that most of the big data available are not analyzed and therefore not available for decision making.

It is likely that the respondents’ ideas of the benefits of big data analysis in libraries are drawn from their ideas of use of library statistics in decision making. None of the libraries studied has software for analyzing Big Data. In many of the libraries, the respondents were not aware of what big data means and among those that knows what it means, none have gotten a firsthand knowledge of its use. It is most likely then, that they got the ideas of the uses of big data analysis in libraries elsewhere most probably from library statistics. However, the respondents were aware that Big Data analysis will help the library management to make informed decision on how to manage the library. This finding is consistent with that of Rani and Rao (2015) who stated that “big data technologies make it easier to work with large datasets, link different datasets, detect patterns in real time,

predict outcome, undertake dynamic risk scoring and test hypothesis.

Evidence from different universities studied indicated that there are lots of challenges that could hinder the collection and use of Big Data in libraries, particularly, libraries in developing countries like Nigeria. Such challenges as inadequate funding, inadequate infrastructure, lack of skilled personnel to handle Big Data, were recognized by different universities studied. This is consistent with the findings of Sivarajah, Kamal, Irani & Weerakkody (2017), who noted that lack of infrastructure in the area of hardware equipment, and inadequate manpower constitute problem in applying Big Data techniques in libraries. Also, inadequate funding is among the hurdles facing the collection and use of Big Data in libraries. This agrees with the views of Igbo & Dike (2010) and Chen et.al. (2015), on the difficulties posed by poor funding in the management of big data in university libraries.

Furthermore, the fast growth rate of Big Data creates problem of management, the heterogeneous nature of datasets that require different data management technologies and the difficulty in handling unstructured data are all in agreement with Kaiser, Armour, Espinosa & Money as cited in Khan et.al. (2014) who noted that, rapid data growth, transfer speed, diverse data and security are some of the challenges encountered in the collecting and analyzing of Big Data. Also, Chen, Mao, Liu (2014) and Goda & Kitsuregawa (2012) agreed that heterogeneous nature of the datasets results in complexity of the data and difficulty in analyzing big data.

Suggestions on ways of improving use of big data in Federal University libraries in South East Nigeria shows that training of staff through workshops, conferences and seminars to handle big data is paramount. Funding is also considered very important. Provision of infrastructures and tools such as hardware and software, steady power supply, improved internet bandwidth were all considered necessary. However, libraries should devise means of raising funds for library management. Continued dependence on national government and donor agencies though very helpful in the past are not currently yielding desired results. Library staff should seek for ways of

upgrading their knowledge to keep abreast of developments in their field.

Conclusion

Findings from this study showed that there are many Big Data sets available in federal university libraries in South East, Nigeria. These data sets exist in both digital and analogue form. These data emanate from library membership registration and institutional repository amongst others. Various methods are employed in capturing the data. These include web servers, websites etc. Unfortunately, none of the captured data were analyzed using any of the big data technologies. This has been attributed to none availability of the software tools for analysis and lack of funds amongst others. However, many problems were identified as militating against the use of big data in federal university libraries in South East, Nigeria. Among them are poor funding, lack of infrastructure and lack of skilled manpower. These problems notwithstanding, big data technology has come to stay and have much to offer in repositioning academic libraries for better service provision in South East, Nigeria.

Recommendations

Based on the findings of the study, the researchers recommended the following for improvement on big data utilization in federal university libraries in South East, Nigeria.

- There is need to create awareness about big data among library stake holders in South East, Nigeria.
- There is need to re-skill librarians and allied staff in academic libraries in South East Nigeria for improved service delivery through workshops, conferences, short courses and collaboration with institutions outside Nigeria.
- There is need to employ experts in data analysis to work in the library, to aid in better analysis and interpretation of data for better decision making.
- Adequate tools should be provided for organization and management of big data in libraries.

- There is also need to include big data management in the library and information science curriculum in Nigeria.
- Libraries should have policy on organization and analysis of big data for decision making.
- Libraries can achieve their vision and mission on big data through fund raising involving stakeholders and Public, Private Partnership (PPP).

References

- Bieraugel, M. (2017). Advancing learning Transforming Scholarship keeping up withBig data. Association of Academic and Research Libraries. Retrieved from <http://www.ala.org/acr/publications/keeping-up-with-big-data>.
- Chen, H., Doty, P., Mollman, C. Niu, X, Yu, J & Zhang, T. (2015). Library assessment and data analytics in the big data era: practice and policies. Proceedings of the Association for Information Science Technology 52 (1) 1-4
- Chen, M., Mao, S., & Liu, Y. (2014). Big data: A survey. Mobile Networks and Applications (2): 171 -209
- Corno, L. & Anderman, E.M (2016). Handbook of Educational Psychology. 3rd Edition. New York. Routledge. 29-34.
- Cox, B.L. & Jantti, (2012). Discovering the impact of library use and student performance. Educase Review no. July 18, p.p. 1-9. Retrieved from ro.uow.edu.au/cgi/viewcontent.cgi?article=1507&context=asdpapers.
- Daniel, B.K. (2013). Technology enhanced analytics (tea) in higher education. Retrieved from files.eric.ed.gov/fulltext/ed557187.pdf.
- Federer, L. (2016). Research data management in the age of big data: roles and opportunities for Librarians. Information Services & Use 36 (2016) 35-43.
- Gandomi, A. & Haider, M. (2015). Beyond the hype: Big data concepts, methods, and analytics. International Journal of Information Management 35 (2) 137- 144. Retrieved from sciencedirect.com/science/article/pii/S0268401214001066
- Goda, K., Kitsuregawa, M, (2012). The history of storage systems. Proceedings of the IEEE 2012, 100 (13): 1433-1440

- Hilbert, M. and Lopez, P. (2011). The World's Technological Capacity to Store, Communicate and Compute Information Science. [PubMed] 332 (6025) 60 – 65
- Hayes (2005) Digital Repository helping Universities and colleges. Jisc. Websites: [Http://www.jisc.nc.uk/uploaded.Documents/He_repositories_Briedn_Gpa_2005.pdf](http://www.jisc.nc.uk/uploaded.Documents/He_repositories_Briedn_Gpa_2005.pdf)
- Igbo, H.U. & Dike, C.C. (2010). Sources of fund and budgeting procedures in academic libraries: the Nigerian example. In the Administration of Academic Libraries: A Book of Readings. F.C. Ekere (ed.). Enugu: Praise House Publishers.
- Kaisler, S. Armour, F., Espinosa, J.A., Morey, W. (2013). Big data issues and challenges moving forward. Proceedings of IEEE 46th Annual Hawaii International Conference on System Sciences (HICSS 13). 995-1004.
- Khan, N, Yaqoobi, I, Hashem, I.A.T. Inayat, Z, Ali, W.K.M., Alam, M, Shiraz, M & Gani, A. (2014). Big Data: survey, technologies, opportunities and challenges. The Scientific World Journal. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC41272051>
- Kumari, P. & Priyadarini, U. (2016). Revealing library statistics with big data expertise: A review. International Journal of Pharmacy & Technology 8 (4) 20783. Retrieved from www.ijptonline.com
- Manyika, J., Chui, M., Brown, B. et. al., McKinsey (2011). Big data: The next frontier for innovation, competition and productivity. In Khan et. al. (2014). Big Data : survey, technologies, opportunities and challenges. The Scientific World Journal. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC41272051>
- Partridge, A.R (2014). Materials Handling Meets Big Data . Retrieved from <http://www.inboundlogistics.com/cms/article/materials-handling-meets-big-data/>
- Pinfield, S., Cox, A.M. and Smith, J. (2014). Research data management and libraries: relationships, activities, drivers and influences. PLoS ONE 9 (12): e114734. Retrieved from <https://doi.org/10.1371/journal.pone.0114734>
- Raghupathi, W. & Raghupathi, V. (2014). Big data Analytics in health care: promise and potential. Health information science system 2(3). Retrieved from <https://www.ncbi.nlm.nih.gov/NCBI/literature/PMC>
- Rahman, N. (2016). Factors Affecting Big Data Technology Adoption. Student Research Symposium paper. In Chen, H. (2015). Library Assessment and Data Analytics in the Big Data Era. Practice & Policies. Retrieved from onlinelibrary.wiley.com/doi/10.1002/pr2.2015.14505201002/full
- Rani, B.R, & Roa, S.S (2015). Big data and academic Libraries. Retrieved from drtc.isibang.ac.in/icbk/sites/default/files/IN48.pdf
- Sivarajah, U., Kamal, M.M., Irani, Z & Weerakkody, V. (2017). Critical analysis of big data challenges and analytical methods. Journal of Business Research pg 70, 263 -286.
- Techamerica Foundation's Federal Big Data Commission (2012). Demystifying big data: A practical guide to transforming the business of government. Retrieved from <http://www.techamerica.org/docs/fileManager.cfm?f=techamerica-bigdatareport-final.pdf>.
- Vasiliadis, G., Antonatos, S., Polychronakis, M., Markatos, E., & Ioannidis, S. (2008). Gnot: High Performance Network Intrusion Detection Using Graphics Processors. Retrieved from <http://users.ics.forth.gr/~sotiris/publications/conference/32raid2008.pdf>
- Wang, V.C. (2016). Encyclopedia of strategic leadership and management. Retrieved from <https://books.google.com.ng/books/isbn+1522510508>.
- Wangi, C., Xu, S., Chen, L., & Chen, X. (2016). Exposing library data with big data technology: A review. Retrieved from <http://ieeexplore.ieee.org/document/7550937/>
- Whelan, P. (2011) Zero Copy: Transfer files faster in Ruby http://www.bigfastblog.com/zero-copy-transfer-data-faster-inrubyhttp://pdxscholar.library.pdx.edu/student_symposium/2016/Presentations/10
- Wittman J.R. (2014). The Library: Big Data's Boomtown. tigerprints.clemson.edu/cgi/viewcontent.cgi?article=1089&context=lib_pubs.

Automation of Cataloguing Operations in the Nigerian University System: The Experience of University of Ilorin Library

Usman, A. Saliu¹ & Florence, O. Otonekwu²
University Library, University of Ilorin, Ilorin
ajisaliu@gmail.com¹, fotonekwu@yahoo.com²

Abstract

This paper demonstrates how computer has increased the efficiency of cataloguing process at the University of Ilorin Library which in turn has resulted in increased productivity. Catalogues are being computerized the world over to facilitate better access points and multidimensional searches in the library holdings. There is now a changing role for the cataloguer, who has become the coordinator of bibliographic network. Survey method was used in carrying out this study while data collection was done by using a questionnaire that centered on University of Ilorin library. The findings of the study show that cataloguers accept the fact that the use of computer will make their services easier and faster and will enhance its delivery and as well promote inter library cooperation. The paper recommends that library budgets should be reviewed upward, the library management should provide effective infrastructure in the library and the federal government should reduce the tariff paid on the importation of ICT or computer facilities. This could be achieved when relevant processing tools are made available in the University of Ilorin.

Keywords: Computer Application, Cataloguing Operations, University Library Catalogue and online catalogue

Introduction

Academic libraries are the kind of libraries that serve as appendages to institution of higher learning such as university, polytechnic and college of education. Most importantly, they constitute the nerve center as well as the heartbeat of their parent institution's intellectual repository and knowledge domain. In advocacy to the foregoing Eligial (2000) pinpointed that academic library serves as the creation of new knowledge and transmission to learning and culture of the present and the past. Academic libraries in Nigeria are compelled to join the race in the provision of information resources electronically so that students and faculties can benefit from a wide range of current information globally. According to Adekanye (2011) university library is a dynamic unit within a dynamic system which underscores the need for the library to be productive in its thinking. The library as the storehouse of knowledge is concerned with the acquisition of materials for teaching and research, processing of materials for easy retrieval, and the dissemination of information

to facilitate the active and effective exploitation of the acquired resources.

According to Aina (2004) libraries are concerned with the collection, processing, storage, and dissemination of record information for the purpose of reading, study and consultation. In order for a library to attain this goal, many activities are performed by the library which translates to library information services. The thrust of all library services is the provision of up-to-date and timely information to her clients. Over the years, the external environment has been having a tremendous impact on the practice of the profession. The computerization of the academic library and digitization of records are significant changes that will shape the delivery of services and potentially affect the image of the librarian and status of the university library. The rising costs of books and journals and the drastic reduction in library purchasing power without commensurate increase in the book budget compelled the university libraries to appreciate the value of cooperation and computerization.

In library and information science, cataloguing is the process of creating bibliographic records (metadata) representing information resources, such as books, sound recordings, moving images, etc. Cataloguing provides information such as: creator names; titles, and subject terms that describe resources, typically through the creation of bibliographic records. The records serve as surrogates for the stored information resources. Bair, Sheila (2005) defines cataloguing as the processes of putting the bibliographic information of library resources on a catalogue card, or on-line catalogue such information include: Author, title, edition, place of publication, date of publication, number of volumes and inclusion of illustration. All these constitute the bibliographic information of the book or non-book media. The origin of cataloguing dates back thousands of years. With such a long history, it is remarkable how the need for revisions, classification and addition are required for a system that has withstood the test of time. A library catalogue is a record of the holdings of a library. In order to meet the requirement of users, it is prepared to consist of various unit records called entries. Each entry is designed for satisfying a particular approach of a user. Entries are prepared according to a set of rules contained in a catalogue code.

Automation is the use of machines, on the other-hand Library Automation refers to the implementation of computer software that allows previously manual tasks to be completed in computer system. The term library automation is being used extensively in library science to mean the application of computer to perform some of the traditional library activities such as acquisition, cataloguing, circulation, stock verification etc. Automation of the cataloguing process has increased the efficiency of the cataloguing processes in the Nigerian university libraries, which in turn has resulted in increased productivity.

Information and Communications Technology is the science and skills of all aspects of computing, data storage, and communications. It is a new, rapidly growing area that is radically changing the old by making possible new ways of doing business, making entertainment, and creating art. The information and Communication Technology

(ICT) has proven its role in accelerating sustainable development and bridging the ever-growing gap in our present day society. There is however, a critical need to channel the vast potentials of ICT in the right direction for the betterment of society and effective human development. ICTs present a revolutionary approach to addressing developmental questions due to their unequalled capacity to provide access to information instantaneously from any location in the world at a relatively low cost. (Arinola et al, 2012). This has brought down global geographic boundaries faster than ever thought possible. The resulting new interconnected digital world heralds the fluid and seamless flow of information, capital, ideas, people and products (Padmamma, 2008). Development of Information and Communications Technology is playing a crucial role in restructuring of libraries.

One of the most important function of a library from myriad and avalanche of other functions and activities is cataloguing and classification, which ensure that orderliness are strictly adhered to in term of collections arrangement in the library. Cataloging and classification operation in the library foster easy access to library information resources. However, manual cataloguing and classification is time consuming and energy sapping. On the verge of cutting cost and the same time improve productivity, libraries; most especially academic libraries are automating their operations as they are becoming technology perspective. Computer and telecommunication technologies have empowered librarians to select, organize and disseminate information effectively and efficiently to users (Encyclopedia of Communication and Information, 2019). Sequential to foregoing, academic libraries are now migrating from manual cataloguing to automated cataloging operation. Meanwhile, University of Ilorin Library is not left in the scheme of technology revolution.

The University of Ilorin Library was set up and started functioning since 1976. The library which is the life wire of the institution was created alongside with the university. The University of Ilorin main campus library was built and commissioned in 1990. It is located

at permanent site of the university which houses the University librarian's office, Technical Services and Readers' Services Divisions. Technical Services Divisions of University of Ilorin Library comprises cataloguing and classification and acquisition units. Cataloguing and classification unit started operation along with university of Ilorin library in 1976 with manual cataloguing and classification operations.

Automation of cataloguing and classification unit of the university started 1997 when the library management set up a committee to study the possible computerization of library in the year 1997. University of Ilorin library started computerization of library operations in some sections such a circulation, cataloguing and classification, acquisition etc. After some years, it was stopped. The resuscitation of library automation service commenced on the online public access catalogue (OPAC) module of KOHA library software on February 2013. Before installing KOHA software, university of Ilorin Library was using TINLIB and ALICE FOR WINDOWS software and LC online catalogue for copy cataloguing of Library materials.

Review of Related Literature

Literature on computer application in libraries are rich and elaborate, therefore, efforts was made to review relevant literature in this study. Nwalo (2006) asserts that prolonged shift in application of innovative IT to library and information profession can be attributed to the changes emanated from the last 2 decades. Ajibero (2003) also notes that as a result of the impact of ICT on technical services, the roles of cataloguers have completely changed. Their roles now involve operations that have become integrated. He further asserted that cataloguers have become inter-dependent in their pursuit to provide bibliographic control and access. Coyle and Hillmann (2007) assert that changes in the context in which libraries function have brought the library and its catalogue to a crisis point. According to them, the development of computer technology and electronic document production presents a significantly different challenge than libraries had only fifty year ago, a time when information resources were rooted in the era of books and periodicals, and the card catalogue was the entry point to the

library's physical holdings. Resources sharing in classification help to foster the quality and quantity of work produced. Manual cataloguing does not give room for sharing in cataloguing. The cards produced are filed in the cabinets, which are confined to a particular library. It is not possible for other libraries to see the stock of that same library so as to share in copy cataloguing, even when the need is there (Ilo, 2008). Nwalo (2006) notes that resource-sharing is of immense benefits to libraries and their users as it makes information more readily available, saves costs and prevents duplication of effort especially in cataloguing and classification. In addition to impact of cataloguing automation to library services, Nwalo (2006) stated that paraprofessionals in libraries can now effectively perform much of the duties that hitherto were the exclusive preserve of professionals.

Yusuf and Nkiko (2010) examined cataloguing practices of three University Libraries and found out that cataloguing practice in academic libraries had witnessed significant changes as a result of the application of ICT in organizing library materials. Adekanye (2011) describes how some Nigerian academic libraries have applied the computer to automate their libraries and how they have exploited the immense resources available on the internet in order to provide up-to-date and timely information for their clientele. Nwalo (2003) added that computerization of libraries in Africa will permit the acquisition and use of literature on integrated library information system, which has immense benefit both in terms of cost, resource sharing and accessibility. It saves time, space as well as reduces the incidence of mutilation, defacing and theft of library materials. Lang (2007) noted that cataloguers use the internet as a tool for locating cataloguing documentation and other information. She posited that the main strengths of electronic cataloguing over traditional cataloguing are its ease of use and its ability to reduce the amount it usually takes to access information. Manjunath (2004) added that automation eliminates cumbersome job of printing the cards. It enhances simultaneous access to the same database as well as quick and remote access to information on the network. An endless supply of information is

continuously generated in the library and anyone can readily access it regardless of time and space, thanks to the rapid advancement of computer technology in contemporary society (Mishra, Thakur & Singh, 2015).

Successful process of library automation has many issues and challenges which are: need of a proper planning, sound budget, lack of manpower, lack of awareness of standard format etc. Emezie and Nwaohiri (2014) study of challenges of library automation in Nigerian universities of technology, reported that insufficient power supply, insufficient funding, absence of administrative support and inadequate staff training among other factors militating against full implementation of library automation.

Statement of the Problem

The use of information communication technology in the library is simply meant, carrying out the manual activities and services in the library electronically with the help of computer networking. This makes it easier for the handling of information generation, processing and dissemination in the libraries. Today, it is very obvious that, the use of information communication technology system in all areas of human endeavor is now known and widely acceptable.

The automation of library operations is crucial to cataloguing and classification unit. Many scholars assert that the high cost of maintenance of the software such as TINLIB, ALICE FOR WINDOWS and KOHA were the major problems of computer application in cataloguing operations. Other constraints include poor computer library on the part of the librarians, incessant power cuts, lack of infrastructure, lack of fund etc. Against this back drop, this study investigations automation of cataloguing operations in the Nigeria University System.

Objectives of Study

The objectives of the study were:

1. To find out the extent of computer application to cataloguing in the University of Ilorin Library.
2. To find out the impact of computer application to cataloguing in the University Library under study.
3. To identify the problems militating against computer application to cataloguing operations in the University Library under study.
4. To find solutions to the problems militating against computer application to cataloguing operations in the University Library under study.

Methodology

A survey research method was used in carrying out this study while data collection was done using a questionnaire, interview guide and personal observation, which centered on University of Ilorin Library catalogue automation. A questionnaire was prepared and personally delivered to the respondents. The University Librarian was interviewed in order to collect data to augment the weakness of the quantitative data collected with questionnaire. The researchers personally observed automation operations in the cataloguing section of the library.

Data Analysis/Data Collection

As can be seen in Table 1 the profiles of the responding library were given. Responses in the table suggest that automation in University of Ilorin library started in 1997 which then indicate that they have some form of automated activities in cataloguing units.

Table 1: The profiles of the responding library

Item	Profile
Duration of Computer Usage	22 years
Types of Computer in Use	Pentium 111
Number of Computer Available in the Cataloging Unit	18
Types of Software in Use in Cataloging Unit	KOHA from 2013 up to date

Table 2: Extent of Computer Application to Cataloguing Operations in the University of Ilorin Library

Extent of computer application Cataloguing Unit	University of Ilorin Library
To list new arrivals.	√
To check catalogues and classification.	√
To sort cards into various units.	√
To produce centralized copies units.	√
To produce multiple copies.	√
To produce centralized data system.	√
To merge different sources.	√
To produce the main cataloguing.	√
To check added copies.	√

Table 3: Impact of Computer Application to Cataloguing Operations in the University of Ilorin Library

Impact of Computer Application to Cataloguing Unit	University of Ilorin Library	
	Positive	Negative
Bibliographic searching	√	X
Checking	√	X
Sorting cards	√	X
Vetting stencils	√	X
Collating stencils	√	X
Copy of CIP books	√	X
Labeling of books	√	X
Checking filling, checking LC subject heading and checking of LC schedule	√	X

Table 4: The Problem Militating Against Computer Application in Cataloguing Operations in the University of Ilorin Library

Extent of computer application in the Cataloguing Unit	University of Ilorin Library
Poor funding	√
Inadequate professional cataloguing staff	√
Erratic power supply	√
Problems of records conversion	√
Poor training facilities	√
Inadequate space	√
Negative attitude by library management towards computer	√
Inadequate system analysts	√

Table 4 above revealed Table 2, above shows that, computers are used to perform certain duties including listing new arrivals, check cataloguing and classification, produce multiple copies etc.

Table 3, shows that the respondents were of the opinion that computer had positive impact on bibliographic searching, checking LC subject heading, checking LC schedule, sorting cards,

Copying of CIP Books, and labeling of books etc.

that the respondents identified poor funding, lack of manpower, erratic electricity supply, problem of retrospective conversion etc. as the major problems of computer application in the University of Ilorin Library cataloguing operations.

Table 5: Solutions to the Problems militating against computer application to cataloguing unit at University of Ilorin Library

Solutions to the Problem militating against Computer Application in the University	University of Ilorin Library
Adequate fund	√
Adequate professional library staff	√
Sufficient generating power supply	√
Positive attitude by library management	√
Adequate access to records conversion	√
Adequate training facilities for staff.	√

Table 5 above shows that all the respondents indicated that provision of adequate fund, sufficient electricity supply, (generator), adequate provision of staff, and Positive attitude by library management, adequate training facilities etc. will be needed in order to improve electronic cataloguing service.

Highlight of the results: The University Librarian interviewed noted that university of Ilorin application of computer to cataloging operations has brought about positive change to cataloging unit. It was found from University Librarian that a feasibility study was conducted in cataloguing unit before application of computer. He also rated the computer facilities that are available for cataloguing operations as good.

However, he noted that computer application to cataloguing operations faced some problems. These problems included poor funding, lack of electricity supply, lack of manpower, etc. Generally, some solutions to the problem militating against computer application to cataloguing operations were suggested. These include adequate funding, sufficient electricity supply, adequate manpower supply, positive attitudes by library management etc.

Summary of the Findings

The following constitute a summary of the major findings:

- Computerization of cataloguing operations has brought about positive changes to cataloguing unit.
- The rating of computer facilities that are available in the cataloguing operation at University of Ilorin is high.

- Lack of manpower is another challenge facing computerization of cataloguing unit of University of Ilorin Library.
- Poor electricity supply which affects the cataloguing work due to lack of standby generating plant.
- The study showed that cataloguers accept the fact that the use of computer will make cataloguing work easier and faster.
- From the literatures reviewed in this study, it showed that the use of computer in Nigerian University Libraries has not been widespread.

Discussion of the Findings

Findings from the study showed that all the respondents that indicated that they have some form of automated activities in cataloguing unit. The university of Ilorin library cataloguing unit stated automation in 1997. The respondents indicated that University of Ilorin cataloguing unit uses Pentium III computer in library. The total number of computer in use is eighteen (18). The type of software in used at University of Ilorin cataloguing unit is KOHA software.

On the extent of computer application to cataloguing operations in the University of Ilorin Library, all the respondents showed that, computers are to perform certain duties including listing new arrivals, check cataloguing and classification, produce multiple copies etc. this finding is in consonance with (Nwalo 2006) and (Eseoha and Ehikioya 2014) who indicated that computers are used to improve productivity.

On the impact of computer application to cataloguing operations in the University of Ilorin Library, all the respondents indicated

that computer had positive impact on bibliographic searching, sorting cards, copy of CIP books, labeling of book etc. This is backed by the study of (Mishra, Thakur & Singh, 2015; Oduwale 2005; Nwalo, 2003), who concluded that computers application in cataloguing operations have great impact on library operations.

Concerning the problems of computer application to cataloguing operations in the University of Ilorin Library, all the respondents indicated that computer application in cataloguing operations has some problems. These include: poor funding, inadequate power supply, problem poor training facilities and many more. This findings is in consonance with (Emezie & Nwaohiri, 2014) who indicated that insufficient power supply, poor funding, absence of administrative support and inadequate staff training militate against full implementation of library catalogue automation.

On the solution to the problems of computer application to cataloguing unit at University of Ilorin Library, all the respondents indicated adequate fund, sufficient power supply, adequate staff, positive attitude on the part of library management, adequate training facilities etc. will be needed in order to find solution to the computer application of cataloguing operations in the University of Ilorin Library.

Conclusion

Although the study focused only on University of Ilorin Library as one of the Federal University Libraries in Nigeria the results can be generalized to others because all the Federal Nigerian universities experience similar funding situation and face similar constraints that affect library automation. The data analyzed in this study supports the conclusion of previous studies which showed that cataloguers accept the fact that the use of computer will make cataloguing work easier and faster and will enhance its delivery and inter library cooperation.

The results of this study also showed that the University of Ilorin library lacked manpower necessary for information services. This survey is seen as a step in finding out the state of

computer application to cataloguing operations in the University Library.

Recommendations

The findings of this study pose some challenges to library managements/librarians. Therefore, library authorities should embark on training and retraining of their staff to enable them apply computer in their operations including cataloguing operations.

Library budgets should be reviewed upward in order to meet all the needs of users in the information technology delivery service.

The Library Management should provide effective infrastructure in the library to enable library personnel utilize an improved internet facilities so that it can assist cataloguers to catalogue as many books as possible.

Library managements should provide facilities such as electricity, telephone, office equipment, internet facilities etc to enhance the automation of the university libraries.

Federal Government should reduce the tariff paid on ICT/computer facilities so that the facilities will be affordable to Libraries.

References

- Adekanye, E.A. (2011). *Computerization of the Fatiu Ademola Akesode Library, Lagos State University*. available at <http://unllib.unl.edu/Lpp/>
- Aina, L.O. (2004). *Coping with the challenges of library and information services delivery*. A paper presented at the 42nd National Annual General Meeting Conferences of the Nigerian Library Association held in Akure" on June 20th – 25th 2005. p.4
- Ajibero, M. I. (2003). Current trends in technical services: The role of ICT. *Proceedings of Selected Papers of the Cataloguing, Classification and Indexing Section of NLA*. Lasisi, J., Odusanya, O.K., Sonaike, S.E.A., Okegbola, E.O., Balogun, F., & Osinulu, L.F. (Eds.) Nigeria: NLA Cataloguing, classification and Indexing Section. 1-10.
- Bair, S. (2005). Toward a code of ethics for cataloguing. *Technical Services Quarterly*. 23 (1), 14. doi:10.1300/J124v23_02.
- Coyle, K., & Hillman, D. (2007). Resource Description and Access (RDA): Cataloging rules for the 20th century: *D-Lib Magazine*,

- 13(1). Available at:
www.dlib.org/dlib/january07/coyle/01cocyle.html.
- Ehigiator, I. I. (2000). *Strategies for library and information service delivery in the new Millennium*. A paper presented at the 38th National Conference and AGM of the NLA Abuja, June.
- Emezie, N A. &Nwaohiri, N. M. (2014). Challenges of library automation in Nigerian universities of technology: The experience of Federal University of Technology, Owerri, Nigeria. *Information Technologist*, 11(1),
- Encyclopedia of Communication and Information (2019). *Library automation*. Retrieved from: <https://www.encyclopedia.com/media/encyclopedias-almanacs-transcripts-and-maps/library-automation>
- Eseohe, G.E., Simeon, O.O. &Ehikioya, U.A. (2014).Application of information communication technology in academic libraries in Nigeria.*International Journal of Education and Research*, 2(12).
- Ilo, P. (2008). Cataloguing and classification in an ICT age: Matter arising. *Journal of Library and Information Science*, 4(1), 39-45.
- Jagboro, K. O. (2003). Computerization of academic libraries: A case study of Hezekiah Oluwasanmi Library, ObafemiAwolowo University, Ile_Ife.*Lagos Journal of Library & Information Science*1(1), 47-52.
- Lang, J. (2007). Have you searched Google yet?Using Google as a discovery tool for cataloging.*Library of philosophy and practice*.Available:[http://puds/autostand](http://puds.autostand).
- Manjunath, G. K. (2004). *Library Automation: Why and How?* Available at:<http://www.igidr.ac.in/lib/paper/htm>.
- Mishra A.S., Thakur, S.K. and Singh, T. (2015).Library automation, issues and challenges storing information.*Times International Journal of Research: A Creative Journal for Research*, 1. Available at: <http://tijr.net>
- Nwalo, K.I.N (2003). Managing information for development in the 21st Century; Prospects for African libraries, challenges to the world, Retrieved from:<http://www.ifla.org/Ivifla66/papers/012-114e.htm>.
- Nwalo, K.I. N. (2006). Collaboration in the provision and utilization of IT facilities for library and information science education in Nigeria: In: information technology in library and information science education in Nigeria.
- Oduwole, A. (2005). Information technology applications to cataloguing in Nigerian university libraries.Retrieved from:<https://www.research.net/publication/220677052>.
- Yusuf, F. and Nkiko, C. (2010).Involvement of non-professionals in cataloguing: A survey of practices in three academic libraries in Nigeria.*Malaysian journal of library and information science*, 15(1), 83-90.

Sustainability of Impact Factor Metrics in Appraisals, Tenure and Promotions of Academic Librarians in South East Nigerian Federal Universities

Okoye, Nuel-Jean, Chidi¹ & Okoye, Michael Onuchukwu²
University of Nigeria, Enugu Campus¹ University of Nigeria, Nsukka²
nuelshadow@yahoo.com¹, michael.okoye@unn.edu.ng²

Abstract.

Journal impact factor metrics have advocates and critics. It is this concept that prompted this study which investigated journal impact factor sustainability for appraisal of academic librarians in South East Zone of Federal Universities in Nigeria. Descriptive survey research design and interview were adopted for the study. Three research questions guided the study and population for the study was 135 respondents. Data was collected using structured questionnaire and interview schedule. Findings showed that academic librarians appreciated and welcomed the use of journal impact factor for their appraisals and promotions. The paper concluded that use of journal impact factor metrics in South East federal Universities of Nigeria has been sustained.

Keywords: Academic Librarians, Appraisals, Journal Impact Factor, Promotions, South East Nigeria,

Introduction

Universities especially Federal universities have been accountable to Federal Government and public funders for research. Since government funds the universities, they expect universities to produce quality students who should benefit from the global market. In addition, universities are expected to provide the nation with problem-solving research outcomes that facilitate national development and increase national income. The introduction of impact factor metrics in Universities in Nigeria by the federal government, was driven by the pressure to produce quality students for the nation and to improve the visibility and webometric ranking of the universities. It was also spurred by competition among universities for students' enrolment as well as globalization. In United Kingdom higher institutions, pressures to incorporate metrics into research assessment within universities may have originated in response to external forces but they have assumed an internal life and dynamism within institutions. (Wilsdon, Allen, Belfiore, Campbell, Curry, Hill, Jones, Kain, Kerridge, Thelwall, Tinkler, Viney, Wouters, Hill and Johnson, 2015)

Brief Résumé of Journal Impact Factor

Garfield (1955), first mentioned the idea of an impact factor in science in 1955. He co-authored Genetics Citation Index and with experience garnered from it, he co-authored Science Citation Index. with Sher. (Garfield and Sher, 1963). According to Garfield,

Irving H. Sher and I created the journal impact factor to help select additional source journals, and we simply re-sorted the author citation index into the journal citation index. Expatriating the importance of his creativity, Garfield stated that impact factor has gradually evolved to describe both journal and author impact. Garfield nurtured no pretensions with regard to perfection of impact factor as a perfect metric tool to measure the quality of articles. Concerning conflicting opinions about IF, Garfield quoting Hoeffel expressed the situation by stating that, "Even though Impact Factor is not a perfect tool to measure the quality of articles, there is nothing better and it has the advantage of already being in existence and is therefore, a good technique for scientific evaluation". (Garfield, 2006, p. 4).

Opposing and Supporting Views of Garfield's Statement. Garfield's statement prompted a flurry of opposing and supporting views. In as much as academics have their own ideas of the most influential journals, Fersht (2009), Human Frontier Science Program (HFSP, 2012) and Baneyx (2008) objected to the use of journal-based metric such as Journal Impact Factors as "surrogate measure of the quality of individual research articles to assess an individual scientist's contributions, or to be used in hiring, promoting or funding decisions" (HFSP, 2012). Even though some scientometricians rejected use of IF, Waltman and Traag (2017) argued that statistical objections against the use of the IF for assessing individual articles were not convincing and they therefore concluded that the use of IF at the level of individual articles was not necessarily wrong from a statistical point of view.

Application of Journal Impact Factor in Federal Universities in Nigeria

University of Nigeria, Nsukka (UNN) is the first academic institution in Nigeria to introduce use of JIF for appraisals, promotion and tenure of her academics. (Okoye, 2010). It was done through provision of the fourth edition of the Yellow Book which took effect from February 14 2006 (UNN, 2006,). Its guidelines allowed the use of article publications in Thomson Reuters and Scimago indexed journals. PhD is a requisite for promotion to senior lecturer and positions beyond it. Other universities such as Nnamdi Azikiwe University, Awka, Federal University, Ndufu-Alike Ikwo (FUNAI) and Michael Okpara University of Agriculture, Umudike, introduced journal impact factor in their universities in 2008, 2016 and 2017 respectively. Among the five Federal Universities in South East. Nigeria, it is only Federal University of Technology Owerri that is yet to introduce the use of journal impact factor. Use of journal impact factor has also been introduced in University of Ibadan, Nigeria, in 2012. All the universities that have adopted the use of impact factor metrics after University of Nigeria Nsukka, had rigorous debates before impact factor metrics were introduced among guidelines in the appraisals, promotion and tenure exercises of their

academic staff. To give effect to the appreciation of use of JIF by universities, The National Universities Commission in collaboration with Enago Academy, a U.S-based organisation, organised nation-wide workshops on academic publishing for academics across the Nigerian University System (NUS) in December 2017. The workshops were aimed at training many academic staff within the Nigerian University System on the required skills and nuances of academic publishing with emphasis on impact factor, citation index, peer review, availability of open access journals and understanding author's right(Enago Academy, 2017).

Statement of the Problem

It is argued that journal impact factor (JIF) confers prestige to the author who publishes in impact factor indexed journal as well as the institution where the author works. However, usage of (JIF) metrics for assessment, promotion and tenure of academics has become topical and debatable. Its application in universities has advocates and critics. Some universities are still hesitating to introduce use of impact factor metrics in appraisals, promotion and tenure. Some disciplines, which have endured use of journal impact factor for promotions and tenure for some time, have opted for alternative metrics (altmetrics). Some scientometricians are advocating use of citation counts in place of journal impact factor in assessing individual articles. As a consequence of these developments, this study tries to explore sustainability of JIF usage in South East federal Universities in Nigeria.

Objectives of the Study

The main objective of this study is to determine sustainability of journal impact factor. Specifically objectives of the study include:

1. To determine prospects of impact factor metrics' system usage in Federal Universities in S. E. Zone of Nigeria
2. To find out perceptions of academic librarians on impact factor metrics' system usage in Federal Universities in S.E. Zone of Nigeria.
3. To identify challenges encountered by academic librarians in Federal

Universities in S. E. Zone of Nigeria, as they publish their article manuscripts in impact factor indexed journals.

Literature Review

Konkiel (2015) categorised users of JIF metrics in higher education institutions into three sub-sets: The Governing bodies or councils, the executives and university-level managers and the research groups. She stressed that these sub-groups had over-lapping needs for “assessment information to underpin policy and planning, strategy setting, investor confidence, quality assurance, publicity, student and academic recruitment, as well as benchmarking”). Notwithstanding these benefits, disadvantages of JIF over certain disciplines and types of research were highlighted.

Prospects of JIF

Journal impact factor confers visibility and respect among peers. The observation was supported when Monroe-Gulick, Greta and Brooks-Kieffer (2017), found that individual researchers looked to University of Kansas (K.U) libraries to connect them to experts, materials and practices that would enhance their visibility. The principle of collaboration and mentor-mentee relationships in article writing were greatly driven by such forces. University at Buffalo Libraries have stressed that JIF maximizes one’s research impact. (University of Buffalo Libraries, 2018) Jacobs (2016) affirmed that journal rankings enabled authors to know which journals to publish in. He observed that university committees and review processes used them as evidence of visibility of research and recognition. Tobin (2003) averred that due to difficulty in measuring scientific quality, governments and funding agencies relied heavily on impact factor. Whenever promotion committees based academic advancement on number of papers published and journals in which they appeared, rather than a reading of each paper, they were implicitly using impact factor. In Germany and Italy, it was rife for agencies to decide departmental funding by plugging impact factors into formulae, (Adam, 2002). There were also reports of financial motivation of \$7,000 in Finland which was added to departmental funding for a unit increase in

impact factor of the journal in which each article was published (Adam, 2002). In Spain and Quebec, persistent encouragement to publish in impact factor journals had led to improved scientific rigor and productivity. (Jimenez-Contreras, Lopez-Cozar, Ruiz-Perez and Fernandez, 2002). Prior to 1995, impact factor was described as the best operational measure of medical journals because rewards system based on it were showcased. It was then claimed to be concrete as opposed to being anecdotal, Brody and Foster. (1995). Advocating for permanence of (JIF), Konkiel (2013) wondered what measures could have supplanted it if it was eradicated. She therefore stressed that academics would continue to provide metrics that could measure both productivity and impact of scholars across disciplines.

Perceptions of Academics on Journal Impact Factor

Some authors accepted the notion of impact factor with reservation. In line with this observation, Callaway, (2016) regretted that researchers often used the metric to assess the quality of individual papers and in some cases, their authors. Citrome (2007), Catling, Mason and Upton (2009) and Schmitz (2017) perceived journal impact factor as controversial and could be manipulated, even though they were frequently referred to in establishing the impact of published journal articles. Other authors have also explored factors influencing author quality perceptions of journals in computer science and technology as well as in library and information science. Zhang, Zhang, Li and Jiang (2012) indicated that author-perceived journal quality in these two fields, was positive and significantly correlated with impact factors. Despite quality and impact being the two established domains considered for promotion, no universal appraisal guidelines or methods exist for their assessment except for a few surrogates such as the Thompson Reuters Research Index score and others like peer-review assessment, direct observations and learners’ feedback, all of which to one degree or another, are subject to manipulation. (Cabrera, Durga & Chisolm, 2018)

Challenges of JIF

Journal impact factor was observed as a poor metric with which to judge the quality of individual articles. (Cagan, 2013). It was being criticized from another perspective and in addition to impression from some authors that it was not a good metric for journal quality, article quality, or author quality, it inadvertently created disincentives to publish in newer journals (Parsons, 2017). Opinions were given that journal impact factor was inappropriate or insufficient for capturing the true value of articles. (Konkiel, Sugimoto & Williams, 2016).. Some authors argued that even though the academia were required to quantify the value of their work, by submitting the number of works published. The number of citations received and the impact factor of the journals in which they were published, was well-intentioned, it was full of flaws because productivity could not necessarily equate to quality. The citation counts could vary among and within disciplines and journal impact factor could be easily inflated through self citation and collaboration. (Konkiel, Sugimoto and Williams, 2016). Another school of thought argued that expert panels such as journal editors and peer review could be influenced by certain factors, such as familiarity or common interest with the author. (Hall, 2011). In spite of support for some aspects of journal rankings, some authors are critical of using journal impact factor as a proxy or a stand-in for the quality of a research because “research quality is a multifaceted concept that is not reducible to a single quantitative metric” (Jacobs, 2016). Even though journal impact factor has sway of influence, data have been provided illustrating why no article can be judged on the basis of the impact factor of the journal in which it is published. Taking cognizance of the fact that JIF has entrenched a hypercompetitive system that increasingly disadvantages graduate students and early career researchers (Kiermer, 2016).

Methodology

Descriptive survey research design was adopted for this study. The population (target audience) was made up of one hundred and thirty-five (135) academic librarians working in the five federal universities in South East

zone of Nigeria. Distribution of academic librarians in Federal Universities in S.E. Nigeria is as follows: Nnamdi Azikiwe Library, University of Nigeria Nsukka (73); Festus Nwankwo Library Nnamdi Azikiwe University Awka (12); Federal University of Technology Owerri Library (33); Michael Okpara University Library (12) and Federal University Ndufu-Alike Ikwo (FUNAI) Library (5). Due to manageable size of the population the entire 135 academic librarians were used. There was no sampling

One of the instruments used for data collection was a structured questionnaire. The instrument had five sections. Section one was meant to collect demographic information while section two was to elicit information from respondents with respect to the date of introduction of impact factor metrics in their institutions and types of impact factor metrics introduced. Sections three, four and five addressed the issues raised in the research objectives. The study used four-point likert rating scales of: strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) in the three sections. These have corresponding values of 4, 3, 2 and 1 respectively. The instrument was face validated by three members of the University of Nigeria staff (a Deputy University Librarian and two Library and Information Science Lecturers). The content of the corrected copies was integrated into the questionnaire that was used for data collection. The instrument was trial tested using academic librarians of Federal University. Uyo. The reliability coefficient test of the instrument yielded 0.83 using Chronbach Alpha Reliability coefficient. Out of 135 copies of the questionnaire administered, only 117 copies representing (86.70%) were returned and found usable for the analysis. The quantitative data collected were analyzed using SPSS to determine percentages, means and t-test. The criterion means of 2.50 and above at four points scale at the frequency table and a score of 50% and above at the frequency table indicate that the item was upheld and vice versa. Percentage was used to analyse data generated from sections one and two, while mean and standard deviation were used to analyse data generated from sections three to five. The other instrument comprised a list of pre-arranged questions used for the interview.

Respondents' answers were recorded and analyzed using percentages.. All calculations were done to two places of decimal.

Data Presentation and Analysis

Demographics

Table 1: Gender Analysis of Respondents

Gender	Frequency	Percent
Male	52	44.40
Female	65	55.60
Total	117	100.0

Table 2: Academic Qualifications of Respondents

Qualifications	Frequency	Percent
BLS/BA/B.Sc	18	15.40
PGDL/PGDE	12	10.30
MLS/MA/M. Sc.	70	59.80
Ph.D	17	14.50
Total	117	100.0

Table 3: Professional Experience of Respondents

Professional Experience	Frequency	Percent
1-5 Years	31	26.50
6-10 Years	34	29.10
11-15 Years	13	11.10
16-20 Years	7	6.00
21-25 Years	12	10.30
Above 25 Years	20	17.10
Total	117	100.10

Table 4: Professional Rank of Respondents

Rank	Frequency	Percent
Assistant Librarian/Graduate Assistant	29	24.80
Librarian II/Assistant Lecturer	11	9.40
Librarian I/Lecturer II	18	15.40
Senior Librarian /Lecturer I	30	25.60
Principal Librarian /Senior Lecturer II	20	17.10
Deputy Librarian/Associate Professor	8	6.80
Librarian/Professor	1	0.90
Total	117	100.0

Tables 1, 2 3 and 4 above discourse the demographic variables of the respondents. Gender analysis showed that among one hundred and seventeen (117) completely filled and returned copies of the questionnaire, there were sixty-five (55.60%) females and fifty-two (44.40%) males.

Academic qualification revealed that eighteen (15.40%) of respondents had bachelor of Library Science (BLS) degree. There were twelve respondents (10.30%) who had Post Graduate Diploma in Librarianship, (PGDL).. Respondents who had Master of Library Science (MLS) degree were seventy (59.80%) while seventeen (14.50%) respondents had Doctor of Philosophy (PhD) in Librarianship.

Professional experience of respondents indicated that thirty-one (26,50%) of them had worked in

the library for one to five years. Those who had worked for six to ten years were thirty-four (29.10%). Respondents who indicated that they had worked for eleven to fifteen years were thirteen (11.10%). There were seven (6.00%) respondents who had worked for sixteen to twenty years. Respondents who indicated that they had worked for 21-25 years were twelve (10.30%). Respondents who indicated that they had more than twenty-five years working experience as librarians were twenty (17.10%).

Rank: There were twenty-nine (24.80%) assistant librarians. Respondents who indicated librarian 11 (two) as their rank were eleven (9.40%). Respondents who indicated their rank as librarian 1 (one) were eighteen (15.40%). Senior librarians were thirty (25.60%). Principal librarians were twenty (17.10%). Deputy

librarians were eight (6.80%) There was one

Use and Types of Impact factor metrics in institutions

Four (80%) of the five federal universities in South East Nigeria have introduced usage of impact factor metrics in the appraisal, tenure and promotions of academic librarians. University of Nigeria Nsukka, introduced it in 2006. The institution uses Thomson Reuters, SJR and SNIP impact factor metrics, with Thomson Reuters as a compulsory impact factor metric. For any academic staff to be promoted to Principal librarian/Senior Lecturer, the academic staff must have had at least an article published in a journal indexed by Thomson Reuters indexing body in addition to satisfying other requirements.

Nnamdi Azikiwe University, Awka introduced it in 2008. The institution uses Google-Scholar H-Index as the only journal impact factor metric and any academic staff aspiring to the rank of Principal Librarian/Senior Lecturer must have had at least an article published in a journal indexed in Google Scholar with h-index? in addition to satisfying other requirements.

Federal University, Ndufu-Alike Ikwo (FUNAI) .introduced it in 2016. The institution uses Thomson Reuters and SNIP impact factor metrics, with Thomson Reuters as a compulsory impact factor metric. Any academic staff aspiring to the rank of Principal Librarian/Senior Lecturer must have had at least an article published in a journal indexed by Thomson Reuters indexing body in addition to satisfying other requirements.

Michael Okpara University of Agriculture Umudike, introduced it in 2017. The institution uses Thomson Reuters impact factor metric only and any academic staff aspiring to the rank of Principal Librarian/Senior Lecturer,

(0.90%) University Librarian. must have had at least an article published in a journal indexed by Thomson Reuters indexing body in addition to satisfying other requirements.

Federal University of Technology Owerri, (FUTO) is about to introduce use of impact factor metrics in appraisal, promotion and tenure of her academics. .

Academic staff awareness of impact factor metrics' usage in institutions

There were twenty-nine (24.80%) assistant librarians among one hundred and seventeen respondents but six (20.69%) of them were working in Federal University of Technology Owerri, which had not introduced usage of impact factor metrics. Five (21.74%) of the remaining twenty-three assistant librarians working in universities where impact factor metrics have been introduced, were unaware of impact factor usage in the appraisals and promotion of academic librarians in their respective institutions. There were also eleven (9.40%) librarians¹¹(two) among one hundred and seventeen respondents but three (27.27%) of them were working in Federal University of Technology Owerri, which had not introduced usage of impact factor metrics. One (12.50%) of the remaining eight librarians'ⁱⁱ (two) working in universities where impact factor metrics have been introduced, was unaware of impact factor metrics' usage in the appraisals and promotion of academic staff in the respondent's institution.. All other librarians, from the rank of librarian ⁱ (one) to the rank of University librarian working in institutions where usage of impact factor metrics has been introduced were aware of impact factor metrics' application in academic appraisal exercises.

Prospects of Impact Factor Metrics' Usage

Table 5: Mean/Percentage Responses on Prospects of Impact Factor Metrics' Usage

S/No	Item	SD	D	A	SA	Mean	SD	Decision
1.	IF gingers academics to produce more quality papers	1 (0.9)	5 (4.3)	51 (43.6)	60 (51.3)	3.45	0.62	Upheld
2.	It encourages hard work	0 (0.0)	3 (2.6)	65 (55.6)	49 (41.9)	3.39	0.54	Upheld
3.	Visibility of authors is ensured	0 (0.0)	8 (6.8)	58 (49.6)	51 (43.6)	3.37	0.61	Upheld
4.	Credibility of authors is unquestionable	1 (0.9)	13 (11.1)	65 (55.6)	38 (32.5)	3.20	0.66	Upheld
5.	It increases the author's respect among his/her peers	1 (0.9)	24 (20.5)	55 (47.0)	37 (31.6)	3.09	0.74	Upheld
6.	The author's institution benefits during webometric ranking	0 (0.0)	12 (10.3)	55 (47.0)	50 (42.7)	3.32	0.65	Upheld
7.	Rapid career progression is guaranteed	0 (0.0)	20 (17.1)	59 (50.4)	38 (32.5)	3.15	0.69	Upheld
8.	It attracts more friends to the author	15 (12.8)	17 (14.5)	59 (50.4)	26 (22.2)	2.82	0.93	Upheld
9.	Opportunities for adjunct appointments are easily available	0 (0.0)	18 (15.4)	78 (66.7)	21 (17.9)	3.03	0.58	Upheld
10.	It ensures tenure appointment	3 (2.6)	36 (30.8)	53 (45.3)	25 (21.4)	2.85	0.78	Upheld

Perceptions of Staff on Impact Factor Metrics' Usage

Table 6: Analysis of Responses on Perceptions of Impact Factor Metrics' Usage

S/No	Item	SD	D	A	SA	Mean	SD	Decision
1.	I like IF metrics to be used continually for appraisals	26 (22.2)	40 (34.2)	39 (33.3)	12 (10.3)	2.32	0.93	Not Upheld
2.	I like IF metrics to be used with a little modification	1 (0.9)	14 (12.0)	73 (62.4)	29 (24.8)	3.11	0.63	Upheld
3.	I do not like to be compelled to publish my articles under a particular impact factor metric	3 (2.6)	18 (15.4)	63 (53.8)	33 (28.2)	3.08	0.73	Upheld
4.	I like my papers to be assessed under any other metric system than Thompson Reuters	3 (2.6)	27 (23.1)	57 (48.7)	30 (25.6)	2.97	0.77	Upheld
5.	I do not like my papers to be assessed with IF metrics	12 (10.3)	59 (50.4)	37 (31.6)	9 (7.7)	2.37	0.77	Not Upheld
6.	One undergoes rigorous guideline processes before submission of one's papers to IF journals.	0 (0.0)	2 (1.7)	64 (54.7)	51 (43.6)	3.42	0.53	Upheld
7.	One undergoes frustrating guideline processes before submission of one's papers to IF journals	1 (0.9)	17 (14.5)	50 (42.7)	49 (41.9)	3.26	0.73	Upheld
8.	IF journals pride themselves in their high rejection rate	0 (0.0)	20 (17.1)	55 (47.0)	42 (35.9)	3.19	0.71	Upheld
9.	Many IF journals take considerable time to publish accepted articles	0 (0.0)	3 (2.6)	76 (65.0)	38 (32.5)	3.30	0.51	Upheld
10.	I feel it is easy to recover from IF metrics shocks, when one's paper is published in the IF journal	3 (2.6)	13 (11.1)	70 (59.8)	31 (26.5)	3.10	0.69	Upheld

Table 5 shows the mean and standard deviation of responses on prospects of impact factor metrics' usage. The table shows that all the items are upheld by respondents. An item in the table shows that journal impact factor enlivens academics to do more thorough

research. has the greatest mean of (3.45). While, attracting more friends to the author one of the attributes of journal impact factor has the least mean of (2.82)

Table 6 shows the mean and standard deviation of responses on perceptions of impact factor

metrics’ usage. The table shows that two (20%) of the items are not upheld by respondents. One of the items in the table states, “I like IF metrics to be used continually for appraisals”. The item has the least mean of (2.32). Another item in the table 6 also states, “I do not like my papers to be assessed with IF

metrics” . The item has a mean of (2.37). All other items in the table are upheld by respondents. The fact that one undergoes rigorous guideline processes before submission of one’s paper to impact factor indexed journal is appreciated by respondents this item has the highest mean of (3.42)

Challenges of Impact Factor Metrics’ Usage

Table 7: Analysis of Responses on Challenges of Impact Factor Metrics’ Usage

S/No	Item	SD	D	A	SA	Mean	SD	Decision
1.	It is difficult to publish in IF journals	0 (0.0)	9 (7.7)	49 (41.9)	59 (50.4)	3.43	0.63	
2.	Failed attempt to publish in IF journals discourages further attempt	1 (0.9)	19 (16.2)	56 (47.9)	41 (35.0)	3.17	0.72	
3.	Different IF journals make use of disparate guidelines	2 (1.7)	5 (4.3)	73 (62.4)	37 (31.6)	3.24	0.61	
4.	IF metrics subject prospective authors to study different publication manuals	0 (0.0)	1 (0.9)	71 (60.7)	45 (38.5)	3.38	0.50	
5.	IF metrics subject prospective authors to study different editions of same publication manual	0 (0.0)	8 (6.8)	72 (61.5)	37 (31.6)	3.25	0.57	
6.	Many articles on local content are not appreciated by some IF journal editors.	2 (1.7)	14 (12.0)	55 (47.0)	46 (39.3)	3.24	0.73	
7.	Some academic librarians have journal IF phobia	2 (1.7)	17 (14.5)	57 (48.7)	41 (35.0)	3.17	0.74	
8.	Use of journal IF metrics stagnate career progression	1 (0.9)	13 (11.1)	52 (44.4)	51 (43.6)	3.31	0.70	

Table 7 shows the mean and standard deviation of responses on challenges of impact factor metrics’ usage. The table shows that all the items are highly rated. The most highly rated item is the one that states, “It is difficult to publish in IF journals, it has a mean of 3.43. The least rated item is “failed attempt to publish in IF journals discourages further attempt, has a mean of 3.17.

Discussion of Findings

Awareness of Metric Systems Used for Appraisals, Promotion and Tenure in Universities

As shown above, from the result of the analysis, (21.74%) of assistant librarians and (12.50%) of librarians’ii (two) working in universities where impact factor metrics have been introduced, were unaware of impact factor usage in the appraisals and promotion of academics librarians in their respective institutions. Awareness of the metric system being used for appraisal and promotion in one’s institution is very crucial for academic librarians’ career advancement. Knowledge of such information will limit waste of efforts

used in publishing in journals which outcome will not advance their promotion.

Prospects of impact factor metrics’ usage

IF gingers academics to produce more quality papers, as indicated by respondents The view is in line with the findings of y Konkiel (2013) and Tobin (2003) . Another item in the Table espouses the fact that journal impact factor ensures visibility of authors. It has a mean of (3.37). The view was supported by Monroe-Gulick, Greta and Brooks-Kieffer (2017) and Jacobs (2016). Journal impact factor encourages hard work. This item has a mean of (3.39). It has the second highest mean. The view was supported by Jimenez-Contreras et al. (2002), Adam (2002) and Brody and Foster (1995). Rapid career progression is guaranteed through publishing in impact factor indexed journal. The item has a mean of (3.15). The view was supported by Tobin (2003). Journal impact factor attracts more friends to the author. The item has a mean of (2.82) . The view is in line with that of Monroe-Gulick et al. (2017). All other items in the Table were upheld by respondents. These are indications

supporting sustainability of impact factor metrics' usage.

Impact factor gingers academics to produce more quality papers, as indicated by respondents, this view is in line with the findings of Konkiel (2013) and Tobin (2003). To ensure the visibility of authors and recognition by friends and attracting more friends to their works, researchers publish in impact factor journals this supported by the studies of Monroe-Gulick, Greta and Brooks-Kieffer (2017) and Jacobs (2016). Publishing in impact factor encourages librarians hard work to work hard since it's use as a measure of their performance for promotion, this is similar to the findings of Jimenez-Contreras et al. (2002), Adam (2002) and Brody and Foster (1995). Other prospects of impact factor usage as identified by the participants are, it enhances rapid career progression in their career, which is supported by Tobin (2003). All other items in the table were upheld by respondents. These are indications supporting sustainability of impact factor metrics

Perceptions of Staff on Impact Factor Metrics' Usage

An item in Table 6 which states, "I like IF metrics to be used continually for appraisals", was not supported by respondents. The item has a mean of (2.32). This is in line with the views of Citrome (2007), Callaway (2016), Catling, et al. (2009) and Schmitz (2019). The implication is that respondents may like IF metrics to be used for appraisal but not continually. However, another item in Table 6 which states, "I do not like my papers to be assessed with IF metrics", was not supported by respondents also. The item has a mean of (2.37). This is an indication that respondents like their papers to be assessed with JIF metrics. The view was supported by Konkiel (2015), Monroe-Gullick et al. (2017) and Brooks-Kieffer (2017), University of Buffalo Libraries (2018) and Zhang et al. (2012). One of the difficulties one undergoes during submission of one's paper to JIF indexed journals is trying to comply with the guideline processes. This aspect was highly appreciated by respondents and it showed that respondents were at ease with submitting themselves to undergoing rigorous processes involved in sending their papers to impact factor indexed

journals. The item has the highest mean (3.42). These factors are pointers to sustainability of impact factor metrics' usage.

Challenges of Impact Factor Metrics' Usage

All the items were upheld by respondents. It is an indication that respondents are fully aware of the challenges of publishing in impact factor indexed journals. Nonetheless, their ratings of items in the cluster relating to challenges on impact factor metrics' usage lent credit to sustainability of usage of impact factor metrics in assessment of journal articles for appraisals, tenure and promotion of academics.

Promotion of Sustainability of Journal Impact Factor (JIF)

In order to sustain JIF, some universities have moderated the guidelines for use of impact factor for appraisals, promotions and tenure of academics. For instance, University of Nigeria and Nnamdi Azikiwe University experiences have set the pace for others to follow. The Federal Government of Nigeria also helped to promote sustainability of JIF when she engaged Enago Academy, a U.S-based organisation to organise nation-wide workshops on academic publishing for academics across the Nigerian University System (NUS) in December 2017. The workshops were aimed at training many academic staff within the Nigerian university system on the required skills and nuances of academic publishing with emphasis on impact factor and citation index. As long as there is yet no universally accepted measure of journal article quality, journal impact factor will remain relevant,

Favourable Factors of Sustainability of Journal Impact Factor

More than 90% of mean ratings of items in prospects, perceptions and challenges' clusters bordering on journal impact factor metrics' usage for academic librarians are above 2.50 which is the criterion mean for acceptance. The mean ratings therefore buttress sustainability of usage of journal impact factor metrics in assessment of journal articles for appraisals, tenure and promotion of academics.

Conclusion

The study showed that impact factor metrics used in assessment of journal articles for appraisal, tenure and promotion of academic librarians are appreciated. As shown above, more than 90% of items in prospects, perceptions and challenges' clusters bordering on journal impact factor metrics' usage for academic librarians are above the criterion mean for acceptance. The mean ratings therefore buttress sustainability of usage of journal impact factor metrics in assessment of journal articles for appraisals, tenure and promotion of academics. It also shows that journal impact factor metrics' usage for appraisal, tenure and promotion has been appreciated by academic librarians. In addition, perceptions of academic librarians support, advocates permanent use of journal impact factor in appraisals and promotions of academic librarians

. Based on the findings, it is concluded that:

Academic librarians in S.E Nigerian Federal Universities welcomed the use of journal impact factor in appraisals, tenure and promotions. Academic librarians in South East Nigerian Federal Universities appreciated the use of journal impact factor metrics for appraisals, promotions and tenure of academic librarians therefore, use of journal impact factor for appraisals, promotions and tenure of academic librarians in S.E Nigerian Federal Universities has been sustained.

Recommendations

Based on the fore-going, it is recommended that:

1. Academic librarians in S.E Nigerian Federal Universities should always publish in impact factor indexed journals for rapid career progression.
2. Academic librarians in S.E Nigerian Federal Universities should always publish in
3. Impact factor indexed journals in order to ensure visibility of their articles..
4. Any Federal University in S E, State of Nigeria that has not yet implemented the use of journal impact factor in the appraisal and promotion of her academic

librarians should facilitate action to do so.

References

- Adam, D. (2002). Citation analysis: The counting house. *Nature* 415, 726-729. <https://www.nature.com/articles/415726a>
- Baneyx, A. (2008). Publish or perish as citation metrics used to analyze scientific output in the humanities: International case studies in economics, geography, social sciences, philosophy, and history. *Archivum Immunologiae et Therapiae Experimentalis* 56 (6), 363-371. <https://link.springer.com/article/10.1007/s00005-008-0043-0?no-access=true>
- Brody, S. , & Foster, W.R. (1995). Impact factor as the best operational measure of medical journals. *Lancet* 346, 1300-1301. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(95\)91904-X/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(95)91904-X/abstract)
- Cabrera, D. , Durga, R. , & Chisolm, M. S. (2018). Social media scholarship and alternative metrics for academic promotion and tenure. *J. Am Coll of Radiology* 15, (1 Part B:135-141). <https://www.sciencedirect.com/science/article/pii/S1546144017311341>
- Cagan, R. (2013). The San Francisco Declaration on Research Assessment. *Dis Model Mech*, 6, 869-70. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3701204/>
- Callaway, E. (2016). Beat it, impact factor! publishing elite turns against controversial metric. *Nature: International Weekly Journal of Science*. 535, 7611. <https://www.nature.com/news/beat-it-impact-factor-publishing-elite-turns-against-controversial-metric-1.20224>
- Catling, J. C. , Mason, V. L., & Upton, D. (2009). Quality is in the eye of the beholder? : An evaluation of impact factors and perception of journal prestige in the UK. *Scientometrics*. 81(2), 81-333. https://www.researchgate.net/publication/220364494_Quality_is_in_the_eye_of_the_beholder_An_evaluation_of_impact_factors_and_perception_of_journal_prestige_in_the_UK
- Citrome, L. (2007). Impact factor? shmimpact factor! The journal impact factor, modern day literature searching, and the publication process. *Psychiatry (Edqmont)* 4(5), 54-57. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2921314/>

- Enago A. (2017). Arrangements for nation-wide authors' workshop on academic publishing. <http://nuc.edu.ng/nuc-and-enago-academy-finalise-arrangements-for-nationwide-authors-workshops-on-academic-publishing-for-junior-and-middle-career-academics>
- Fersht, A. (2009). The Most influential journals: Impact factor and eigenfactor, *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* 106(17), 6883-6884 <http://www.pnas.org/content/106/17/6883.short>
- Garfield, E. (1995). Citation indexes to science: A new dimension in documentation through association of ideas. *Science*, 122, 108-111. <http://garfield.library.upenn.edu/essays/v6p468y1983.pdf>
- Garfield, E. (2006). The history and meaning of the journal impact factor. *Journal of American Medical Association (JAMA)* 295, 1. <http://www.garfield.library.upenn.edu/papers/jamajif2006.pdf>
- Garfield, E. , & Sher, I. (1963). *Genetics Citation Index*. Philadelphia, Pa: Institute for Scientific Information. <http://www.garfield.library.upenn.edu/essays/v7p515y1984.pdf>.
- Hall, M. C. (2011). Publish and perish: Bibliometric analysis, journal ranking and the assessment of research quality in tourism. *Tourism Management* 32(1), 16-27. <http://www.sciencedirect.com/science/article/pii/S0261517710001469#!>
- HFSP. (2012). *The San Francisco Declaration on Research Assessment*. <http://www.hfsp.org/funding/san-francisco-declaration-research-assessment-dora>
- Jacobs, J. A. (2016). Manipulated journal rankings. <https://www.insidehighered.com/views/2016/07/01/examination-whether-academic-journal-rankings-are-being-manipulated-essay>
- Jimenez-Contreras, E. , Lopez-Cozar, E. D. , Ruiz-Perez, R. , & Fernandez, V. M. (2002). Impact factor rewards affect Spanish Research. *Nature* 417. <https://www.nature.com/articles/417898b>
- Kiermer, V. (2016). Measuring up : Impact factors do not reflect article citation rates.: <http://blogs.plos.org/plos/2016/07/impact-factors-do-not-reflect-citation-rates/>
- Konkiel, S. (2013). Scholarly communication. <http://blogs.libraries.indiana.edu/scholcomm/author/skonkiel/>
- Konkiel, S. (2015). Altmetric: Meet our team. <https://www.altmetric.com/about-us/people/stacy-konkiel/>
- Konkiel, S. , Sugimoto, C. R. , & Williams, S. (2016). What constitutes valuable scholarship? The use of altmetrics in promotion and tenure. *EDUCAUSE Review* 51 (2), http://eprints.lse.ac.uk/66697/1/lse.ac.uk_storage_LIBRARY_Secondary_libfile_shared_repository_Content_LSE%20Impact%20of%20Social%20Sci%20blog_2016_March_blogs.lse.ac.uk-What%20constitutes%20valuable%20scholarship%20The%20use%20of%20altmetrics%20in%20promotion%20and%20tenure.pdf
- Monroe-Gulick, A. , Greta, V. , & Brooks-Kieffer, J. (2017). You need to have a street beat: A qualitative study of faculty research needs and challenges. *Portal Libraries and the Academy*. https://www.researchgate.net/journal/1530-7131_portal_Libraries_and_the_Academy
- Okoye, M. O . (2010). The use of impact factor in the appraisal of academic librarians in Nigeria. *Library Philosophy and Practice*. <http://llunllib.unl.edu/LPP/okoye.pdf>.
- Parsons, J. (2017). Open access: Advocacy. *Library Journal*. <https://lj.libraryjournal.com/2017/03/oa/open-access-advocacy/>
- Schmitz, J. (2017). The journal impact factor and alternatives. <https://www.publisso.de/en/advice/publishing-advice-faqs/the-journal-impact-factor-and-alternatives/>
- Tobin, M. (2003). Impact factor and the journal. *American Journal of Respiratory and Critical Care Medicine*. 168(6), <https://www.atsjournals.org/doi/full/10.1164/rcm.2307003>
- University of Buffalo Libraries. (2018). Maximize your research impact. <http://library.buffalo.edu/scholarly/action/>
- University of Nigeria (2006). *The Yellow Book : Guidelines for Appointments and Promotions of Academic Staff*. (4th ed.). Nsukka , University Press.
- Waltman, L. , & Traag, V. (2017). Use of the journal impact factor for assessing individual articles need not be wrong. <https://www.cwts.nl/blog?article=n-q2z254>
- Wilsdon, J. , Allen, L. , Belfiore, E. , Campbell, P. , Curry, S. , Hill, S. , Jones, R. , Kain, R. , Kerridge, S. , Thelwall, M. , Tinkler, J. ,

Viney, I. , Wouters, P. , Hill, J. , & Johnson, B. (2015). *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*. http://blogs.lse.ac.uk/impactofsocialsciences/files/2015/07/2015_metrictide.pdf DOI: 10.13140/RG.2.1.4929.1363

Zhang, Z., Zhang, Z., Li, X., & Jiang, M. (2012). Factors influencing Chinese Authors' perceptions of journal quality: A comparison between two academic fields. *Serials Review* 38(1), 17-23 <https://www.sciencedirect.com/science/article/abs/pii/S0098791311001675>

Digital Libraries in Open and Distance Learning: Promises and Challenges

Loveth Ogoegbunam Ekwueme

*Librarian, Enugu Study Centre, National Open University of Nigeria
lekwueme@noun.edu.ng.*

Abstract

Libraries are experiencing tremendous changes with the application of Information Communication Technology in library information resources and services. These changes have affected the format and means of communicating and delivery of information to library users in open and distance learning. This has also led to the establishment of digital libraries in open and distance learning. Digital libraries are aimed at providing access to digital documents, other library media resources and services. These digital documents, resources and services have enhanced lifelong learning and access to information anytime and anywhere. The access to information is through provision and integrations of web-based library services and resources to satisfy the information needs of students in open and distance learning. Digital libraries give access to information to distance learners in the comfort of their homes, offices and various locations provided there is internet connectivity via data bundles and mobile technology devices. This paper discussed the concept of a digital library, open and distance learning, digital library services, promises and challenges of digital libraries in open and distance learning and way forward for solving these challenges.

Keywords: *Digital Libraries, Open Access Resources, Services, Distance Learning, Challenges*

Introduction

The uses of Information Communication Technology (ICT) have changed the nature and the roles libraries play in the acquisition, processing, storage and dissemination of information in the society. Currently, library operations and services have changed with the greater use and application of information communication technology (ICT). The explosion of information and the need to manage and preserve information for easy access and utilization by their users prompted librarians to develop digital and electronic formats of this generated information which can be accessed through the use of internet, computers and other mobile technology. These changes in the library have also affected the nature and the format of information provided for library users in the library. Many academic libraries are now migrating to digital library services to meet their users where they are because of the benefits accruing from the use of digital libraries. Some of these benefits are prompt and quick access to information anytime and anywhere solve the problem of space for information storage, increase the durability of print materials and give access to multiple users at the same time.

Digital libraries according to Shiri in Trivedi (2010,p 1) “are organizations that provide

resources including the specialized staff, to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collections of digital works so that they are readily available for use by a defined community or set of communities.” Digital libraries do not only contain digital resources but also other collections with information management tools. The major characteristics of digital libraries are that they use technological devices, have digital collections and provide online access to their resources and services (Jagboro, Omotayo, and Aboyade, 2012). In addition, Sun and Yuan (2012) opined that the digital library is a collection of information, processed in digital formats which can be accessed over a network by users with the aid of technological devices. These digital library resources can be accessed anytime and anywhere by its users. Some Common elements of digital libraries as outlined by the Association of Research Libraries in Sadiq and Bagudu (2013) are as follows;

- The digital library is not a single entity it comprises all the activities in traditional library settings which included acquisition, cataloguing, circulations, serial and reference services.

- The digital library needs technology to connect to the resources of many networks. There must be the presence of computers, databases, scanners, internet facilities, and websites for a digital library to function effectively.
- Many digital libraries and information services are clear and can be accessed by end users.
- The aims and goals of digital libraries are aimed at providing universal access to digital libraries and information services to the desired users.
- Digital library collections are not restricted to documents but they include digital artefacts that cannot be embodied or disseminated in printed format.

Digital libraries have helped in the promotion of academic and research output worldwide (Khan, Ahmed, Khan and Khan 2017). The advent of the digital library now permits a vast amount of information to be accessed by patrons who do not have to set their foot in the institution where the information originated. The use of faxes, scanners, phone lines, computers, satellites, internet and other mobile technology have created links for individuals to effectively and efficiently access information and library services provided in digital libraries for on-campus and distance learners. Librarians need to provide equivalent information resources and library services to distance learners as they provide for on-campus learners, in line with the view of Association of College and Research Libraries guidelines for Distance Learning Library Services (ACRL, 2008) that stated that “members of the distance learning community are entitled to library services and resources equivalent to those provided for students and faculty in the traditional campus setting. Faulhaber in Gandhi (2003) argues that “distance education without a digital library is not possible but emphasizes that “we need to support (distance learner) with library services or we’ll lose them.

Open and Distance Learning

Distance learning is a type of education meant to reach out to anybody who would not have had the opportunity to be educated, the

underprivileged, and persons who missed higher education in their youthful age. Distance Education plays a vital role in the national development of any country. Tenebe (2012) is of the opinion that except there is mass education of the populace, there comes a time when the uneducated will not allow the educated to have peace. Distance learning involves both teachings at a distance and learning at a distance. It is also regarded as education and training where the learners are physically separated from their educational provider. Open and Distance Education is a teaching mode in which learners are removed in time and space from the teachers (Federal Government of Nigeria, 2004). In this type of education, instructions are delivered through a variety of media such as prints, CD-ROMs, CDs, radio, television, video conferencing and sometimes face – to - face tutorial sessions to learners. So distance learners are students that learn at a time that suits them and from the location of their choice. Open and distance learning according to Msweli (2012) is a system of learning that blends students support, curriculum and instruction design, flexibility of learning provisions, removal of barriers to access, credit of prior learning and other academic activities such as programme delivery assessment for the purpose of meeting the diverse needs of students. “Open” depicts the readiness of the individual candidate to undertake the educational programme, the individual learns at his own pace while “distance” means that a candidate learns from a location of his choice is not confined in a particular location as in a conventional school setting. In open and distance learning the students have the right to decide on how, when and where to undertake the programme. The mode of open and distance learning is flexible in the sense that it allows access to education to students who are geographically isolated or whose work or family commitments will not allow attending an institution to study at a fixed time and place.

Hence Jegede (2016) defined open and distance learning as a “form of instruction by a mode than the face-face method, where there is a physical separation between the teacher and the learner but instruction takes place through a variety of media including print and modern ICT”. There is a need to develop digital

libraries for students involved in open and distance learning programs. This is because digital libraries develop collections to enhance external and internal access to multiple users simultaneously, increased utilization of resources, quality preservation of information and to serve as security measures to fragile information sources (Mishra, 2016). Digital libraries serving distance learners should look ahead on providing digital resources which will meet the academic and research needs of these students. To ensure effective access and use these resources should be indexed to reduce the frustration of retrieving flood of irrelevant resources by these users. Above all the information needs of the distance, learners should be sought before developing digital libraries to avoid putting a cart before a donkey which will not guarantee accessibility and utilization of the digital resources and services since availability do not guarantee access and use.

Promises of Digital Libraries to Open and Distance Learning

Information content and services of the libraries have changed with the introduction of the internet and computers in libraries. These changes brought about the digitalization of information products such as books, images, periodicals, musicals into electronic formats for easy access by users anytime and anywhere in the country. A digital library is a “computer-based system for acquiring, storing, organizing, searching and distributing digital material for end-user access” (Sun and Yuan 2012, p.14).

Digital libraries also attach content specific and descriptive metadata such as descriptors or keywords that describe each item in their collections (Pal, 2015). So there are urgent needs for distance learning institutions to embrace digital library and its services to meet the information and research needs of the distance learners due to its promises which include the followings

- **Digitalization of information sources:** This is a process of turning prints document into electronic resources through the use of scanners, computers, the image capturing, data compression and other media which can be viewed or

accessed through a network. According to Bridha (2011) digitalization of information have increased the volume of electronic information sources and the users of information can now access these digital content anytime and anywhere with the aid of computers and internet connectivity.

- **Information transfer through the use of the internet:** The information sources which are converted into non-print resources can be uploaded into the library websites and accessed through the use of internet and data bundles via mobile technologies and computers.
- **Inter-library Co-operations:** Digital libraries encourage information sharing across other libraries around the globe. Since no library can satisfy all the information needs of its clientele digital libraries have help distance learners to get access to digital resources from other libraries. Provides links to other libraries through networking which helps in sharing of resources and giving access to external digital collections through subscriptions to other digital libraries collections such eBooks and online journals
- **Have limitless resources and services:** Increase access to information 24 hours per day once there are internet connectivity and data bundles for mobile phones and computers.
- **Provides space for storage of information:** Solves the problem of physical space for storage of information since information can be scanned and stored in CD- ROMs, flash drives and uploaded into the library websites thereby solving the problem of physical space in the library.
- **Quick access to information:** Internet services have aided digital libraries to provide fast and easy access to distance learners from anywhere and anytime. That is it gives remote access to information for distance learners in their offices, homes and on transit.

- **Has a User-friendly interface:** This enhances easy retrieval of information by distance learners through the use of any search terms like word, phrase, titles, subjects and concepts.
- **Preservation and conservation information:** Archival and information sources in digital form are preserved for posterity through digitization, unlike the pre-digital era when librarians have to worry about climate control and de-acidification of books.
- **Downloading and Printing of information:** Enhances downloading and printing of electronic resources from the digital library websites by distance learners wherever they are without stepping their foot on the library.

Challenges of Digital Libraries in Distance Learning

Despite these promises of digital libraries to distance learning, digital libraries are faced with myriads of challenges in providing these information resources and services to distance learners such as;

- **Lack of trained personnel:** The trained personnel employed in the libraries are not enough to effectively carry out the digitalization of the printed and other information resources available so cannot offer efficient and adequate services. Also, some of the library staff doesn't want to embrace changes rising up from the application of information communication technology in librarianship through training and retraining courses. This attitude affects the number of trained staff serving in digital libraries.
- **Security traits:** Sometimes when the content of the digital library resources is not protected some users tend to alter or change information on the original resources. So access controls are needed to safeguard the digital resources for effective use by distance learners.
- **Insufficient bandwidths:** Digital libraries have Wi-Fi networks, wireless access and work stations, they all share the same bandwidth and connection. So the higher the demand on the bandwidth consumption, this will affect the speed of the internet connection in the library. And when the speed is slow users become unsatisfied and may quit the search.
- **Copyright infringement.** Sometimes libraries provide access to electronic content that is not their own and library users download and copy the works without giving credit to the original owner of the works.
- **Technological Obsolescence:** There is always continuous change in the computer hardware and software use in digital libraries which affects the use and access to information. The library needs a lot of money in upgrading to new programmes, software and hardware. When the digital library fail to upgrade to the latest version it may affect the level of access and utilization.
- **Request for authentication:** There are restrictions to some digital library resources which require subscriptions from the individual or the organization before accessing them. These restrictions have caused some frustrations and confusion to distance learner who wants to use such resources. This occurs when users are required to supply users name and password before access is granted to them to access and use the information sources. Here the availability of information sources does not guarantee their accessibility.
- **Inadequate technical support for the software and hardware:** Some digital libraries lack technical support staff for the management of the library software and hardware acquired. Whenever there is any problem with the software or the hardware there may be no knowledgeable technicians to attend to such problems. This will result in a breakdown on the process and access to the digital library content and services.
- **Inadequate User education and training:** Some digital libraries do not educate the distance learners on how to

search and use the resources available to them. Even when orientations are conducted only a few students attend due to their work schedule and family engagements.

Way forward

Despite these challenges being faced by digital libraries in providing library services to distance learners whose learning do not mostly involve face to face tutorial but learn at a distant. Digital libraries should apply the following strategies in solving the challenges faced by distance learners in open and distance learning environments

- There should be appropriate recognition and protection of legal rights such as copyright laws.
- There should be a well-developed technology for digitalization of analogue materials in the library to ensure that distance learners have access to all the needed information at anytime and anywhere.
- There should be an integration of both digital and physical materials in the library for easy access by distance learners.
- The digital content of the library should be acquired and organized to suit the needs of distance learners.
- There should be online information literacy for distance learners on how to access the digital library resources and services.
- Staff should be trained on the maintenance and operation of the software; hardware needed for the digitalization of print resources any other information resources available in the library collections.
- Increase funding of the digital library for subscriptions and digitalization of information resources for easy access to information by distance learners.
- Also, there should be an improvement in the power supply or the provision of alternative power supply should sort by

the library authority to ensure accessibility and utilization of the digital libraries resources and services.

Conclusion

Despite the challenges associated with the use of digital libraries students in open and distance learning are separated physically from there their institution of learning unlike students in conventional institutions. This gap is bridged by the use of online tutorials, the use of CDs and online course materials are being accessed by these students with the help electronic devices. This shows that there is a need to give access to information' acquired for research and study to facilitate lifelong learning in the students through a computer-based system. Digital libraries ensure easy access, retrieval and use information and services by distance learning anytime and anywhere.

References

- Alijani, R & Khasseh, A. A (2015). Distance Learner Familiarity with the Concept of Digital Library: a Case Study Virtual University Shiraz, Iran. *Library Philosophy & Practice*. Available at <http://digitalcommons.unl.edu/libphilpract1214>
- Association of College and Research Libraries (ACRL2008) *Standards for distance learning library services* Retrieved from <http://www.ala.org/ala/mgrps/divs/acrl/standards/guidelinesdistancelearning.cfm>. Accessed on 12/06/2013.
- Brindha, S. D. (2011). Challenges of Digital Libraries for Effective E-Learning in Nigeria. Proceeding of ISERD International Conference, Cape Town, South Africa 19th July. Available at www.worldresearchlibrary.org/up_proc/pdf/381-14701378794-7.pdf.
- Federal Republic of Nigeria (2004). *National Policy on Education*. 4th edition P.30
- Gandhi, S. (2003). Academic Librarians and Distance Education: Challenges and Opportunities. *Reference and User Services Quarterly* 43 (3) 138 -154. Available at <http://www.jstor.org/stable/20864157> Accessed on 10/04/2014
- Jagboro, K.O., Omotayo, B.O.; and Aboyade, W.A. "(2012)., Digitization of Library Collection in Developing Countries: The Hezekiah

- Oluwasanmi Library Experience. *Library Philosophy and Practice (e-journal)*. 823. <http://digitalcommons.unl.edu/libphilprac/823>
- Jegede, O. (2016). Open and Distance Learning Practices in Nigeria Higher Institutions of Learning. Being an invited Keynote Address at the 3rd University of Ibadan Annual Distance Learning Centre Distinguished Lecture and Stakeholders' Forum Held at the International Conference Centre, University of Ibadan, Thursday, 14th and Friday 15th of July.
- Khan, A, Ahmed, S, Khan, A. & Khan, G. (2017). The Impact of Digital Library resources Usage on Engineering Research Productivity: an Empirical Evidence from Pakistan. *Collection Building*, 36(2) 37 – 44, <https://doi.org/10.1108/CB-10-2016-0027>. Available at <https://www.researchgate.net/publication/315636469>.
- Mishra, R. K. (2016). Digital Libraries: Definitions, Issues and Challenges. *Innovare Journal of Education* 4 (3) 1- 3. Available at <https://innovareacademics.in/journals/index.php/ijoe/article/view/23846>.
- Pal, S. K. (2015). Role of Digital Libraries in the Development of Distance Education in India. Available at <https://www.research.net/publication/284155876>.
- Tenebe, V.A. (2012) National Open University of Nigeria 2011 – 2012 Annual Report. Lagos: .4.
- Trivedi M. (2010) Digital Libraries: Functionality, Usability, and Accessibility. *Library Philosophy and Accessibility*. Available <http://www.webpages.uidaho.edu/~mbolin/trivedi-diglib.htm>.
- Sadiq, H. and Bagudu, A. A. (2013). Students' Perception of Digital Library Services: A case study of International Islamic University, Malaysia. *Library Philosophy and Practice (e-journal)* Libraries at University of Nebraska – Lincoln 4-10. Available at <http://digitalcommons.unl.edu>. accessed 3/05/2016.
- Sun, J. & Yuan, B. (2012). Development and Characteristics of Digital Library as a Library Branch. *IERI Procedia* 2, 12 – 17. Available at www.sciencedirect.com

Comic Book Writing and its Role in Acquisition of Information Literacy Skills by Pre-adolescents in Nigeria: Children Centre Library experience

Margaret N. Ngwuchukwu¹ Anthonia N. Ejikeme² & Grace U. Onyebuchi³

Department of Library & Information Science, University of Nigeria, Nsukka^{1,3}, Nnamdi Azikiwe Library, University of Nigeria, Nsukka²
*Kaego4real2008@yahoo.com*¹, *amaka.ejikeme@unn.edu.ng*², *grace.onyebuchi@unn.edu.ng*³

Abstract

Enhancing information literacy by engaging pre-adolescents in reading and writing comics is an exciting experience which facilitates their literacy skills. This paper presents the role of comic writing in acquiring information literacy among pre-adolescents in Nigeria. The researchers explored the influence of comic book writing on information literacy of pre-adolescent group in Children's Centre, University of Nigeria, Nsukka through practical means. Focus group discussion, observation and score gathered from assignment given to them were used as method of data collection. The population of the study comprised of registered children on the 2013 vacation programme in the Children's Centre, UNN while narrative interpretation was used to analyze the data. The result of the focus group discussion reveals that though pre-adolescents enjoy watching and reading comic books, they have not been actively involved in writing comic books while observations and their achievement scores, show that the visual thinking, drawing skills, creative writing, communication skills, language development and Critical thinking skills improved above average as the programme went on. From the findings, it is expected that managements of school libraries and public libraries; parents; stakeholders of education would strive to inculcate the skill of comic writing in pre-adolescents to enhance their information literacy

Keywords: Comic book writing (CBW), Information literacy (IL) and Pre-adolescents

Introduction

The need for children to acquire information literacy has been a major concern over the years. It is argued that except individuals are information literate, there is the tendency that they will become deficient in skills to access, evaluate and use information from different sources. Consequently, it could lead to failure in schools and decline in the rate of employment which sets the nation back. Daniel (2005) noted that a nation that ignores the future of its children is the unluckiest of all. Therefore, it becomes imperative to develop information literacy skills among children mostly the pre-adolescents so that the future of the nation will be bright.

Acquiring information literacy according to the Association for College and Research Libraries (ACRL, 2005) is a lifelong activity which helps an individual to recognize how to find and use information effectively. Furthermore, acquiring information literacy enables an individual to recognize when information is needed, and be able to access, critically evaluate and communicate, and use the

information obtained to solve problems, make decisions, develop knowledge and create new ideas and personal meaning.

The ability to make decisions and use information to solve problems is a prerequisite to having a well-informed citizenry that will contribute to the nation's development. The recognition of this places emphasis on the need to develop information literacy skills among pre-adolescents in Nigeria.

Pre-adolescent stage according to Berks (1998) is the period of childhood just before the onset of puberty. They are often designated as between the ages of 10 & 12 in girls & 11, & 13 in boys. Uba (2012), and Babarinde (2013) noted that it is a period during which youngsters move from childhood toward maturity with problems and concerns brought about by physical, intellectual and socio-emotional changes. The need to deal with these characteristics made the acquisition of information literacy skills important in the lives of preadolescent and comic book writing is a good means of developing information literacy skills among them.

Comic book writing (CBW) is defined as the conceptualization of an idea, the arrangement of image elements and the construction of the sequence of the narration and the composing of the dialogue. It boosts reading skills through the combination of text and pictures to create meaning. This way, children gather the ability to engage with comics in a different way from what the traditional books may have to do with them (Naillon, 2014). As stated in Bitz (2010), comics offer opportunity for literacy building and a bridge to more conventional literature; since the emphasis has been to make learning more relevant. Comics can be used as a way of motivating young reading as well as a viable educational tool. It features learning in every subject area. Thus Bitz noted that it is partly a product of the reading and writing connection and the kind of writing meant to foster the process of communicating their experiences and issues affecting them, what they experience, how they view themselves, interact with peers and solve problems.

Comic book writing provides opportunities for pre-adolescents to showcase their feelings and learn to find solutions to their problems, and issues concerning careers and growing up. In line with the above, comic book writing develops spirit of team work, creativity and ultimately builds the information literacy skills. The paper explores a practical session of pre-adolescents encounter with comic book writing in a bid to bring out how comic book writing develops information literacy skills among them

Literature Review

Pre-adolescents: An Overview

The pre-adolescents are children between the ages of 10 and 13 years. The pre-adolescents within this range have peculiar characteristics which makes learning very important in their lives. In a study carried out by Uba (2011) and Babarinde (2013) it was found that pre-adolescents struggle with a lot of issues in their lives. Such issues are physical, intellectual and socio-economic which result to storm and stress in their lives. The information needs of pre-adolescents according to Milo (2013) include emotional, social, intellectual, spiritual and creative needs. Odunukwe (2002) stated that during this stage, the mental abilities of

these children undergo developmental changes while Iwuh (2005) noted that it is a transitional period when most children tend to change from being family-oriented in activities and control to being members of their own age groups. Children at this stage can logically deal with abstractions, consider alternative ways of viewing a situation and tolerate ambiguity.

Due to the characteristics in preadolescents, several developmental books are associated with pre-adolescents and this has implication for the acquisition of information literacy skills. In a study carried out by Onyebuchi (2011), it was observed that children tend to improve on their information literacy skills when they learn to create information themselves. Dike, Amuchezi and Ajogwu (2006) noted that through participation in project work children develop literacy skills. These skills are needed by pre-adolescents for lifelong learning, skills such as communicative skills, writing skills, reading skills and creative skills are needed by this group to help them deal with developmental tasks in their lives and to cope with life challenges.

Acquiring Information Literacy by pre-adolescents: the role of Comics

Information literacy is the ability to learn how to learn. Learning is a continuous process and that is why the National Policy on Education 2014 emphasizes life-long education to be the basic of the National's educational policy. Information literacy has been further defined as "the ability to access, evaluate and use information from a variety of sources (Doyle, 1994). From this definition, it entails that there are skills needed for people to be information literate and so certain activities has been designed for children especially pre-adolescents to fosters information literacy skills. One of such activities is comic book writing.

Young people need to be engaged in ways they find exciting and which inculcates a strong desire to learn, think critically and then improve themselves. This has been a major concern of stakeholders in education. To achieve this, the concept of comic book writing was introduced. Comic books have come a long way since their inception more than 75 years ago. Honie (2011) noted that in recent

years, comic book writing has captured the interest of people who want to bring change in the world of education. It has been an art-based learning initiative which introduces children to different literacy skills.

Comic book writing is a conception of idea using images and creating stories around them. According to Terrace (2013), it differs from other literary forms in that the writer guides the efforts of other creators. This process involves activities such as drawing, thinking, visualization, organization etc. Comic book writing helps in fostering skills as well as realizing the aim of lifelong learning. Research shows that many pre-teen and teenager that prefer comic books have potentials for the acquisition of information literacy skills. This is emphasized in the study carried out by Onyebuchi (2018) in using comics to foster creative and critical thinking skills, leadership skill, independent skill, team spirit, etc. Thus, agrees that comic writing promotes creativity in children and this is achieved through the development of storylines that helps them create panels for the writing.

Furthermore, comic book writing makes for better reading; this is achieved through a combination of images in developing thinking and functional skills as they try to figure out how the story line should go. The greatest of it all is that comic book writing engages pre-adolescents physically and mentally so that the cognitive domain is developed in the process. Pre-adolescents have the potentials of acquiring information literacy through comic book writing. Honie (2011) noted that comic books develop good writing skills in pre-adolescents. The author further stated that it fosters emotional and balanced motor skills in children. In addition, Banet (2013) noted that comic book writing promotes visual thinking skill which is achieved through the processes involved in making comic book. It is in view of this that the researches carried out this exercise to see how literacy could be acquired using a hands on approach on comic book writing.

Methodology

The study used a quasi- experimental research design so as to determine the effect of the dependent variable (comic book writing) on

the independent variable (information literacy). This was achieved by observing the attitude of the pre-adolescent groups towards comic book writing. The area of the study was the Children Centre Library. The sample size comprised 60 registered adolescent children ranging from the age of 10-13 years from the entire population. Instruments for data collection were focus group discussion and project assignment. Whereas Narrative interpretation was used to analyze data gathered from the focus group discussion, tables and percentages were used for the achievement performance.

Experimental Procedure

The study was carried out in 3 stages: first, there was a focus group discussion with the pre-adolescent group. The aim was to ascertain whether they had ever heard about, watched or written comics before. The question schedule used for the focus group discussion is as follows:

1. Have you ever heard about comics?
2. Have you watched comics?
3. Have you ever written CB before?
4. If yes, were you interested in CBW?
5. On the course of CBW, was it challenging or difficult?
6. Probe: did you get frustrated along the line?
7. How did you feel when the activity was over? Probe: satisfied, fulfilled, etc?
8. If yes, did you improve on your skills? Prove: visual thinking, communication skill, use of language, etc?

The second stage was carried on the course of the comic book writing. This involved a report of observation gathered during the involvement of the children in the comic book writing. The observation was recorded along with their performance of the third stage. Finally, the third stage was based on their achievement on the project of comic book assigned to them on different topics of interest; the skills which were developed and tested are listed below

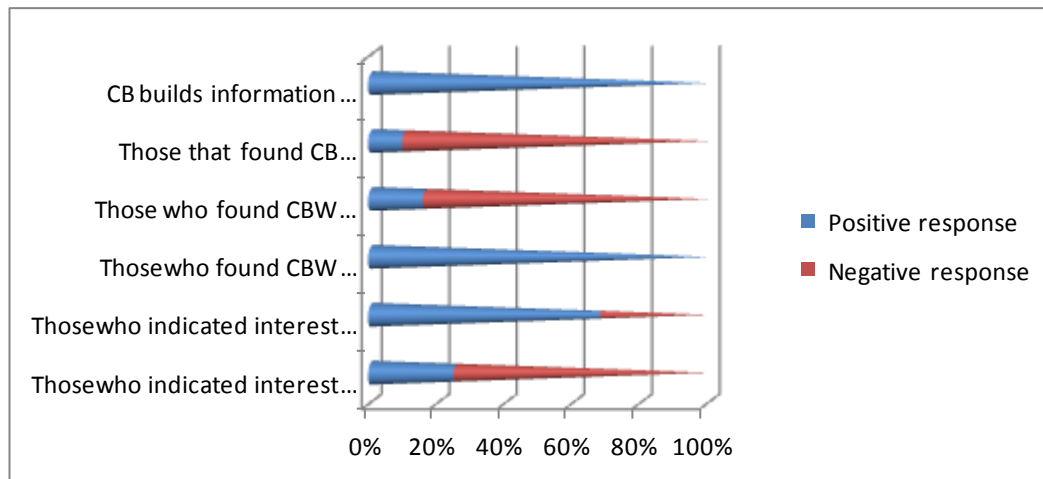
1. Visual thinking- whether they were able to visualize a scene (may be the one they had watched, read before or heard about) and create comic from it.

2. Learning the lingo: whether they were able to learn the basic language rudiment of comic books
3. Plot making: the stories should have a good comic beginning, middle and an end
4. Story scripting: the stories should be in different panels necessary for a good comic book.
5. Language development: the students should build up, develop vocabulary and also allow it to flow along with the story.
6. Drawing skills: they should learn and acquire drawing skills.
7. Creative writing: they should be able to create new ideas, characters, and scenes (events) in the comic book.
8. Communication skills: the comic books should communicate good story (message)
9. Critical thinking: whether they are able to think/reason and create a good story line for the comic

Based on the above skills, points were awarded to the children who exhibited any of the above skills in the comics assigned to them. For a very high performance, 4-5 points were awarded, for average performance, 2-3 points were given and for any who showed a very low sign of skill development, 1 point was awarded.

Analysis of Data

Chart 1: Presentation of Data gathered through focus group discussion



Data presented above show that majority of them do not know anything about comic book writing.

Most of them have watched comic but about 75% have not written any. On their interest in CBW, 68% indicated interest in CBW. For those who have written CB, 20% agreed it was challenging and 16% said it was difficult but all accepted that CBW is quite rewarding. When asked if they got frustrated on the course, 90% of them said yes. For those who have written CB, it was a general agreement that CBW facilitated one's visual thinking, communication skills and the use of language.

Finding through Project Assignment

The following keys were used to show the level of their performance: P- Performed and DP- Did not Perform. Performed was used for illicit data from the achievement test on those who scored higher while "Did not Perform" was used to illicit data from the achievement test on those who had low points. Five (5) points were given generally: 4-5 for HP, 2-3 for AP and 1 for DP. The percentage scores are presented below

Table 1: Presentation of percentage scores of Achievement Test

Skills tested through their CB	P(%)	DP(%)	Total %
Visual thinking	90	10	100%
Plot making	45	55	100%
Story scripting	38	62	100%
Language development	60	40	100%
Drawing skills	80	20	100%
Creative writing	71	29	100%
Communication skills	61	39	100%
Critical thinking skills	55	45	100%

The table shows that on visual thinking, 90% of them scored above average which proves their ability to visualize scene they have watched and make a comic from it. On Plot making, the assessment shows that majority of them (55%) needed more effort to make a story plot with a good beginning, middle and end. Story scripting also gave them problem hence having their stories in panels was an uphill task and about 62% of them did not score reasonably well. On language development, 60% of them scored highly in this area; they were able to exhibit vocabulary usage and make it flow with the story. Drawing skills were also obvious in their comic hence, 80% of them improved greatly in their ability draw.

The pre-adolescents were generally making idea, characters and scenes from their stories; thus, seventy-one percent (71%) of them proved to have learnt the basics of CB and displayed their skills of creative writing in this regard while 29% still needed more effort to improve on that. While 61% of the group did well in communication skills and were able to write CBs that communicate good stories (message), thirty-nine percent (39%) were still battling to acquire and communicate good ideas in their CBs. On critical thinking, majority of the group improved on their reasoning and ability to think out a good story (55%).

This could explain why the children improved on the course of the activity, as observations showed that they were getting more interested in CBW as the programme was on going. The activity was challenging hence, about 80% of the group found it frustrating at the beginning. CBW activity was rewarding and as a result, about 68% of them were noticed to have improved on their ability to communicate ideas. Eighty-five (85%) of them improved

tremendously on their drawing, visual thinking, and language use skills. As for the work given to them, about 89% of them would express signs of difficulty though as they went on with the task, they began to find it interesting.

Conclusion

It has been observed that there is need for pre-adolescents to acquire information literacy skills bearing in mind their characteristics such as developmental tasks and mental ability. For them to be information literate there is need to acquire different skills that will equip and help them in their lifelong learning. One of the ways of doing this is through comic book writing. Comic book has come a long way in making a paradigm shift in teaching and learning of learners especially pre-adolescents.

This study, from the focus group discussion, reveals that though pre-adolescents enjoy watching and reading comic books, they have not been actively involved in writing comic books. However, the programme helped in the acquisition of comic book writing among the pre-adolescents. Thus, the programme proved that acquisition of information literacy skills through comic book writing was made manifest in their achievement tests which was conducted after the CBW programme. In their achievement scores, the visual thinking, drawing skills, creative writing, communication skills, language development and Critical thinking skills were all improved on, above average. Therefore, the need for comic book writing in the acquisition of information literacy cannot be overemphasized.

It is believed that if comic book writing is introduced in schools and other places of learning, it will enhance teaching and learning and ultimately foster the acquisition of information literacy in schools.

Recommendation

From the findings of the study, the researchers recommend the following:

1. Comic book writing should be recommended in both primary and secondary schools.
2. There should also be training and re-training of facilitators of comic book writing.
3. It should be one of the activities for the library periods.
4. Parents should be enlightened in order to inculcate the idea of comic book writing to their children
5. Comic Book Writing should be included in the curriculum.
6. Policy makers and stakeholders of education should consider the importance of comic book writing and incorporate it in the school curriculum

References

- American Library Association and Association for Educational Communications and Technology (1998). *Information Power: Building partnerships for Learning* Chicago: ALA.
- Association of College Research Librarians (ACRL) (2007). *Information Literacy for Faculty and Administrators*. Retrieved from <http://www.ala.org/ala/acr/issues/acr-infolit.fac.htm> on 27th July, 2008.
- Babarinde E. F. (2013). *Socio Economic Factors Affecting the Reading Habit of Junior Secondary School Student of Nsukka Local Government Area*. Unpublished Master's project of the LIS, University of Nigeria, Nsukka.
- Bennel A. (2013). *How do you define comic book*. Retrieved from www.bigredhair.com/work/comic.html retrieved on 2/4/2013.
- Bitz, M. (2010) *When Commas Meet Kryptonite: classroom lessons from the Comic Book Project*. New York: Teachers College Press
- Compton and Skeleton (1986). *A study of Selected Adolescents' Problems*. Vol. xvii. No. 67. Libra Publishers, New York.
- Dianna, H. (2003). *Writing skills for the Adolescents*. Retrieved from www.amazon.com
- Dike, V. W. (1985). *Children's Literature: The Nigeria situation Secondary and young adolescents*. *Nigerian libraries* 21(2) p61-67
- Emejulu, O. (2008) *Comic Book Writing as a Tool for Literacy and Critical Thinking Development: A preliminary study in topical issues in literacy language and development in Nigeria*. International Reading Association. p 87-95.
- Howe, H. (2011) *Reading Comic Books may help students do better School*. Accessed at <http://education-portal.com/articles/reading> Retrieved sept-2013
- Iwuh, I. (2005). *Psychology of Child Development: characteristics of preadolescents*. University Press, UNN, Nigeria
- Milo (2013). *Six basic needs of children, Adolescents and Adults* <http://EzinneArticles.com.expert> 24th April 2014.
- Naillon, B. (2014). *How do comic books promote students' literacy skills? Demand Media*. Accessed at <http://everydaylife.globalpost.com/comic-books-promote-students-literacy-skills-5952.html> on 08/02/2014
- Nigeria (2004). *National Policy on education* 4th ed. Lagos: NERDC.
- Odunukwe, J. (2002). *The Relevance of Nigeria Juvenile Fiction Books to the Developmental Characteristics and Tasks of Pre-dolescents*. Unpublished undergraduate thesis of the Department of Library and Information Science. University of Nigeria Nsukka.
- Onyebuchi, G. U. (2010) *Development of Library Period Programme for Teaching Information Literacy Skills in Primary Schools in Nsukka*. Unpublished Master's Project of the Library and information Science, University of Nigeria, Nsukka.
- Terrace G. (2013). *Comic Booking writing. How to get started and learn the craft*. www.writing.com/fredace.comics.
- Uba, C. E. (2010). *An Analysis of Fiction Literature for Pre-adolescents* Published in South East Nigeria. An Unpublished Master's Project of the department of Library and Information Science, UNN.

Academic Librarians & Continuous Professional Development Programmes in Enugu State, Nigeria

Ngozi E. Osadebe¹, Beatrice O. Ewa² & Ezi O. Njoku³

Nnamdi Azikiwe Library, University of Nigeria, Nsukka

osadebengozi@yahoo.com¹, orieoma.beatrice.ewa@gmail.com², ezinne.njoku@unn.edu.ng³

Abstract

This paper examined the subject of academic librarians and professional development in Academic Libraries in Enugu State, Nigeria. The study is a descriptive survey guided by four specific objectives and one hypothesis. The population of the study is one hundred and sixty-five academic librarians registered with the Nigerian Library Association, Enugu State branch. A structured questionnaire titled, "Academic Librarians and Continuous Development Program (ALCDP)" was used for data collection. The questionnaire was based on the objectives of the study. The questionnaire consists of five clusters, each of which represents an objective of the study. Percentages, means and T-Test were used for data analysis. The findings show that many challenges are hindering librarians in Enugu State from attending continuous professional development programmes. Among these challenges are inadequate government support, lack of support from donor agencies, inadequate facilities to train with and personal financial constraints. The study concluded that sponsorship to CPD programme should not be left in the hands of the individuals concerned and library institutions. Government and donor agencies should take over the sponsorship of librarians to CPD.

Key words: Academic institutions; Academic Librarians; Competencies; Continuous Professional Development; Enugu State; Job related stress; Nigeria.

Introduction

Academic librarians are librarians attached to libraries in academic institutions. Academic Institutions include Universities, Polytechnics, and Colleges of Education. These institutions serve as parent institutions of academic libraries. The academic libraries' responsibility to the parent institution includes supporting research, teaching, learning etc. These responsibilities are carried out through the services of academic librarians, also known as Library and Information Professionals. Adomi & Nwalo cited in Adomi & Famola (2012) posit that the efficiency of any library and Information center depends on the caliber of its staff. As the institution grows, so does the library and also do the demands made on librarians for improved and efficient services. CPD offers a means through which librarians can acquire skills required to offer improved and efficient services to its clients. CPD has been defined as anything done in an organizational manner to improve the productivity, efficiency and well-being of

employees in an organization (Hilderied, 2007).

The importance of CPD to librarians can hardly be over-emphasized. Pan, Jurilin & Hovde (2010) argued that CPD benefits both the individual and the institution. With regards to the individual, the authors opined that the ongoing process of acquiring new information and skills promote job competences for performance upgrades and promotion. The authors further stated that the enhanced competency gained from continuous development programme may reduce job-related stress and increase interest, thereby promoting job satisfaction. With respect to the institution, Shaughnessy cited in Pan & Hovde, posits that professional development programme offers institutions a corporate strategy for dealing with change.

Literatures abound on continuous development programmes for Librarians in European, Australian and American countries. Very few of such literature are available in Africa generally and Nigeria in particular. None of the

available literature to the best knowledge of the researchers dealt with Continuous development and Librarians in Enugu State, thus leaving a gap in extant stock of knowledge on the subject. It is this gap that this work has set out to bridge.

Objectives of the Study

The general objective of this work is to examine Academic Librarians and Continuous Professional Development Programme. Specifically, the work will;

1. Identify the professional development programmes available to librarians in Enugu State, Nigeria.
2. Identify circumstances that give rise to the need for professional development among Librarians in Enugu State, Nigeria
3. Identify the organizations responsible for conducting professional development programmes for academic librarians in Enugu State, Nigeria
4. Examine institutional support given to academic librarians in Enugu State, Nigeria to attend professional development examine the challenges to continuous development of librarians in Enugu State.

Hypothesis

There are no significant differences in the type of Institutional support received by librarians for professional development in Universities, Polytechnics and Colleges of Education in Enugu State.

Literature Review

There are various types of Continuous Professional Development (CPD) programmes available to library and information professionals. Cortez, Britz & Kigongo-Bukenya (2008); and Saka & Ibrahim (2012) identified seminars, clinics, workshops, study tours, conferences, orientation programmes, organized visits, participatory management, formal professional library education and short specialized or tailored courses as some of the professional development programmes available to librarians in sub-Saharan Africa. Adomi & Famola (2012) observed that cataloguers in the National library of Nigeria, Abuja attend Library and Information Science

conferences mostly. The authors attributed this to many reasons, among them is to keep pace with developments in the field and network with professional colleagues. Smith (2001) observed that Australian University Libraries have a preference for staff development programmes that can be undertaken in-house. The author further stated that this, in part appears to be due to the need to economize funds and make the most effective use of staff development budget. Pan, Jurilin & Hovde (2010) noted that in-house training has the advantage of staying in-house and easy coordination between trainer and trainee, with minimal disruption on normal work schedules. The authors included peer coaching- which provides opportunity for staff to learn from each other, research & writing groups and online forums as professional development programmes which librarians can learn from. Kuyper-Rushing (2001) observed that in Louisiana State Library, USA, a one-on-one mentoring programme was established by the library. In the Library continued the author, tenure and tenure-track librarians are paired to support the latter towards tenure and promotion. Tamaszewski & MacDonald (2009) included virtual conferences as CPD available to librarians in USA.

Differing situations give rise to the need for CPD in organizations, including libraries. Smith, (2001) posits that the introduction of new services and technologies has led to flow-on for CPD. The author explained that the introduction of Information and Communication Technology (ICT) has given rise to CPD to enable staff to develop skills in operating the equipment while the introduction of new services like Information literacy and Knowledge Management has resulted in a need to develop these teaching skills among staff. Smith further observed that staff review and restructuring either within the library or as part of a broader organizational restructure, has placed increased emphasis on staff development as a component of effecting such change. As it relates to the introduction of ICT in libraries, Ugwuoke (2012) argues that the introduction of ICT in the workforce using the Digital Nervous System (DNS) approach has necessitated re-training of workers. The author stated that initially computers were applied to existing organizations in a manner that enabled

the staff of the organizations to do things more efficiently but in line with what they had been doing before. In that approach, the author continued, workers dictated how work should be done. The author further observed that with the introduction of technology in offices using the DNS approach, technology dictates how the work processes should be carried out. The author therefore states that any professional who is not equipped with adequate ICT skills automatically becomes a misfit. Cortez, Britz and Kigongo-Bukenya (2008) found out that the need to attend CPD might arise as a result of the urge to be proactive in addressing the problem of outdated knowledge, competencies and skills that occur constantly in the profession. Pan, Jurilin & Hovde (2010) observed that the need to familiarize new recruits with the institutional identity might give rise to CPD. The authors opined that new hires, whether fresh from school with a recent curriculum, or with the advantage of years of practical experience, need to be exposed to the institution's unique identity. This is composed of organizational structure, types and arrangement of information resources, clientele characteristics and needs, and international relations, befitting the workplace culture. The authors further opined that the need for CPD might as well result from institutional requirements for promotion and the quest to learn how to write research papers.

Various interests groups are responsible for providing CPD in Libraries. Smith (2001) observed that between 1985 & 2001, staff development needs of the Australian Library and Information Services sector were served by non-profit organizations. Pan, Jurilin & Hovde (2010) stated that providers of CPD may include professional associations such as Australian Library Association (ALA); educational institutions and private vendors of library products and systems. The authors stated that there are other providers of CPD such as private firms and private consultants that generally focus on specialized short courses. In Nigeria, Damachi (2010) observed that there are quite a number of Universities (Private, Federal and State owned) as well as polytechnics that serve as training and development centers. These the author continued, are in addition to the various

institutes and training establishments created by Nigerian Federal Governments.

Institutions support CPD in various ways. Houle, cited in Smith (2009) observed that funding for CPD can come from four sources – individual professionals engaged in CPD, society at large through taxes, companies that employ the professionals and associations, commissions and other organizations that involve professionals in a collective sense. Smith (2009) and Carey (2001) posit that in the United States of America (USA), some educational institutions attach so much value to their librarians CPD that they support it financially and through release time. In Australia, Smith, (2001) pointed out that academic libraries provide incentives for their staff to attend CPD. The incentives, according to the author include, paid time granted to attend CPD; payment of course fees for approved study programmes and the like and provision of *per diem* payments and / or travel allowances. In European countries such as Denmark, Finland, Hungary, Norway and Switzerland, Darling-Hammond, Wei, Andree, Richardson and Orphanos (2009) pointed out that one of the key structural supports for teachers engaged in professional development is the allocation of time in the work day and week to participate in CPD. The authors further stated that in countries such as South Korea, CPD is made compulsory for teachers. In such countries continued the authors, teachers must take 90 hours of professional development courses every three years. Also after three years on the job, teachers are eligible to enroll in a government approved five- week (180 hour) CPD to obtain an advanced certificate which provides an increase in salary and eligibility for promotion. In Nigeria, Imo State precisely, where there are both a federal and a state owned university, Ukwuoma & Akanwa (2008) discovered that at the state university, academic librarians are not sponsored for CPD instead, the responsibility of CPD rests with the individual staff involved while at the Federal University of Technology, Owerri, at the same Imo State, the authors discovered that the institution sponsors staff members that are on study CPD. Pan, Jurilin & Hovde (2010) argued that in addition to provision of funds and release time, academic Libraries can support staff on CPD in a variety

of others ways which includes, bestowal for positive evaluation for achievement and conferment of structure to the whole process in terms of recognizing individual need for training, defining the objective of the training and providing opportunity for the individual to attend the training.

Many factors hinder librarians from attending CPD. Cortez, Britz and Kigongo-Bukenya (2008) identified lack of vigorous government support due to a feeling of low political gain by government in power from library and information systems and services as compared to other popular social institutions, a shift in the interest of donor agencies from library and information service and systems to the new topical priorities such as HIV/AIDS, Maternal mortality etc. In Nigeria precisely, Ukwuoma & Akanwa (2008) stated that challenges faced by librarians attending CPD include problem of managers who do not give adequate support, inadequate funding, lack of clearly articulated development policy, personal financial constraints and inadequate training facilities. The authors further observed that lack of feedback from people sponsored for CPD to library management or feedback that is not commensurate with the spending on CPD hinders institutions from sponsoring people to CPD. Edom & Edom (2013) added unrelatedness of some CPD programs to the areas of interest of the librarians and needs of the library.

Methodology

The study is a descriptive survey and aims to describe continuous professional development opportunities open to Librarians in Enugu State. Nworgu (1991) posits that a descriptive survey describes events as they are without any manipulation of what is being observed. This design is therefore deemed appropriate for this study. The area of this study is Enugu State, Nigeria. Enugu State is made up many academic institutions. These include six Universities, 5 polytechnics/monotechnic and three colleges of education. Population of the study consisted of 165 academic librarians registered with the Nigerian Library Association, Enugu State Chapter. There was no sampling. The whole population was used. Since the research involved a small number of people (165). The whole population should be

used in a research involving a manageable number of people (Eboh, 1998).

The Data Collection Instrument

The data collection instrument was a questionnaire constructed by the researchers based on the objectives of the study. The instrument was validated by three lecturers of Library and Information Science, University of Nigeria, Nsukka. The validated instrument was trial tested on the staff of Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria. The trial test was computed by the Cronbach's alpha method of internal consistency and reliability. The reliability coefficient was 0.81 which showed that the instrument is highly reliable. The questionnaire had two sections, A and B. Section A was based on respondents' demographic information while section B has five clusters and was based on the research topic. Each cluster of section B represents a research question. Cluster one was based on "available and not available" option while clusters two to five were based on a four point scale of SA=Strongly Agree; A= Agree; D=Disagree; SD= Strongly Disagree. One hundred and sixty-five copies of the questionnaire were administered to academic librarians working in Enugu State. The questionnaire was dispatched to various academic libraries in the State through the help of research assistants recruited and trained for that purpose. Of the One hundred and sixty-five copies of the administered questionnaire, one hundred and twenty-seven were filled and returned, giving a response rate of 77%. All the one hundred and twenty-seven copies of the questionnaire were found usable. Analysis of data was done using percentages and mean scores. Percentages of 50 and above were considered a popular opinion agreed upon by respondents. Mean scores of 2.5 and above were considered popular opinions agreed upon by respondents also. Items agreed on are denoted by (A) while those not agreed on are denoted by D (Disagree) One hypothesis was postulated for the study and was tested with t-test @ 0.5 level of significance.

Findings

Characteristics of Respondents

Collation of distributed questionnaire shows that 47.7% (61) of the respondents are from University Libraries; 24.5% (31) from Polytechnic Libraries; 5.7% (7) from Monotechnic libraries and 23% (29) from College of Education (COE) Libraries. 45% of the respondents are males while 55% are females. 35.5% of the respondents are within the 25-34 year age range; 32.3% are within the 35-44 year age range; 19.4 % are within the 45- 54 year age range and 13% of the respondents are within the 55-64year age range. None of the respondents is within the 65 and above .age bracket The respondents held various educational qualifications. These include Diploma (9.4%), HND (9.4%), BLS (28.1%), MLS (43.8%) and PhD (9.4%). The years of experience of the respondents varies also. Those within 0-5years make up (21.9%); 6-10years: 25%; 11-15years:18.8%; 16-20years: 12.5% and 21 and above: 21.9%.

Types of CPD available to Librarians in Enugu State

The most widely accepted CPD available to librarians is Conferences. This was attested to by 99.1% (120) of the population, followed by Seminars 91.3% (117), workshop 88.6% (113), Orientation 77.1% (99), Organized visits 66.6% (80), Mentoring 58.8% (75), Virtual Conference 56.2% (72), Formal Professional Library Education 54.8% (70) and Peer coaching 53.1% (68). Clinic as a professional development programme is not widely available in Enugu State. It scored 45% which is below the decision rule of 50%.

Mean scores of situations that might give rise to CPD in academic libraries in Enugu State.

Among the responses, introduction of new technologies ranked highest with a mean score of 3.6 and standard deviation of .647. This was followed by the need to upgrade people's knowledge and the need to gain promotion with mean scores of 3.4 each and standard deviation scores of 1.197 and .922 respectively. To formalize new recruit with the institutional identity and the need to learn how to write research paper ranked third with mean scores of 3.3 each and standard deviation scores of 1.118 and 1.130 respectively. Staff reviews and staff restructuring ranked fourth with mean scores of 3.0 each and standard deviation of 1.301 and 1.224 respectively.

Introduction of new service ranked fifth with a mean score of 2.9 and standard deviation of 1.197. However, the high scores of standard deviation (scores above 1) in factors like the need to upgrade peoples knowledge, the need to formalize new recruit with the institutional identity, the need to learn how to write research papers, staff reviews and staff restructuring show that all respondents do not share the same opinion.

Mean scores of organization responsible for organizing CPD in academic libraries in Enugu State, Nigeria

Educational Institutions ranked highest among the organisations responsible for organising CPD with a mean score of 3.3 and a standard deviation of .875. It was followed by Professional Associations with a mean score of 3.1 and standard deviation of .971, Private consultants and University of Nigeria library paired to rank 3rd with mean scores of 2.8 each and standard deviation of .886 and .875 respectively. Non profit organisations and Private vendors of library products and systems ranked 4th with mean scores of 2.5 each and standard deviation of .948 and 1.394 each. Private firms are not considered among institutions that organise CPD in Enugu State. It ranked sixth with a mean score of 2.4 and standard deviation of 1.074. The low standard deviation scores of educational institutions, professional associations, private consultants, University of Nigeria library and non-profit organisations show that the respondents' opinions on those items are not far apart. The high standard deviation scores (scores above 1) of private vendors of library products and system; and private firms suggest that there are divergent opinions in those areas.

Mean response of institutional support for CPD in academic libraries in Enugu State

From the data gathered, providing opportunity for people to attend CPD ranked highest with a mean score of 3.5 and standard deviation of .733. This was followed by recognising individual need for CPD with a mean score of 3.3 and standard deviation of .945. Defining the objective of CPD training ranked third with a mean score of 3.2 and standard deviation of .666. Financial support from library and making it mandatory requirement for promotion paired to rank fourth with mean

score of 3.1 each and standard deviation of 1.054 and .875 respectively. Likewise, release time to attend and attaching strong importance to CPD paired to rank fifth with mean score of 3.0 each and standard deviation scores of 1.080 and .788 respectively, making it mandatory for staff to attend ranked sixth with a mean score of 2.5 and standard deviation of 1.154. Note should be taken of the high scores of standard deviations in some of the items, indicating that though the items met the agreed mean of 2.50, not all the librarians share the same view on the responses.

Factors militating against librarians’ attendance of CPD in academic libraries in Enugu State.

Among the responses gathered, lack of support from government, personal financial constraints and inadequate training facilities

ranked highest among the factors that militate against CPD in Enugu State with mean score of 3.4 each and standard deviation of 1.269, 1.224 and .726 respectively. Lack of support from donor agencies followed with a mean score of 3.3 and standard deviation of 1.301. Lack of interest in CPD by library managers and lack of written staff development policy in libraries ranked third with mean scores of 3.0 each and standard deviation of 1.130 and .971 respectively. Lack of feedback from participants in CPD to management ranked fourth with a mean score of 2.6 and a standard deviation of .991. The high scores of standard deviations (Scores above 1) in some of the items indicates that though the items have high mean scores, there are divergent [of] opinions on those items.

Table 1: Test of Hypothesis

Differences in Institutional Support given to Academic Librarians in Universities, Polytechnics and colleges of Education in Enugu State.

	Sum of squares	df	Mean Square	F. cal	F. critical (Sig.)	Decision
Between groups	.402	2	.201	.622	.541	Reject
Within Groups	13.548	42	.323			
Total	13.950	44				

Table 2. Post Hoc Test (Sheffe test)

Multiple comparisons

(i)Institutions	(j) Institution	Mean Difference (I-J)	Std. Error	Sig.
Universities	Polytechnics	-.00781	.42351	1.000
	COE	.23524	.21786	.659
Polytechnics	Universities	.00781	.42351	1.000
	COE	.24306	.45744	.945
Colleges of Education (COE)	Universities	-.23524	.21786	.659
	Polytechnics	-.24306	.45744	.954

Test of hypothesis (table 1) in institutional support given to Academic Librarians in Universities, Polytechnics and colleges of Education in Enugu State show that F calculated (.622) is greater than the F. critical (.541), at 0.05% level of significance, this shows that there is a significant difference in the type of support given to academic librarians in Universities, Polytechnics and Colleges of Education for CPD. The null hypothesis which states that there is no significant difference in the type of support given to academic librarians in Universities,

Polytechnics and Colleges of Education is therefore not accepted.

Post hoc test on the result of the hypothesis (Table 2) shows that the significant value is still higher, @ 0.05 level of significance in all three types of institutions under study. This indicates that, when compared with each other, there are significant differences in the institutional support given to academic librarians in the institutions for Continuous Professional Development.

Discussion

The most common professional development programmes among librarians in Enugu State are Conferences (94.1%), Seminar (91.3%) and workshops (88.6%). These are followed by orientation programmes (77.1%) and organized visits (66.6%). These are among the programmes which Cortez, Britz and Kigongo-Bukenya (2008); Edom & Edom (2013); Katamba & Ibrahim (2012) observed exist in other sub-Saharan African countries. Though items 4, 8,9,10, 11,12 and 13 measure up to the 50% benchmark for Agreed, their scores are relatively low being in the 50's. The low scores may suggest that the programmes are not available at majority of the libraries. Among the items with low scores are mentoring and peer coaching which Smith (2001) observed, that libraries in Australia have preference for because they attract less cost. It is surprising that libraries in Enugu State, Nigeria, a developing nation, have less preference for such a cost saving service.

The study reveals that chief among the factors that can give rise to CPD in libraries is the introduction of new technologies. As emerging technologies find their ways into academic libraries, so is the need to acquaint staff with their use. Ugwuoke (2012) posits that the introduction of ICT to the workforce using the Digital Nervous System (DNS) approach has necessitated re-training of workers. The author argued that any worker, who is not adequately equipped with ICT skills for operating in the new environment, automatically becomes a misfit. Though introduction of new technologies scored highest as a situation that might give rise to CPD in organisations, it is surprising that virtual conferences which emerged as a result of new technologies in libraries, is not among the very prominent forms of CPD among librarians. This suggests that librarians do not put the knowledge gained from CPD into practice in their institutions. It may also suggest that many academic libraries are not connected to the internet as virtual conferences are internet based. It may as well suggest that librarians in Enugu State are not aware of the existence of virtual conferences.

This study also reveals that private organisations are not at the fore front in organizing CPD for librarians in Enugu State.

This may not be unconnected with the fact the librarianship is still a growing profession in Nigeria compared to other professions like Medicine and Law. The absence of private firms in the organization of CPD for librarians may have forced the professional association to take up the lead. This finding contradicts the findings of Pan, Jurilin & Hovde (2010) in Australia where private firms are a part of organisations that provide CPD for librarians.

This study further revealed that support given to librarians to attend CPD from their institution is of various forms as in other countries of the world such as Finland, Denmark, Australia etc. (Smith, 2009; _ and Carey 2001). This finding is consistent with that of Pan, Jurilin & Hovde (2010) which posits, that in addition to provision of funds and release time, academic libraries can support staff on CPD in a variety of other ways which include, bestowal for positive evaluation for achievement and conferment of structure to the whole process in terms of recognizing individual need for training, defining the objective of the training and providing opportunity for the individual to attend the training. It is worthy to note, that from the findings of the study, Government is not involved in the sponsorship of CPD in Enugu State.

Challenges faced by librarians in Enugu State in attending CPD are comparable to the ones experienced by librarians in every other Sub-Saharan African Country. As Cortez, Britz and Kigongo-Bukenya (2008) observed, lack of vigorous government support due to low political gain by government in power from library and information systems and services, compared to other popular social institutions, a shift in the interest of donor agencies from library and information service and systems to the new topical priorities as HIV/AIDS, maternal mortality etc are some of the problems affecting CPD in Sub-Saharan Africa.

Comparison of institutional support for CPD in three types of academic libraries (university, polytechnic and college of education libraries, tables 1 & 2) in Enugu State, Nigeria reveals that there is a significant difference in the type

of institutional support given for CPD by these libraries. This finding is consistent with that of Ukwuoma & Akanwa (2008) in which it was discovered that Imo State University Library does not support its staff financially on CPD instead, the responsibility of CPD (the financial cost) rest with the individual staff involve while the Federal University of Technology, Owerri sponsor their staff to such training.

Conclusion

There are various forms of CPD programmes available to academic librarians in Enugu State. The most widely recognized ones include conferences, seminars, workshops and orientation programmes. There are also various reasons for embarking on CPD programmes by academic librarians and libraries. These include introduction of new technologies and the need to gain promotion amongst others. Institutional support by libraries for CPD in Enugu State exists in the form of providing opportunity for people to attend and recognizing individual staff need to attend amongst others. Librarians in Enugu State striving to attend CPD are confronted with a host of challenges. Chief among these challenges are lack of support from government, personal financial constraints and lack of training facilities.

- **Implication to practice:** Sponsorship to CPD programmes should not be left in the hands of the individuals concerned and library institutions. Rather government and donor agencies should take over the sponsorship of librarians to CPD. Otherwise, individual sponsorship may force people to look out for programmes that are less costly and which may not even be very useful in the performance of their duties.
- **Implication to policy:** Many academic libraries in Enugu State have no policy guiding CPD. There is therefore, need for a well documented policy for CPD.
- **Future Research Directions:** There is need for further investigation on why there are no official documentation on staff development policies in academic libraries in Enugu State.

Recommendation

1. Academic librarians in Enugu State should adjust themselves to mentoring, peer coaching, virtual conferences and participatory management which are very effective and less costly than workshops and conferences.
2. Government and donor agencies should complement the efforts of library institutions by providing funds to support CPD.
3. Librarians who are sponsored to CPD should give adequate feedback in the form of a written document to library management, their sponsors.
4. Library management should create a forum in which staff who have attended CPD would share their experiences with other staff of the library.
5. Library management should, as a matter of urgency, develop a well articulated policy document for CPD in their institutions.

References

- Adomi, E. E & Famola, M.O. (2012). Training and development of cataloguers in National Library of Nigeria. *Nigerian Libraries* 45(1), 68-77.
- Carey, S.(2001). "Faculty rank, status & tenure for Librarians". *College and Research Library News.* 62(5), 510 – 511 & 520.
- Cortez, Edwin M; Britz,Johannes & Gigongo-Bukenya, Isaac (2008) Strategies for Continuing Professional Development of LIS Faculty in Sub-Saharan Africa". A paper presented at *the World Library & Information Congress: 74th IFLA General Conference and Council*. 10-14 August, 2008. Quebec, Canada.
- Damachi, Ukandi G. (1987) *Human Resource and African Development*. London. Praeger Publishers
- Darling-Hammond, Linda, Wei, Ruth C, Andree, Alethea, Richardson, Nikole and Orphanos Stelios (2009). *Professional Learning in the Learning Profession*. Unites States. National Staff Development Council.

learningforward.org/docs/pdf/nsdcestudy2009

- Eboh, E.C (1998) *Social and Economic Research. Principles and Methods*. Owerri. Academic Publications and Development Resources Ltd. 37-60.
- Grumling, Dennis K. & Sheehy, Carolyn A. (1993). Professional Development Program: Training for success within Academic Librarianship. *College and Research Libraries*. 54, 17-24.
https://www.ideals.illinois.edu/bitstream/handle/2142/41662/crl_54_01_17_opt.pdf?sequence=2&isAllowed=
- Holderied, A. (2007). Staff Development Ideas to Improve Quality of Job Performance and Satisfaction. Association: *The Electronic Library Support Staff Journal*. Vol. 14: ibres.uncg.edu/ir/uncp/f/stafftraining2_antonyholderied.pdf
- Katamba, Abubakar and Ibrahim, Haruna. (2013). Relationship between Staff Development and Job Performance among personnel in branch libraries, University of Maiduguri, Nigeria. *Mediterranean Journal of Social Sciences*. Vol. 4, no5. http://mcseser.org/journal/index.php/mjss/article/viewFile/654/pdf_14
- Kuyper-Rushing, Lois. (2001). A formal Mentoring Program in a University Library: Components of a successful experiment. *Journals of Academic Librarianship*. . 27, 440-446.
<http://www.sciencedirect.com/science/article/pii/S0099133301002580>
- Pan, Junlin & Hovde, K. (2010). Professional Development for Academic Librarians: Needs, Resources & Administrative Support. *Chinese Librarianship: An international Electronic Journal*. www.white-clouds.com/iclc/cliej/cl29PH.pdf
- Saka, Katamba A. & Haruna, Ibrahim. (2012). The relationship between Staff Development & Job Performance in Academic and Research Libraries, University of Nigeria, Maiduguri, Nigeria. *Proceedings of the 12th Annual Conference/ Annual General Meeting of the Nigerian Library Association (NLA) Enugu State Chapter*.
- Smith, Gregory A. (2009). The Professional Development of Academic Librarians. How should Institutions Contribute to the Process. *Faculty Publications & Presentations*. Paper 44.
http://digitalcommons.liberty.edu/lib_fac_pubs/44
- Smith, Ian W. (2001). *Staff Development & Continuing Professional Education. Policy and Practice in Australian Academic and Research Libraries*.
<http://archive.caul.edu.au/surveys/staff-development2001smith.pdf>
- Tomaszewski, Robert & MacDonald, Karen L. (2009). Identifying Subject Specific Conferences as Professional Development Opportunities for the Academic Librarian http://scholarworks.gsu.edu/cgi/viewcontent.cgi?article=1039&context=univ_lib_fac_pub
- Nworgu, Boniface G. (1991). *Educational Research. Basic Issues and Methodology*. Owerri: Wisdom Publishers
- Ugwoke, Felicia N (2012). The need for IT Skills Acquisition & Staff Retraining in Nigerian Universities. *International Journal of Research & Advancement in Education Methods*. Vol 9, no.1, 6-9.
- Ukwuoma, Scholar C & Akanwa, Pearl C. (2008). Human Development Programmes in Nigerian Academic Libraries: A comparative study of Universities in Imo State. *Samaru Journal of Information Studies*. 8:2, 38-47.
<http://www.ajol.info/index.php/sjis/article/view/44830/2832>

Application of Information and Communication Technologies on Library Services in University Libraries in Nigeria: Contemporary Issues and Prospects

Ode, I Moses¹ & Ode, U Alice²

Medical Library, Benue State University, Makurdi, Nigeria¹, Benue State Polytechnic, Nigeria²
ijoko_2d4@yahoo.com¹

Abstract

Computerization and globalization of library resources and services is an imperative of modern university libraries. Application of ICT in university libraries provides a premise for efficiency and effectiveness of library services and functions. This paper discusses the concept of ICT in library services and operations as the use and application of computers and other technologies in acquisition, storage, processing, retrieval, transfer and dissemination of information. It examines the state of automation project in university libraries, and discovers that many university libraries are yet to computerize and globalize their resources and services. The impact of ICT on library services results in the efficiency, effectiveness of services, speed of technical processing activities and information services. The challenges of expertise, funding among others were discussed. These challenges could be surmounted when proactive and progressive actions are taken by the authorities concerned to put in place modalities that will enhance ICT application in library services and functions. Recommendations such as massive injection of funds to support ICT project, involvement of practicing librarians in the training of personnel in the knowledge of ICT competencies among others were made as the way forward.

Keywords: Information Communication Technology Library automation, Library Services and University libraries.

Concept of Information and Communication Technology (ICT)

Information and Communication Technology (ICT) is a comprehensive concept and parallel concept with Information Technology (IT) that denotes not only a single unit of Technology but an ensemble of techniques like telecommunication equipment, data processing equipment, consumer electronics etc. The concept has brought a phenomenal change in the information collection, preservation and dissemination scene of the world.

ICT incorporates a range of technologies used to support communication and information. They stress that ICT includes both networks and applications. Networks include fixed wireless, satellite Telecommunications, and broadcasting networks. They further opine that the well known applications

Introduction

With the intervention of information and communication technology, libraries now use

various types of technologies to aid the services they render. Every day, new technological advances affect the way information is handled in the libraries. Libraries in every aspect feel the effect of new technologies. Computing technology, communication technology, and mass storage technologies are some of the areas of continuous development that reshape the way that libraries access, retrieve, store, manipulate and disseminate information to users (Itsekor & Ugwunna, 2014).

The benefits of the application of ICT are numerous but it is mainly used in converting the existing paper-print records in the entire process of storage, retrieval and dissemination to non - print media. ICT has impacted on every sphere of academic libraries actively especially in the area of the library collection development strategies, library building and consortia. ICT presents an opportunity to provide value-added information services and access to a wide variety of digital

based information resources to their clients. Also, libraries are using modern information and communication technology to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local content and digital libraries (Ezechukwu & Egbe, 2018).

Concept of Information and Communication Technology (ICT)

Information and Communication Technology (ICT) is a comprehensive concept and parallel concept with Information Technology (IT) that denotes not only a single unit of Technology but an ensemble of techniques like telecommunication equipment, data processing equipment, consumer electronics etc. The concept has brought a phenomenal change in the information collection, preservation and dissemination scene of the world ICT is defined as the use and application of computers, telecommunications, and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information (Shariful & Nazmul, 2006). Hamelink in Shariful & Nazmul (2006), provides a useful and clear definition of information and communication technology (ICT) as those technologies that enable the handling of information and facilitate different forms of communication. These include capturing technologies (CD-ROMS) processing technologies (application software), communication technologies (Local Area Network) and display technologies (computer monitors)., communication technologies (Local Area Network) and display technologies Obebe in Odede & Enakerakpo (2014), posits that ICT is a short term for computers, software, networks, satellite links and related system that allow people to access, analyze, create, exchange and use data, information and knowledge. ICT incorporates a range of technologies used to support communication and information. They stress that ICT includes both networks and applications. Networks include fixed wireless, satellite Telecommunications, and broadcasting networks. ICT has brought unprecedented changes and transformation to academic libraries and information services.

Conventional library and information service and customer relations can be provided more efficiently and effectively using ICT as they offer convenient time, space, cost effectiveness, faster and most up to date dissemination and end user involvement in the library and information service process.

University libraries are those libraries that are in universities as higher institution of learning to collect, organize, preserve and store information for the use of users. These are used by students, teachers and others for educational purposes to enhance education, assist both students and teachers achieve their educational objectives. They provide conducive environment for studying and enhancing reading as a habit (Okoye, 2005).

With the advent of information are the Internet, database management system and multimedia tools. According to them, by implication, in holistic understanding of ICT, it includes the consideration of telecommunication policies, information policies and human resources development policies. Thus ICT is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information (Sharifu & Nazmul,

2006). Hamelin in Sharifu and Nazmul, (2006) provides a useful and clear concept of ICT as those technologies that enable the handling of information and facilitate different forms of communication that include capturing technologies, storage technologies, processing technologies and communication technologies. Thus, the concept of ICT can be termed as the use and application of computers, telecommunication and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information. Moursund (2005) & Nwosu (2013) opine that the field of information and communication technology (ICT) combines science technology that include a full range of computer hardware and software, telecommunication and cell phones, the Internet and the web, wired and wireless networks, digital and camera robotics. It also includes the field of computer and information science and a huge and rapidly growing knowledge base that is being developed by practitioners and researchers. ICT has proven to be a valuable aid to solving problems and accomplishing tasks in business, industry,

government, education and many other human endeavours.

Ebijiwa (2002) defines ICT as tools used for collection, processing, storage, transmission and dissemination of information. With the advances in ICT, electronic information resources such as e-books, e-journals, CD-ROMS databases, OPAC, online databases and the Internet have launched the world into an information age. As such, no institution or organization can still rely on only traditional printed information resources to perform effectively and efficiently. To the libraries, ICT is a significant development that provides tools for managing the quantum of information generated for modern society. ICTs are significant in the achievement of library and information science educational goals/objectives and the fulfillment of the tasks of library and information science schools. Sutton (2001) & Athanasius (2018) observe that the changes brought into the LIS profession by ICTs can be divided into two major categories, namely, the natural evolutionary changes and transformational changes. As natural evolution, the library and information science profession has harnessed ICTs to perform old tasks better through the automation of housekeeping tasks such as reference work, bibliographic services, cataloguing, serials, circulation and acquisition which are performed more efficiently in an ICT environment. Transformational changes include the emergence of new functions arising out of an expanded demand-driven information society wider and closer focus on user needs.

US Department of Trade and Industry in Nwana (2008) defines ICT as the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numeric information by a micro-electronic based combination of computing and telecommunication and as the technology applied to capturing and transmitting information by electronic means. ICT is the link between computer networks and telecommunication technologies. Uzoigwe in Nwana (2008) is of the opinion that ICT involves all the technologies employed to facilitate the collection, storage, retrieval and communication of information by the fastest means. It consists of hardware, software, networks and media for collecting, storing,

processing, transmission and presentation of information.

Nwana (2008) defines ICT in the following ways:

- a. ICT is defined as the science of information processing which deals with the use of computer and other electronic devices to collect, process, store, retrieve and transmit or disseminate information to any part of the world.
- b. ICT is the science of information that deals with computerized collection of resources of information, processing, transmission and dissemination of information, knowledge, facts and news through radio, television, satellites, and cable transmission, telephone, audio cassettes, audio-visual/video cassettes and video disks.
- c. ICT is any computer-based tool, equipment or gadget which can be used to collect and process information, support and manage the information needs of an organization, corporation, Industry and Institutions.

She states further that ICT is the automated and computerized form of collecting, typing, filing, copying, processing, analyzing, storing, retrieving and using information for problem-solving and decision-making in every aspect of human endeavour.. It involves the integration of word processing, graphics, images and voices, data processing and standard telecommunication systems for multisystem processing of information and use. ICT makes it easy to use potentials and capabilities of electronic computers and modern information systems for communications, connectivity and interconnectivity in the area networks in use.

Our present age is referred to as the age of information technology where ICT as machine-based is used for gathering and processing information for storage, retrieval, transmission and dissemination. In the age of globalization, the importance of ICT to people generally and information professionals in particular cannot be overemphasized because ICT facilitates quick and easy access to a wide range of information resources to meet information needs. If they are not put to effective use, the

essence of acquiring them has no justification (Nwosu, 2013).

Present Situation of Automation of University Libraries in Nigeria

The process of library automation has come a long way over an uncertain and unpredictable path since 1930s when a few libraries began to incorporate IBM equipment into the circulation procedures (Adegbore, 2010). The evolution of technology is defined by developments in science and technology that create new modes of application. Moulton (1998) stresses that the convergence of ICT in libraries has led to technological, organizational, and social change that has reshaped what we do and how we do things.

A number of studies have been conducted on the application of ICT in University libraries in Nigeria. They include that of Adegbore, (2010), Agboola (2000), Ajala (2001), Abbas (2014) Hussaini, Vashistha, Jimoh and Jimah (2017), Ezechukwu and Egbe (2018, Oladukun and Kolawole (2018). All of these studies have agreed that serious effort in the application of ICT to library processes started in Nigerian University libraries in the early 1990s. Individual efforts at library automation such as the one by the University of Lagos, University of Ibadan and ABU in the mid '70s and '80s failed largely because of lack of technical knowhow relating to software development and maintenance of hardware. Agboola (2010) states that, the greatest impetus to library automation in Nigerian University libraries so far came from World Bank project. The World Bank gave automation in the University libraries as one of its conditions for support, and as a result, the National University Commission (NUC) presented one computer and a four-user local area network version of TINLIB (The information Navigator Software) to each of the participating libraries in 1992.

Recent surveys carried out by Oladokun and Kolawole (2018), Ezechukwu and Egbe (2018), show that application of ICT in libraries is gradually taking firm root in Nigerian University libraries. In Nigeria, the first attempt to automate library operation was made in 1970s where omoniwa (2001) reports that the first successful effort; the automation

of serial records in 1972 and secondly, circulation operations in 1976 at ABU library were made. Most notable research libraries in Nigeria have gone far in the computerization project after these efforts. The successful and most comprehensive computerization project of an indigenous Nigerian library was that of the International Institute of Tropical Agriculture (IITA) library Ibadan which was accomplished in 1984 (Abbas, 2014). The hasty effort of academic libraries to catch up with their counterparts in the developed world stirred the way most University library automation started in Nigeria but however left the projects at various stages of development. Such efforts enhanced by National University Commission (NUC) aimed at computerizing library services across the country turned to be a farce with none of the libraries fully automated.

According to Abbas (2014), ABU and Ibadan that are in frontline of automation project in University libraries have not completed full automation of all library services. ABU had not completed any of the modules necessary for full automation, while University of Ibadan had completed one module (cataloguing). He stresses that all modules were partially implemented in ABU, meaning that not all parameters or sub-modules were in operation, while in UI only one module (cataloguing) was implemented to the fullest. Two modules (acquisition and serials) were partially implemented and the remaining two (reference and circulation) were still at proposal stage, meaning that none of the parameters/ sub-modules have been implemented or even used for information service or delivery.

The research of Abbas (2014) supported with data records contradicted other literatures reviewed in the course of the research where some of the literatures claimed that University of Ibadan had completed its automation programme since two decades while another literature claimed that ABU had completed automation of its services contrary to this record. Supporting this view, Ezechukwu and Egbe (2018) assert that most University libraries have not been able to automate all their operations due to varying factors. Thus, library users are still unable to experience the ease of service expected through automation in

University libraries Only some foreign owned or sponsored libraries like IITA, British Council library, United States Information Service (USIS) library and few others recorded some success stories in this direction.

However, from the early 1990s to present time, some University libraries have been partially automated and others whose full automation are underway include University of Ilorin, Ladoke University of technology, Ogbomoso, University of Agriculture, Abeokuta, University of Nigeria, Nsukka, Tafawa Balewa University Bauchi, Bayero University , Kano, ABU, Zaria, Federal University of Technology, Minna and University of Lagos.etc (Mishra, Thakur & Singh (2015). Hussaini, Vashistha, Jimoh and Jimah (2018) assert that there is no University library in Nigeria that is fully automated; and that less than 49% of these libraries are partially automated

With our knowledge of the various research literatures available, we are not very sure yet to claim that University libraries have been automated in readiness for ICT application in University libraries in Nigeria. It is true that few University libraries might have computerized some services in their libraries leaving a whole lot of others grappling with the computerization project. Ani (2007) accepts the fact that despite all the benefits accruable from automation, Nigerian University libraries are still at crawling stage of automation of their services and based on that fact that automation of library services has been in Nigeria since the last decades and the expectation that, academic libraries would take the lead in the automation race because of their enormous potentials and challenges, experience and research have proved otherwise.

The pace of automation project in University libraries has been very slow. The development is discouraging, particularly as the world has become a global village with avalanche of information to share but which may not be accessible without information technology. Sokoya (2004) posits that most academic and research libraries in Nigeria have not computerized their functions and services, the public catalogue and visible index are still searching tools for library resources. Similarly, Ezechukwu & Adewole-Odesi (2018) assert

that University Libraries have not been able to automate all their operations due to varying factors. Thus library users are still unable to experience the ease of service expected through automation in Nigerian Academic Libraries.

Impact of ICT on Library Services and Functions

ICT has created a profound influence on traditional academic libraries in the 21st century. They have no option but to adapt themselves to new developments in technology hence the networking of information centers is inevitable. They stress that the use of computers prescribes efficiency and saves considerable amount of time, resources and labour. It also speeds up technical processing and information services and has been a means of bringing quality services to library users. To them, the systematic planning of its introduction and application will assure that the technology based information services are sustained and made to enhance the ability of libraries Oladokun & Kolawole (2018).

According to Krubu & Osawaru (2011) Computing Technology, Communication Technology and Mass Storage Technology are some of the areas that enjoy continuous development that reshape the way the libraries access, retrieve, store, manipulate and disseminate information to users. ICT has impacted on every sphere of academic library activity especially in the form of library collection development strategies, library building and consortia. Husseni, Vashistha, Jimoh & Jimah (2018) opined that ICT presents opportunity to provide value-added information services and access to a wide variety of digital based information resources to their clients. They stress that academic libraries are also using modern ICTS to automate their core functions, implement efficient and effective library cooperation and resource sharing networks, implement management information systems, develop institutional repositories of digital local contents, and digital libraries and initiate ICT based capacity building programmes for library users.

ICT has brought unprecedented changes and transformation to academic libraries and

information services. Conventional library and information services such as OPAC, user services, reference services, bibliographic services, current awareness services, document delivery, interlibrary loan, audiovisual services, and consumer relations can be provided more efficiently and effectively using ICT. They offer convenient time, place, cost effectiveness, faster, and most up-to-date dissemination and end user involvement in the library and information service processes. The impact of ICT characterized information services by changes in format, content and method of production and delivery of information products.

Emergence of the Internet as the largest repository of information and knowledge changed the role of library and information science professionals from intermediary to facilitator of new tools for the dissemination of information and the shift from physical to virtual services environment and extinction of some conventional information services and emergence of new and innovational web based services. Saleem, Shabana, Tabusum & Sadik (2013).

With the development and application of ICT, the whole scenario of library has changed drastically. There is a shift from traditional libraries to hybrid libraries with different nomenclatures operating in the universe of knowledge. These libraries are automated libraries, electronic libraries, digital libraries or virtual libraries. In the web environment, there has emerged the concept of library 2.0. All these libraries are using different information technology applications to perform activities ranging from acquisition of materials to the dissemination of information. There is increased productivity of work done in the library by providing information to the right person at the right time and place and also increase in sharing bibliographical records using copy catalogue and classification number and use of other external databases.

Today, computer has brought in a new impact to the library and information usage. In libraries, information technology has assisted library professionals to provide value added quality information service and give more remote access to the internationally available information resources. According to Saraf,

(1998) highly sophisticated information technology facilitates the storage of huge amount of data or information in a very compact space. He further states that information technologies promise fast retrieval of stored information and have revolutionized our concept of the function of a traditional library and a modern information center.

Modern ICT is impacting on various aspects of libraries and the information profession because advancements in ICT and the wide spread use of ICT is resulting in digital information services and digital media replacing and becoming the dominant form of information storage and retrieval. The term library no longer refers only to physical building located in a specific geographic location but also to electronic or digital or virtual libraries that can be accessed from anywhere. Library cataloguing system helps to create bibliographic information on Machine Readable Catalogue (MARC) for efficient library activities such as acquisition, cataloguing, circulation etc.

Library collections consist not only of physical information resources such as books, periodicals, videos, films and many more, stored in physical library building but also include digital resources. Access to digital information resources is not restricted to specific hours and days of the week at one physical library building. He stresses that the proliferation of digital information available over the Internet and other sites is resulting into library losing its former place as the focus of the information environment. Libraries are becoming one of the information systems available to information end users (Babu, 1999).

ICT with tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, breaks down the distance barrier and shortened the time required for the right information to reach the right reader at the right time. It also increases and solves the library's demand of electronic development. It is really an excellent tool for the library. There is ease and accuracy in data handling, efficiency in speed and promptness in operation.

ICT has impacted enormously on the effectiveness of the operations and services of University libraries as posits by Patra (2008) that the digital revolution driven by ICT innovation has transformed academic libraries in the way services and functions are performed. The traditional role of information custodian has been changed to that of being information provider and disseminator. ICT holds the key to the success of modernizing information services, introducing new ways of information handling and it also brings about change in structure of information and its communication.

Contemporary Challenges Facing ICT Application in University Libraries

The use of ICT in libraries has raised a number of challenges that hamper its smooth implementation and application in University libraries in Nigeria. These include:

The Changing Role of Libraries and Librarians: More and more library users are using digital technology to get access to global information resources through the web. Unfortunately the huge amount of information available on the web is generally overwhelming and a large number of web users are still not able to use the web effectively.

Funding for Libraries: Due to scarce budget cuts and high prices for books and journal subscriptions, libraries are faced with no options but to reduce expenditures on books and journal subscriptions. The introduction of ICT in libraries has not made the situation better. Money is required to maintain and upgrade the equipment and software, pay software license fees, pay for access to electronic journals and online databases, pay for Internet connections etc. The rapid pace and transient nature of technological development requires sustained funding.

Information Access: Whereas libraries generally contain and provide access to selected information resources, this is not the case with information accessed on the web. Distribution of pornographic materials and information produced to mislead and misinform is very easy to do on the web. Such information does not pass any editing and so presents problems to librarians on how to exclude access to such types of information

especially on Internet workstations located in the libraries.

Copyright Management: Digitization and provision of access to digital collections accessed via electronic networks, especially the Internet, presents big challenges to librarians. Unlike print-based documents, digital-based information resources can be accessed from anywhere via electronic networks, copied several times, manipulated or deleted. The ease at which digital information resources can be copied and manipulated may result in government, under pressure from information producers, to put in place rigid copyright laws in which the rights of the right-holder are increased at the expense of users and this may affect the provision of access to digital information sources in libraries Emezie & Nwaohiri (2014).

Preservation of Digital Information Resources: Print-based library and archive environment, as opposed to the digital information environment, has evolved over the years. Preservation methods and formats for print-based documents have also been developed and tested. There are print-based documents that are very old and can still be read. The digital information era is in its infancy and already some of the information is stored in formats or media that cannot be accessed or read.

Legal Deposit: In the print-based environment, producers of publications are required by law to deposit copies of their documents with the national library or national archive or any agency designated to receive and preserve such publications. In the digital information environment, the situation in many countries is still not clear as to who is responsible for the long term preservation of digital information resources.

Expertise: Quadri (2012) highlights some constraints as issues of (a) skill training of lecturers so as to improve their ICT competency; (b) lack of system manager/support staff and/or ICT experts; and (c) low levels of students' epistemological access to information resources. To him, the staffs in the University libraries lack ICT knowledge and skills to assist library users to access information resources. There is still a

serious need for technical support with high level expertise in the maintenance aspects of ICT facilities. He maintains that, with poor maintenance and insufficient skills to diagnose system problems and swap parts, there are many out-of-commission machines that could easily be reactivated and used. The problem of technical expertise is, there are not enough people who have qualified and attained ICT specialist skills at the speed which the technologies are adopted.

The Way Forward

The benefits of ICT are enormous, and the challenges that confront practicability of ICT in university libraries could be surmounted to give way to application of ICT in library services and functions in our universities through the following ways:

- Government at federal and state levels, in Nigeria must develop a more proactive and progressive attitude to the implementation of the national policy for information infrastructure and facilities.
- Practicing librarians must be involved in training and retraining of personnel in knowledge of ICT competencies required to effectively manage the resources in academic libraries towards globalization of services.
- Library schools in Nigeria should incorporate ICT competency training into their curriculum. The schools should be required to have viable ICT laboratories to ensure appropriate hands-on-ICT training for students. The lecturers should be required to be effective ICT literacy to be able to impact the appropriate ICT know-how to the students of librarianship.
- There should be massive injection of funds by authorities concerned for the effective globalization of library services in academic libraries in Nigeria.
- There should be collaboration between experts in ICT knowledge in computer centres in the universities and their academic libraries to fast-track active participation of academic libraries in Nigeria in the automation and ICT application of their services.

- The collaborative efforts of the libraries and some ICT experts in ICT centres across the country should be harnessed and maximized for the consummation of digitization and automation of library services.
- The problem of epileptic power supply should be tackled headlong by the government of Nigeria by injecting funds and technical experts needed to step-up effective mechanism for regular and stable power supply.

Conclusion

The need for automation in Nigerian University libraries is overdue and requires a pragmatic approach. The processes involved in the automation projects such as human and material resources needed in order to have a complete and effective automation of library resources are pertinent. ICT application in libraries is predicated on the success of library automation and globalization of resources. Various problems identified and envisaged should be tackled to give way to effective automation and globalization of library resources.

The revolutionary changes and transformation that have taken place in information and communication technology have affected everything in life both in the way we think and work. These changes and transformation have affected libraries and information centres where they find it difficult to function without computers and information technologies. In the modern world, the library and information profession have adapted to the developments in information and communication technology. Those who go with the advances will survive while others will become obsolete. Only a well equipped library with facilities of modern information infrastructures and technologies could satisfy the maximum demand of the present technology driven and conscious society. With Information and communication technology (ICT), the role and position of University libraries are dramatically changing. Okon in Abubakar (2011), observes that the rapid pace of development in the area of information technology and the advent of networked information services have prompted

a comprehensive review of the library and information services provision.

The global trend is now characterized with a fundamental shift from traditional information environment to electronic environment where emphasis is placed more on the acquisition of electronic resources as well as online databases. According to Okiy (2005), the contemporary practice in University library services is being propelled with information explosion and the inclusion of information and communication technology (ICT) in all aspects of library services. The present day University library services are more on the area of digital, virtual, or library without walls/books, all of which have transformed University libraries and have led to the transition and transformation in the University library environment.

With the present innovations and enormous benefits experienced as a result of ICT in Nigerian University libraries, they still experience some obstacles in the effective and efficient use of ICT resources in the libraries.

References

- Abbas, K. D. (2014). Automation in Nigerian University libraries: Mirage or reality? *Journal of Information Knowledge Management* 4 (4), 1-7.
- Abubakar, B. M. (2011). Academic libraries in Nigeria in the 21st century. *Library Philosophy and Practice* Retrieved from <http://unlib.unl.edu/LPP/>.
- Adebore, A. M. (2010). Automation in two Nigerian University libraries Retrieved from <http://unlib.unl.edu/LPP/>.
- Agboola, A. T. (2000). Five decades of Nigerian University libraries: A review. Retrieved from <http://www.librijournal.org/pdf/2000-4pp280-289.pdf>
- Ani, O.E. (2007). ICT Revolution in African librarianship: Problems and prospects. *Gateway Library Journal* 10 (2), 111-117.
- Athanasius, J. (2018). Problems and prospects of library automation in Nigeria. Retrieved from https://infoguidenigeria.com/problems_prospects_library_automation_nigeria/
- Babu, T. A. (1999). Automation of public Libraries. *Herald of Library science* 38, 47-53.
- Ebijuwa, A. A. (2005). Information and communication technology in university libraries: The Nigerian Experience. *Journal of Library and Information Science* 7 (1&2), 23-30.
- Emezie, N.A. & Nwaohiri, N.M. (2014). The challenges of library automation in Nigerian Universities of Technology: The example of Federal University of Technology , Owerri, Nigeria. *The Information Technologist* 11(1) Retrieved from <https://www.ajol.info/index.php/ict/article/view/109506>
- Ezechukwu, C.O. and Adewole-Odesi, E. (2018). Automation in academic libraries: An evaluative study of two Nigerian Libraries. *Covenant Journal of Library and Information Science* 1 (1), 1-12.
- Husaini, S., Vashistha, R., Jimoh, A.O., and Jimah, H. (2017). Automation of library services for enhanced users' satisfaction of information resources in academic libraries in Nigeria. Retrieved from https://www.researchgate.net/publication/32892807_automation_of
- Itsekor, V.O. & Ugwunna, I.S. (2014). ICT competencies in the 21st century library profession: a departure from the past. *International Journal of Academic Library and Information Science* 2 (5), 51-57.
- Krubu, D. E. & Osawaru, K. E. (2011). The impact of information and communication technology (ICT) in Nigerian University Libraries. *Library Philosophy and Practice* Retrieved from <http://digitalcommon.unl.edu/libphilprac/583/>.
- Mishra, A., Thakur, S., & Singh, T. (2015). Library automation: Issues, challenges and remedies. Retrieved from <https://www.researchgate.net/publication/277668181>.
- Moulton, L. (1998). Leading the library automation project. Cumshaw: Information Services Incorporated.
- Moursund, D. (2005). Introduction to information and communication technology in education. Eugene, Oregon: Dark Wing Books Limited.
- Nwana, S. E. (2008). Information and communication technology (ICT): A continuity in educational technology. Onitsha: West and Solomon Publishing co. Ltd.
- Nwosu, M.C. (2013). Automation of libraries and information centres: A critique. In Issa, A.O., K. N. Igwe, & C.P. Uzuegbu (Eds). Provision

- of library and information services to users in the era of globalization. Lagos: Waltodanny Visual Concept.
- Odede, I. and Enakerakpo, E (2014). ICT skills and Internet usage among library and information science students in Delta and Edo States, Nigeria. *International Journal of Library and Information Science* 6 (5), 98-107.
- Oladokun, T.A. & Kolawole, L. F. (2018). Sustainability of library automation in Nigerian libraries: KOHA open source software. Retrieved from <http://digitalcommons.unl.edu/libphilprac>.
- Okiy, R. B. (2005). Nigerian University Libraries and the challenge of information provision in the 21st Century. *Library bulletin: Nigerian University Library System* 3(1/2), 17-27.
- Omoniwa, M. A. (2001). The computerization of the Kashim Ibrahim Library of ABU Zaria, 1972-2001. *Nigerian Libraries* 35 (1).
- Patra, B. K. (2008). The role of information and communication technology on management and services of academic Libraries. *Techno Indian Group Research Journal* 1 (1).
- Quadri, G. O. (2012). Impact of ICT skills on the use of e-resources by information professional: A review of related literature *Library Philosophy and Practice*. Retrieved from <http://unlib.unl.edu/LPP/qudri.html>.
- Saleem, A ., Shaban, T.S.Z., & Sadik, B.M. (2013). Application of and uses of information communication technology (ICT) in academic libraries: An overview. *International Journal of Library and Information Science* 2(3), 49-52.
- Saraf, V. (1998). Dynamics of the information technology and its implications for Library and information education in the new millennium. Paper presented at an International Seminar held at University of Dhaka, Dhaka Bangladesh.
- Shariful, I. & Nazmul, I. (2006). Information and communication technology (ICT) in libraries: A new dimension in librarianship. *Asian Journal of Information Technology* 5(8), 809-817.
- Sokoya, A. A. (2004). Principles and relevance of information technology in Nigerian Libraries. *Nigerian Journal of Libraries, Archives and Information Science* 1 (3) 31-38.

Challenges of Professional Librarians on Cataloguing and Classification in University Libraries: Experience from Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Akwa

Chiegonu Nwachi¹, Vincent O Ekwelem², Igbokwe Josephine³

Nnamdi Azikiwe Library, University of Nigeria, Nsukka^{1,2,3}

chiegonu.nwachi@unn.edu.ng¹, vincent.ekwelem@unn.edu.ng², josephine.igbokwe@unn.edu.ng³

Abstract

This paper investigated the attitude of library staff towards cataloguing and classification in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka. The specific objective of the study are the nature of cataloguing and classification in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka, the attitude of the library staff towards cataloguing and classification in the library, the reasons for their attitude towards cataloguing and classification in the library, the extent to which their attitude affected cataloguing and classification in the library and their perception on the strategies that can improve cataloguing and classification. Questionnaire was used for data collection; the questionnaire was distributed to fifty professionals and para-professional in the library. The major findings of the work revealed that the library used manual cataloguing with tools like library of congress subject heading list and scheme and is the library staff in the library that are doing cataloguing and classification. Some library have positive attitude towards cataloguing and classification because it expose them to world of information resources, learn more when they catalogue and classify, brain tasking, interesting and requires a high level of imagination. While some have negative attitude because it is challenging, complicated and too monotonous to do. Some strategies that can improve staff attitude include computerization of cataloguing and classification practice, employing more cataloguers through special allowance and conducting seminars, workshops and conferences to train cataloguers on the current trends involved which were also recommended. These will invariably enhance and improve staff attitude to cataloguing practice in the library.

Introduction

The library is the master piece of academic institutions and continues to fulfill its role as the heart of the university despite the move from print to electronic resources. Libraries exist to meet user's information needs. A university is incomplete without a library; no university can exist without a library since the university is established to promote teaching and research for members of the university community (Bhatt, & Mishra, 2012). Library catalogue is a registerization of all bibliographic items found in a library or group of libraries arranged according to some specific plans. The process of arranging according to some specific plan is called cataloguing and classification. According to Bello, & Mansur, (2011) cataloguing and classification constitute the core and the most important service when compared to other services rendered in the technical services of the library. This is because it denotes the various processes adopted in preparing the entries of the reading materials in a catalogue

in a systematic manner or in a sequential order for easy accessibility by the users. These materials are large in number and are of different nature in various disciplines.

Cataloguing refers to the process of preparing catalogue entries for all materials that are available in the library. These information materials include books, manuscripts, journals, floppy disk, DVD, CD ROMS, audio visual materials such as micro forms (i.e. microfilms, microfiches and micro cards), digital materials, motion pictures, sound recording, graphic materials and cartographic materials(Mole. & Ekere, 2013). The technical section of the library is where cataloguing (organization, processing, subject analyses and intellectual activities of all the library materials mentioned above are implemented). According to Atinmo., (2013) cataloguing is that aspect of library technical services which involves the organization of library information resources to ensure relative speed and ease of access by users (clientele) of the library. It involves the full bibliographical description of each book,

monograph, treatise and other types of materials acquired in the library, adhering to the laid down rules of the practice. Cataloguing is the process of preparing entries for the library catalogue. It involves the description, recording and indexing of the items in a library collection (Cabonero, & Doleno, 2013).

The cataloguing units function is to therefore concertedly and systematically organized the total library resources with suitable bibliographic controls to facilitate access to the resources by students, faculty and staff. In a similar way, Dolendo, (2013) describe cataloguing as the process of describing a book for the card catalogue. It includes identifying the author, title, publication information and determines the main entry, added entries, subject headings and call number. Cataloguing has two basic types namely:

- Descriptive cataloguing
- Subject cataloguing

Descriptive cataloguing is the systematic description of the physical attributes of library in order to pool together all the significant data about the material and to distinguish it from other items. (Encyclopaedia Britannica, 2014). It is also called preliminary cataloguing because it precedes directly the original or subject cataloguing and actual classification of the material. He also defined subject cataloguing as that phase of cataloguing which is concerned with the assignment of subject (s) to an items in a collection. It follows the descriptive cataloguing in the library's cataloguing routine. Ode and Omokaro, (2007) defined classification as simply consortium of liked things and sorting out things according to their differences. Thus, book classification refer to two basic processes: the making of scheme of classification and people who perform this activities are known as classificationists.

Furthermore, Cerbo,(2011) opined that the process involves the grouping of subject terms of the same affinity and separating them according to their differences by apply characteristics of division according to the purpose of classification one at a time in preferential order until the most specific subject term is isolated. Through the process of cataloguing, cataloguers are able to

individualize each material acquired by the library, by giving them a unique number for proper identification and thus, provide an access point for each .(Esse, 2013). This provides the rationale for library and information practice. The belief in the need for human beings to share information and ideas implies the recognition of information rights as expressed in the United Nations Universal Declaration of Human Rights (1948), Article 19 which sets out the right to freedom of opinion, expression and access to information for all and the right to seek, receive and impart information and ideas in any media, regardless of frontiers (IFLA, 2011). The researchers chose Nnamdi Azikiwe University Awka because of the need to promote the professional librarians challenge on cataloguing and classification in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka especially in view of its potential benefits to research, teaching and learning . Experience has shown that the library is still practicing manual cataloguing that is more difficult to manage than online cataloguing.

Statement of the Problem

Cataloguing and classification is the hub of librarianship. They enhance accessibility of library resources and ensure effective use of the library. Cataloguing & classification enable users to know what materials the library has by an author and on a title, subject e.t.c. Information resources are useless when access is not provided. This fundamental function is within the concept of cataloging. Thus, cataloging is an essential process that provides access to all acquired information resources of the library for it allows people to find information needed for their personal and professional growth and development (Thomson, 2010). It also provides access points to information resources in a way that users will be able to find the need information or resources. Librarians and information scientists are imbued to serve people through the provision of access to quality information resources in either print or electronic formats through which people's standard of living are improved, dreams are actualized, education is sustained, sound decisions are made and executed, freedom of expression is enhanced

and information resources are preserved for posterity. The proliferation of information in different formats and the attendant complexity in retrieval processes have promoted and sustained the need for society to share resources, work, ideas and information. , providing adequate quality control within bibliographic databases, and coping with constantly changing technologies) that have challenged cataloging and classification for decades.

If there were no prior organization of objects, it would be difficult to retrieve a particular object from among the various objects in the collection when needed(Atinmo, 2013). Cataloguing and classification are therefore the major activities of cataloguer in cataloguing environment. In this information age, where easy access to information is the zeitgeist, Information Communication Technology becomes very germane for the cataloguing process in creating and maintaining the Online Public Access Catalogue (OPAC) more fundamentally with commitment and resourcefulness on the part of cataloguers in Nigerian university libraries, ICT could be adapted to solve our peculiar needs in our libraries and has not in any way taken over the job of the cataloguers. Despite the importance of cataloguing & classification and the danger over non classification of information materials like non utilization and under utilization of information materials in the library no study seems to have been carried out the challenges of librarians in particular reference to the library. It is of this note that this work is aimed at determining that challenges of Professional Librarians on Cataloguing and Classification in University Libraries: Experience from Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka with specific objectives as follows:

1. Determine the nature of cataloguing and classification in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka.
2. Determine the positive or negative attitude of library staff towards cataloguing and classification in Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka
3. Ascertain the reasons for the attitude of library staff towards cataloguing and classification in the library.
4. Find out the extent to which the attitude of library staff affect cataloguing and classification in the library.
5. Determine strategies for improving the attitude of library staff towards cataloguing and classification.

Literature Review

Cataloguing and Classification

The purpose of cataloguing is to provide access to library materials. Indeed, cataloguing serves no function other than to identify items for those who seek information. Since cataloging codes and practices continue to develop, this process suggests that there is not yet a consensus as to what constitutes the perfect cataloging record. It also suggests, however, that professionals in the field are working to improve methods of accessing information and that cataloging is a dynamic function of the information process. Information remains dormant unless channels are established which provide a means of making it usable. Cataloging becomes the key which unlocks and organizes the realm of information. The library catalogue is a list of books and reading material in the holdings of a library or group of libraries (Ode and Omokaro, 2007). In other words, he opined that cataloguing & classification is a way of organizing library materials in such a way that the retrieval will not be difficult for library users. The list contains entries of books, arranged according to some definite plan. As distinguished from a bibliography, it is a list which records, describes and indexes the resource of a collection, of a library or group of libraries in a locality or country.

In the word of Atinmo, (2013) the purposes of organizing library materials are:

- To make location of library materials easy
- To save time and space
- T o facilitates easy accessibility to the materials
- To enhance effective utilization of the materials
- To make the library attractive to its users

The acceptable way of organizing collections is what librarians describe as cataloguing and classification. Similarly, Ode and Omakaro, (2007) defined cataloguing as a process of describing a book for the card catalogue. It includes identifying the author, title, publishing information and determining the main entry, added entries, subject headings and call number.

The extent of the use of library resources depends greatly upon the quality of the library catalogue and classification. Most libraries have moved away from manual cataloguing as they have embraced the new technologies. Gbaju, (2013) is of the view that information technology is rapidly transforming the content and services of libraries. Mason (2004) observes that libraries are a classic example of how automation has impacted on the traditional ways that work is done, particularly in cataloguing departments—changing how, and by whom, the cataloguing is done. Atinmo, (2013) also notes that as a result of the impact of ICT on technical services, the roles of cataloguers have completely changed. Their roles now involve operations that have become integrated. He further asserted that cataloguers have become inter-dependent in their pursuit to provide bibliographic control and access. Some library staff have positive attitude towards cataloguing and classification because they are interested in that aspect of librarianship and being a librarian, to maintain the fourth law of Ranganathan “to save the time of the user”. They understand that for a library to thrive and ensure high productivity, it must channel its activities in accomplishing the five laws of Ranganathan which include:

- Books are for use
- Every reader his or her book
- Every book its reader
- Save the time of the user
- The library is a growing organism.

Cataloguing and classification is a veritable means of accomplishing this task and library staff (cataloguers) are in charge, to put books for use by indexing and descriptive cataloguing, every book its reader by classifying according to discipline, saving the time of the user by processing library materials for easy access. Finally, projecting the library

more attractive to the user to use and enhance productivity.

Challenges of Professional Librarians on Cataloguing and Classification

The environment where cataloguers work has a lot of implication not only on productivity but also on the satisfaction of staff (Bello, 2011). The assessed needs and aspirations are also dependent on individual objective, social and economic attributes, if the existing situations of the cataloguers’ environment are incongruence with (a reasonable portion of the reference conditions, an effective state of satisfaction is manifested. The assessed needs and aspirations are also dependent on individual objective, social and economic attributes, if the existing situations of the cataloguers’ environment are incongruence with (a reasonable portion of the reference conditions, an effective state of satisfaction is manifested). Invariably in my own thinking the cataloguers may attempt to reconcile incongruence by adaptation or otherwise.

On the other hand, some library staff may have negative attitude towards cataloguing and classification because it is brain tasking, time consuming and meticulous job (Idiegbeyanose, 2013). Some may have negative attitude because of its technical, complex, challenging and demanding nature; even after doing the cataloguing and classification the incentive given is not in anyway commiserating with the tedious work of cataloguing and classification. In other words, lack of motivation also contributes to the attitude and dissuades some library staff in cataloguing and classification (Fishbein and Ajzen, 2012)

The challenges of professional librarians towards cataloguing and classification depends on their perception towards the cataloguing practice. Those that saw cataloguing and classification as an indispensable service in the library catalogued and classified materials with keen interest and enthusiasm. In this situation, the user will find his way out in the library by retrieving the materials he needs with relative ease and speed hence there will be productivity and advancement of such library. But some cataloguers see cataloguing and classifying of materials as brain tasking job, too technical, complex, challenging, demanding and tedious

work that is very difficult for them to do. They develop cool feet anytime new books are acquired because of the task involved in processing them. The logical implication of this to the library is that the misclassification of any library materials is the misplacement of such a material

Methodology

The design of this study was descriptive survey. The instrument for data collection was questionnaire has 43 items in four clusters with the answering mode of ticking the appropriate answer on each statement in the column. The questionnaires were distributed to 50

professional librarians in libraries: Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka. All the 50 librarians were selected for the study because the number was considered too small to be sampled & proportionate sampling was used too. The completed questionnaires were returned after two weeks with the help of one research assistant. The data collected were analyzed using mean, percentage & tables for clarifications.

Findings

What is your attitude towards cataloguing and classification?

Table 1: Response of library staff on their attitude to cataloguing & classification

S/N	Items	Total weight	X	Rank	Decision
1	It is challenging	178	3.5	7 th	Accepted
2	It is interesting	192	3.8	6 th	Accepted
3	It exposes me to world of information resources	196	3.9	2 nd	Accepted
4	It is complicated	80	1.6	10 th	Rejected
5	It is too monotonous	76	1.5	11 th	Rejected
6	It is brain tasking	198	3.9	1 st	Accepted
7	It requires a high level of imagination	194	3.8	3 rd	Accepted
8	The practice is indispensable	156	3.1	7 th	Accepted
9	I consider it a dull job	89	1.7	9 th	Rejected
10	I enjoy cataloguing and classification	154	3.8	5 th	Accepted
11	I learn more when I catalogue and classify	193	3.8	4 th	Accepted

Table 2: Reasons for positive or negative attitude towards cataloguing and classification

S/N	Items	Total Weight	X	Rank	Decision
1	I naturally like to organize things	171	3.4	4 th	Accepted
2	There are not manual cataloguing in my library	87	1.7	7 th	Rejected
3	We are not exposed to training and retraining programmes	129	2.5	5 th	Accepted
4	It is computerized in my library	78	1.5	9 th	Rejected
5	It makes me versatile	192	3.8	1 st	Accepted
6	It restrict me from visitors	109	2.1	6 th	Rejected
7	We are not motivated in my library	179	3.5	3 rd	Accepted
8	It is too time consuming	191	3.8	2 nd	Accepted
9	The flow of job is dull	85	1.7	8 th	Rejected

From the table 1 above, result shows that the following attitude were ranked highest 3,6,7,10,2,1 with mean scores of 3.9,3.9,3.8,3.8,3.8,3.5 respectively. These results indicates that cataloguing exposes them to world of information resources, brain tasking, requires a high level of imagination, they enjoy cataloguing and classification, it is interesting, challenging and the practice is considered indispensable. Other options in the cluster were considered rejected.

From the table 2 above, the mean score revealed that some of the respondents have positive attitude towards cataloguing and classification because it makes them versatile, some naturally like to organize things while some have negative attitude because it is too time consuming, not exposing them to training and retraining programmes and that they are not motivated in the library.

Table 3: Extent to which attitude affected cataloguing and classification

S/N	Items	Total Weight	X	Rank	Decision
1	It is challenging	189	3.7	4 th	Accepted
2	It is interesting	186	3.7	6 th	Accepted
3	It exposes me to world of information resources	196	3.9	1 st	Accepted
4	It is complicated	74	1.8	10 th	Rejected
5	It is too monotonous	93	1.8	11 th	Rejected
6	It is brain tasking	194	3.8	2 nd	Accepted
7	It requires a high level of imagination	191	3.8	3 rd	Accepted
8	The practice is indispensable	158	3.0	9 th	Accepted
9	I consider it a dull job	87	1.7	8 th	Rejected
10	I enjoy cataloguing and classification	159	3.1	7 th	Accepted
11	I learn more when I catalogue and classify	187	3.7	5 th	Accepted

Table 4 Perception on the strategies for improving your attitude towards cataloguing and classification

S/N	Items	Total Weight	X	Rank	Decision
1	Computerizing cataloguing classification practice	193	3.8	3 rd	Accepted
2	Procurement of current tools and scheme	173	3.4	9 th	Accepted
3	Employing more cataloguers through special allowance	191	3.8	4 th	Accepted
4	Provision of cataloguing manual	186	3.7	6 th	Accepted
5	Making it more liberal to local context	116	2.3	11 th	Rejected
6	Providing adequate training programmes to cataloguers	187	3.7	7 th	Accepted
7	Organizing in-house seminars and workshop to train cataloguers involved	192	3.8	2 nd	Accepted
8	Improvement using ICT	163	3.2	10 th	Accepted
9	Out sourcing it to individual or group	68	1.3	12 th	Rejected
10	Staff motivation	187	3.7	5 th	Accepted
11	Employment of professionals	182	3.6	8 th	Accepted
12	Staff sponsorship to workshops and conference	198	3.9	1 st	Accepted

From the Table 3 above, it is observed that items 3,6,7,1,11,6 and 10 ranked highest showing that the respondents' attitude affected cataloguing and classification to a very high extent. Items 8,9, indicates that respondents attitude affected cataloguing and classification to a high extent while items 4 and 5 showed that the respondents have not at all affected their attitudes towards cataloguing and classification.

From the table 4 above, it is observed that items 12,7,1,3,10,4,6 and 11 ranked highest indicating that the following items or strategies above should be adopted. Items 2 and 8 also indicate that they should adopt the following strategies. It is only 5 and 9 items that indicated that indicated that adoption of the item cannot really help to improve the situation.

Discussion of Findings

The results of table 1 shows that the majority of the respondents with mean scores of 3.9 agreed that it exposes them to the world of

information. This is in line with the findings of Ezenwata(2005) Isman (2004)and Kumbhar (2012) when they noted that some library and information professionals have a special interest in classification. These professionals have accordingly contributed extensively to the field of classification in practice and knowledge organization in general.

On the other hand the study showed that with a mean score of 3.8 it makes me versatile, with mean score of 3.8. it is too time consuming, we are not motivated in my library with mean score of 3.5. I naturally like to organize things have a mean score of 3.4. With a mean score of 3.5 the respondent agreed that they are not motivated in their library. The respondents that were ranked lowest indicated that it is computerized in my library with a mean of 1.5, and that the flow of job is dull with mean score of 1.7, it restrict me from visitors with mean score of 2.1. This findings disagree with the findings of Ukoha (2002) when he noted that technology can enhance the human effort in the course of performing the task of the course of

performing the task of cataloguing and classification, especially in the cataloguing and classification of items, retrospective, conversion of catalogue entries and having some income through selling cataloguing services to other libraries in the opinion of the researchers, some people have negative attitude towards cataloguing and classification because they are not motivated and incentive given is not in any way commensurate with the work involved.

On the extent to which the attitude affected cataloguing and classification in the library table 3 revealed that with mean score of 3.9 the respondent agreed that it exposes them to the world of information resources, also with mean score of 3.7 they also agreed that it is challenging, it is interest attracted mean score of 3.7. While it is brain tasking attracted mean score of 3.9, the practice is indispensable has a mean score of 3.1 and similarly I Learn more when cataloguing and classification with a mean score of 3.7.

While the negative attitude of some library staff also affected cataloguing and classification in the library in the sense that they saw cataloguing and classification as complicated and too monotonous hence misclassified books thereby resulting in misplacement of the books and hinder the assessment of such materials. Similarly in agreement with the above study by Idowu (1999) which found that the Nigerian University librarians have positive disposition towards cataloguing and classification practice which enhance productivity on the library and quick library services.

The study revealed that one of the strategies for improving attitude of staff towards cataloguing and classification is staff sponsorship to workshops and conferences. Others are organizing seminars (3.9), organizing in – house seminar and workshop to train cataloguers involved (3.8) computerizing cataloguing and classification practice (3.8) employing more catalogers through special allowance (3.8) while the least and lowest ranked strategies was to outsource it to individuals or groups and making it more liberal to local context. This findings is in line with Mann and Topp (1998) in their findings that library staff who attend seminars,

conferences and workshop perform better on cataloguing and classification and retained more information than those who rely on what they are been taught and what they are teaching the students. In our opinion, motivation through special allowance is the best of all whether in manual or computerized cataloguing because it will make the cataloguers to keen more interest.

Conclusion

This research work investigates the challenges of professional librarians towards cataloguing and classification: an experience from Festus Aghagbo Nwako Library, Nnamdi Azikiwe University Awka. Five specific objectives were used for the study, questionnaire was the instrument used for data collection and it was distributed among fifty professional librarians in the library. From the findings it was revealed that they are still doing manual cataloguing with tools like library of Congress subject heading list and scheme. Some librarians don't have challenges towards cataloguing and classification because it exposes them to world of information resources, learn more when they catalogue and classify, brain tasking and requires high level of imagination. Some strategies were also suggested to improve on the challenges like computerization of cataloguing and classification, employing more cataloguers through special allowances and conducting seminars, workshops and conferences to train cataloguers on the current trends involved. These will invariably enhance and improve staff attitude to cataloguing practice and make the library be in an esteem place. Therefore the following were recommended.

Recommendations

- Computerization of cataloguing and classification practice in the library is needed at this age. The library is yet to adopt computerized cataloguing, that is why they see manual cataloguing as a very challenging, brain tasking practice that requires high level of imagination.
- Motivation of cataloguers through special allowances. The incentive given to them is not in anyway commensuration with the task job they are doing in the library. Government

should employ more cataloguers through special allowances to motivate them in the cataloguing practice.

- Procurement of current tools and schemes. Even if the library will maintain the manual cataloguing they have been practicing, the school authority should provide or procure current tools and schemes that covers current happenings or contemporary issues invoke like Boko Haram, herdsman, piton dance e.t.c.
- Organizing seminars, conferences and workshops to train cataloguers on current trends involved in cataloguing and classification. Cataloguers should organized and attend workshops, seminars and conferences as a way to equip themselves with current things obtainable in the cataloguing and classification practice.

References

- Atinmo, M.I (2013). *New Directions in Cataloguing & metadata Management: The Nigerian Cataloguers*. Vol.1 No1p.71-81
- Bello, M. & Mansur, Y.(2011). *Cataloguer mentoring :a survey of academic libraries*.Asia-pacific conference on Library & Information Education & Practice 2011. (A – LIEP 2011): issues, challenges & opportunities .<http://eprints.ptar.uitm.edu.y/3125/>
- Bello, M.& Thomson, E (2013) Recruiting the cataloguers for tomorrow: the need for succession planning in Ghana academic libraries. *Journal of Library management*. 24 96-7) P.310-315.
- Berkley, B.C. (2011). *Environment of working librarians that influences outcomes* London Inc Publisher.
- Bhatt, B.P.& Mishra,M.K. (2012). *Needs & Importance of copy catalog and cooperative cataloguing*. Retrieved from <http://www.alibnet.org/public/bookofpaper/ppts/39>.
- Cabnero, .A.& Dolendo,R.B. (2013) Cataloguing & classification skills of library & information science practioners in their workplaces: A case analysis. *Library philosophy & practice*, University of Nebraska-Lincoln. Retrieved from <http://digitalcommons.unl.edu/cq/viewcontent.cqi?articles=2337&content=libphipracon23/12/2014>.
- Ekere, F.C. (2006). *Administration of academic libraries: a book of readings*. Edited UCO publisher Nigeria.
- Ekere, F.C.& Mole, A.J.C. (2014).*Theory and practice of cataloguing and classification*. Praise Publishers: Enugu.
- Encyclopaedia Britannica (2014). Library classification. Retrieved from http://www.britannica.com/EBchecked/topic/339461/library-classification_on23/12/214.
- Esse, U. (2013). *Current trends in cataloguing & the challenges of a cataloguer in the digital age*. *Information impact*, 4 (2), 16-23.
- Ezenwata, A. (2010) *Attitude of library students towards cataloguing and classification in UNN*. Unpublished project work, University of Nigeria Nsukka
- Gbaju, E.S.(2013).Re-training librarians for the digital work environment by Nigerian library association. *IFLA Journal*. Available at ifl.sagepub.com/content/39/30/Abstract Access on April 7, 2015.
- Idiegbeyan-ose, J & Ilo, P. (2013). Libraries & librarians in the 21st century:A new perspective. *African Journal of information& knowledge management*,.Vol1(1).pp.68-74.
- Idow, S.O. (1999) Nigerian University Librarians Disposition towards Cataloguing and Classification. Unpublished project, University of Nigeria Nsukka.
- Kumbhai, R. (2012) Classification: theories reasons trends & personalities in library classification trends in the 21st century (www.sciencedirect.com/topics/computes/science).
- Ode, E.O. & Omakaro, D.A. (2007). *Basic principles and practice of librarianship*. PSG-France publications.
- Omekwu, C.O. (2009). *Referencing and citing of materials* in C.O. Omekwu (ed), Introduction to the use of the Library and Study Skills. Pp.84-95.
- Ukoha, E.U. (2002) Information Technologies in Nigerian Libraries. *Journal of Librarianship* (1): 40-45

Information and Communication Technology (ICT) Application in Polytechnic Libraries in South-South, Nigeria

R.E. Ozioko, B.U. Asadu² & R.N.C. Ugwuanyi³

Michael Okpara University Library, Umudike Abia State Nigeria¹, Nnamdi Azikiwe Library, University of Nigeria, Nsukka^{2,3}

drozioko@yahoo.com¹, boniface.asadu@unn.edu.ng², richard.ugwuanyi@unn.edu.ng³

Abstract

The study was designed to access the information and communication technology application in polytechnic libraries in South-South Nigeria. The objectives of the study were to identify the ICT facilities available; to determine the purpose of ICT application in those libraries; to determine the extent of ICT application in the libraries; to identify the challenges of ICT to library services and to suggest strategies for improving ICT application to library services in those libraries. A descriptive survey design was used for the study with a population of 94 library staff and 711 library users. All the library staff were used while 142 library users were sampled. Questionnaire and observation checklist were used for data collection. Out of 94 copies of questionnaire distributed to library staff, 84 representing 89.4% were correctly filled and returned and used for the study while out of 142 questionnaires distributed to the library users, 121 representing 85% was returned and used for the study. Data generated for the study were analysed using percentages and mean. The results obtained revealed that various ICT facilities such as network facilities, photocopiers, printers, scanners, local area network among others are available in the libraries; that ICT application are used for different purposes in the libraries; that the extent of ICT application to library services in those libraries is extensively low except few services that are of great extent, that there are same challenges associated with ICT application in the libraries such as inadequate funding, incompetent personnel, erratic power supply and management problems and many strategies like increased funding of ICT in libraries, provision of adequate technical support and provision of qualitative bandwidth were suggested to enhance maximum application of ICT in the libraries. Based on the findings, it was recommended that more ICT facilities should be made available, power supply should be improved and that adequate fund should be provided by the government to the libraries.

Introduction

The concept of the library as a store house of knowledge as embodied in books has been greatly altered by trends in the information and communication technology (ICT) fields. Anaeme (2006) stated that the emerging and fast growing information and communication technology application in libraries especially academic libraries have continued to revolutionised the pattern and scope of library services. The library as the heart of the polytechnic can benefit tremendously from the full implementation of ICTs.

There is a growing acceptance among academics, education policy-makers and employer groups that the development of ICT skills is part of higher education, Quadri and Olaleye (2017). The new technology enables the library to perform all its operational routines and provide efficient, effective and optimal services to its clientele.

The prime functions of polytechnic libraries is to provide facilities and information for teaching, learning, research and cultural development. Today, libraries especially polytechnic libraries are confronted with intricate and constantly developing network of knowledge and exist in world where the use of ICT has become essential to progress towards more efficient information service delivery. According to Adewale and Adesanya (2003), the manual method of acquisition, organization, maintenance, documentation, circulation of library materials and other services involves a lot of paper work and skilled man power of labour which is tedious, time consuming and prone to error. It usually leads to unnecessary delays in fulfilling its services to library users. As the library records are becoming larger and keep on increasing by day, the task of controlling the records will be more difficult and complex to handle manually. The situation calls for the need to apply ICT to solve problems created by

manual methods in this era of information explosion in the acquisition and processing and management of library resources as well as the satisfaction of users needs. Fausat, Lawal & Dolapo,(2018) Information communication technology (ICT) is one of the greatest inventions of mankind which played unprecedented roles in changing the landscape of human and organisation activities around the globe from which libraries are not exempted.

Libraries have remained unchallenged until recently as providers of convenient and comprehensive information to meet a wide range of the information needs for the public. Henderson (1992) states that information technology provides numerous benefits and advantages to library users, some advantages he identified include: provision of speed and easy access to information; provision of more up to date information; and provision of information flexibility to be used by any individual according to his or her requirements. Other importance of ICT to the effective organisation of materials includes that: it boosts the service of the library; it facilitates the typical library standard; it brings about standard information and library system; it saves time in processing, organization and retrieval of materials and accuracy is guaranteed.

At this point, it is worthy to note that when ICT is mentioned in the library, it is not just about the facilities as an isolated machine, it is simply the information and communication technology application to these libraries that facilitates its operations. No wonder. Aniodo and Ayalogu (2012) take information communication technology to be the use of the computer as well as other electronic telecommunication appliances to input, solve, and receive information from different sources, create and transfer messages in form of ideas and also input knowledge to recipients.

Is used to inspire students into action can be used to demonstrate correct techniques and to develop students outstanding and knowledge of their courses. Information and communication technology application to libraries had been responsible for the changing role of traditional libraries setting of handling information packaged in printed format to that of computer

networks dealing with all forms of knowledge. Thus, the information stored in libraries has taken a major shift from volume-limiting paper to limitless multimedia digital form. ICT has been described to be the medium by which the highest quality service in the library and information profession can be achieved. According to Ufuoma (2011), ICT in libraries has changed the mode of information storage and retrieval such as acquisition, cataloguing and classification, circulation of materials, serials control management statistics and administrative activities such as budgeting. This has ultimately led to the provision of more efficient information services to the users and overall improvement in the performance of the libraries and other related information institution (Chisenga, 1995).

Information communication technologies enable society to create, collect, consolidate, communicate, manage and process information in multimedia and various digital formats for different purposes. Contuning, Ashikuzzaman (2018) observed that ICT has changed the library professionals. E-Learning in education is the wholesome of model integration of modern telecommunications, equipment and ICT resources particularly the inker, into the education system (Makeri 2017).

The fifth law of library science according to Ranganathan cited in Ufuoma (2011) is that the library is a growing organism. Growth must imply change and libraries are faced not only with an unprecedented rate of change, but also challenges on their existence in contemporary society (Weiner, 2003). Aina (2004) has extensively discussed ICTs applied to libraries including personal computer application, CD-ROM searching, telefasmile, networks, electro copying, electronic mails, on-line searching and the internet. ICT application in libraries all over the world have brought about more efficient technical services and improved readers' services.

In spite of the numerous benefits derived from the current wave of innovation, which has transformed the contours of information services in academic and other libraries worldwide, the development pose some challenges to library services. Some of these challenges associated with the application of ICT to library services include: frequent

change in the designs of information technology, financial constraints of various academic libraries, poor infrastructural facilities erratic power supply, and lack of technical skills (Oketunji, 2001; Omekwu, 2004; Gbaje, 2007; Ashcroff and Watts, 2005 and Womboh and Abba, 2008).

Information and communication technology application has become an important issue by which library standard could be measured. According to Agim, Iroeze, Osuji and Obasi-Haco (2018), ICT has the potential to support and approve education across the curricula and also enhance opportunities for effective communication between teachers and students more than ever before.

The application of ICT has provided more effective and efficient service delivery in the library in order to enhance library services. Some researchers like Kanton (1994), Warner and Barber (1994). Mitchell and Mooney (1996) and Ede (1996) have all carried out studies that relate to information and communication technology application in academic libraries. The studies revealed that ICT in libraries have tremendously revolutionised library operations and services. However, the extent of ICT application in polytechnic libraries in South-South Nigeria has not been explored, hence the need for this study.

Purpose of the Study

The general purpose of the study is to determine the extent of information and communication technology application in polytechnic libraries in South-South Nigeria. The specific objectives of the study are to:

1. Identify the information and communication technology (ICT) facilities available in polytechnic libraries in South-South Nigeria.
2. Find out the purpose of ICT application in Polytechnic libraries in the zone.
3. Examine the extent of ICT application in Polytechnic libraries in the zone.
4. Examine the challenges of ICT application to library services in Polytechnic libraries in the zone.
5. Suggest strategies for improving ICT application to library services in Polytechnic libraries in the zone.

Research Method

The study adopted a descriptive survey design and the population consists of 94 library staff in polytechnic libraries in south-south geo-political zone of Nigeria and 711 registered users. All the library staff were used while 142 registered users were sampled using proportionate stratified sampling technique because the population varies across the polytechnic libraries in the geo-political zone. The instruments for data collection were researchers' developed questionnaire titled Information and Communication Technology Application in Polytechnic Libraries Questionnaire (ICTAPLQ) and observation checklist. Two sets of questionnaire were developed, one for the library staff and another for the library users. The questionnaire contains 68 items grouped into five clusters, A – E, with each cluster addressing each of the specific objectives of the study. The instruments were subjected to face-validation through expert opinions. The validates were requested to scrutinize the instruments to ensure proper wording of items, appropriateness and adequacy of the items of the instruments. Their observations, comments, criticisms and recommendations were used in the modification of the final draft of the instrument. The instruments were administered by the researchers with the assistance of research assistants who were selected from each of the polytechnic libraries used for the study. The questionnaire were administered and retrieved by the researchers within a period of three months. A – 21 item observation checklist was used by the researchers to find out the available ICT facilities in those libraries. Data generated for the study was analyzed using percentages and mean scores. For clarity, the data were presented in frequency tables. The responses for research question 1 was in percentages while research questions 2-5 were based on a 4 – point rating scale with a criterion point of 2.50. thus any mean score that is equal to or above 2.50 was regarded as positive while any mean score that is below 2.50 was regarded as negative. On the other hand, any percentage that ranges from 50% and above was regarded as acceptable while 49% and below was regarded as rejected.

Results

Table 1: Information and Communication Technology (ICT) Facilities Available in Polytechnic Libraries in South-South Geo-Political Zone

Facilities	Ogwashi-ukwu polytechnic library		Rivers polytechnic library		State Ozoro polytechnic library	
	AV	NA	AV	NA	AV	NA
1. Network facilities	√	-	√	-	√	-
2. On-line database	-	√	√	-	-	√
3. Machine readable catalogue (MARC)	-	√	√	-	√	-
4. Photocopiers	√	-	√	-	√	-
5. Printers	√	-	√	-	√	-
6. Scanner	√	-	√	-	√	-
7. CD-ROM	√	-	√	-	√	-
8. DVD-ROM	√	-	√	-	-	√
9. On-line Public Access Catalogue (OPAC)	-	√	√	-	-	√
10. Projectors	√	-	√	-	√	-
11. Library based software e.g. X-lib	-	√	√	-	√	-
12. Local area network	√	-	√	-	√	-
13. Wide area network	-	√	-	√	-	√
14. Wireless internet access	√	-	√	-	-	√
15. Telephone	√	-	√	-	√	-
16. Telefacsimile equipment	-	√	-	√	-	√

Table 2: Mean responses of the respondents on the purpose of applying ICT in Polytechnic libraries

Purpose of Application	\bar{x}	Decision
1. Increases the range of services offered	3.68	Agree
2. It allows easy integration of activities.	3.98	Agree
3. It facilitates library cooperation and networks.	3.92	Agree
4. It saves time and generates money	3.73	Agree
5. It increases efficiency	3.81	Agree
6. It helps to speed up the process of document delivery	3.82	Agree

Table 3: Mean responses on the extent of ICT application in the polytechnic libraries

Extent of Application	\bar{x}	Remarks
1. Current awareness services (CAS)	2.31	Reject
2. Provision of bibliographies	1.83	Reject
3. Photocopying	3.42	Accept
4. Refereal services	2.45	Reject
5. Displays	1.84	Reject
6. Bibliographic searches	2.11	Reject
7. Selected Dissemination of Information	1.41	Reject
8. Lending	2.46	Reject
9. Indexing and abstracting services	2.12	Reject
10. Short loan services	2.99	Accept
11. Registration of users	3.67	Accept
12. Charging and discharging	2.56	Accept
13. Inter library loan	2.09	Reject
14. Exchange of information	2.40	Reject

Table 4: Mean responses of the respondents on the challenges associated with ICT application in the polytechnic libraries

Challenges	\bar{x}	Remarks
1. Inadequate funding	4.12	Accept
2. Lack of infrastructural facilities	3.61	Accept
3. Incompetent personnel	3.83	Accept
4. Erratic power supply	3.77	Accept
5. Management problems	3.75	Accept
6. High cost of maintenance	3.41	Accept
7. Software problems	3.69	Accept
8. Frequent changes in technology	3.27	Accept

The data in table 1 shows the facilities that are available in the polytechnic libraries in the study area. It is evident from the table that network facilities, photocopiers, printers, scanners, CD-ROM, DVD-ROM, projectors, local area network, and telephone are available in all the libraries. Other ICT facilities such as machine readable catalogue (MARC), On-line database, On-line public access catalogue (OPAC), library based software wide area network and telefacsimile equipment are available in some libraries but not available in others.

Table 2 indicate that the respondents agreed that the purpose of ICT application in Polytechnic libraries include that it increases the range of services offered, allows easy integration of activities facilitates library cooperation and networks, saves time and generates money, increases efficiency and helps to speed up the process of document delivery. This is because all the items had

mean scores above 2.50 which is the criterion point.

It is evident from table 3 that the respondents agreed that the extent of application of ICT with respect to photocopying, short loan services, registration of users, and charging and discharging is high in those libraries while it is low with respect to items 1,2,3,5,6,7,8,9,13 and 14. This is because these items have mean scores of less than 2.50 which is the criterion point while the rest have mean scores of less than 2.50.

Table 4 indicates that the challenges of ICT application to library services in polytechnic libraries are inadequate funding, lack of infrastructural facilities, incompetent personnel, erratic power supply, management problems, high cost of maintenance, software problems, and frequent changes in technology. All of them have mean scores which is above 2.50 and were therefore accepted by the respondents.

Table 5: Mean responses of the respondents on the strategies for improving ICT application in the polytechnic libraries

Strategies	\bar{x}	Remarks
1. Increased funding of ICT in libraries	3.91	Accept
2. More qualified staff needed in the library	3.73	Accept
3. Training of staff of ICT facilities	3.69	Accept
4. Constant power supply	3.82	Accept
5. Provision of adequate technical support	3.91	Accept
6. Procurement of all relevant ICT components.	3.71	Accept
7. Effective management of the libraries	3.83	Accept
8. Provision of qualitative bandwidth	3.91	Accept
9. Provision of intranet and internet connectivity	3.76	Accept

The result as presented in table 5 indicated that all the strategies including increased funding of ICT in libraries provision of adequate qualified staff in libraries, training of staff on ICT facilities, provision of constant power supply, among others could be adopted to enhance the application of ICT in polytechnic libraries. All these items have mean scores which is more than 2.50, which is the criterion point and were therefore accepted.

Discussion of findings

The study revealed that there are some ICT facilities available in the polytechnic libraries in the zone. These ICT facilities include network facilities, on-line databases, machine readable catalogues (MARC), photocopiers, printers, scanners, CD-ROM, On-line public access catalogue (OPAC), local area network,

wide area network, telefacsimile equipment among others. It is however, important to note that these facilities are not generally available in all the polytechnic libraries. Whereas some of them are available in some libraries and some are not available in other libraries. The need for the availability of these facilities agrees with the findings of Onwubiko (2006) who asserted that academic libraries in Nigeria must embrace the technological innovation if they must meet up with emerging challenges associated with library services.

It was revealed from the study that the purpose of ICT application to library services include the increment of the range of services offered, easy integration of activities, saving of time, increased efficiency and facilitation of cooperation and networks. Etim (2002) and Madu (2006) are of the view that ICT

application to library services will bring about increased efficiency, save time and energy, facilitates cooperation and widen the range of services that the library could offer.

The extent of ICT applications to library services in the polytechnic libraries could be said to be minimal. The study revealed that it is only on photocopying, short loan services, registration of users and charging and discharging that it is applied. This situation shows that the extent of application is still low and it is obvious that ICT application in libraries have become indispensable (Sharp, 2002).

The study equally revealed that there are some challenges associated with the application of ICT facilities in polytechnic libraries in the zone. These challenges range from lack of infrastructural facilities incompetent personnel erratic power supply, high cost of maintenance and frequent changes in technology. Alakpodia (2010), Gbaje (2007), Tejiri (2009) all agreed that ICT application in libraries is faced with a number of challenges such as inadequate infrastructure, erratic power supply as well as high maintenance cost.

The finding revealed that ICT application in polytechnic libraries could be improved through adequate provision of ICT infrastructure in the libraries, training and retraining of staff, provision of alternative source of power supply and procurement of relevant spare parts which according to Ngurukwem (2006), Ukachi (2008) and Daze and Dutse (2003) will ensure that the polytechnic libraries will live up to expectation and will be able to meet the ever changing needs of the users.

Conclusion

The application of ICT to library services has come a long way. The development of ICT has changed tremendously the mode of information storage and retrieval as well as dissemination of information to library users. It could be seen that ICT encompasses all devices and technology employed in information handling which facilitates communication between man and the electronic environment. It serves in the storage, retrieval, dissemination and display of information through processing and management system and effective

dissemination of information to the clients. The challenges associated with the application of ICT facilities in polytechnic libraries notwithstanding concerted effort should be made to ensure full ICT application to the libraries so as to equip them with all it takes to render effective and efficient services to the users, which is the main purpose of their establishment.

References

- Adesanya, O.L. (2003). Application of information and communication technologies (ICTs) to library services. *Fountain of knowledge. Journal of library and information science* 1(1), 34-4.
- Agim, Iroze, Osuji and Obasi-Haco (2018) Level of availability and utilization of information and communication technology facilities students: a case study of Federal Polytechnic Nekede,, Owerre Imo State Nigeria. *International Journal of Library and Information Science Studies*, 4 (3) 26-39.
- Aina, L.O. (2004) Coping with the challenges of library and information delivery services. The need for institutionalized professional development. *Nigerian Library Association Conference proceeding*, 4.
- Adesanya, O.L. (2003). Application of information and communication technologies (ICTs) to library services. *Fountain of knowledge. Journal of library and information science* 1(1), 34-4.
- Alakpodia, O.N. (2010). The use of internet skills among library and information science students. The experience of Delta State University, Abraka. *Information Impact: Journal of information and knowledge management* 1(2), 55-60.
- Anaeme, F.O. (2006). Information and communication technology (ICT) intervention in library and information science in Nigeria *Library and Information Science Trend*, 4(1&2); 12-27
- Aniodo and Ayalogu (2012) ICT and the teaching and learning of physical and health education in secondary schools in Nigeria *Journal Of cultural studies* vol. 5.109-117
- Ashcroft, I. and Watts, C. (2005). ICT skills for information professionals in developing countries: Perspective from a study of the electronic information environment in Nigeria.

- IFLA Journal* 2005; Retrieved October 28, 2013 from: [//ifl.sagepub.com/cji/content/abstract/31/1/6](http://ifl.sagepub.com/cji/content/abstract/31/1/6).
- Clusenga, J. (1995). The status of information technology in Zambia libraries. *Africa Journal of Library, Archival and Information Science*, 5(1), 19-
- Ede, S. (1996). Libraries and technology in the European Union: Soldering the connections, *information technology and libraries* 15(2), 1117-122.
- Etim, F.E. (2002). Basic library and computer skills for primary schools, Ibadan: Heinemann Books
- Fausat, T.O. , Lawal , A.O, & Dolapo, M.O. .(2018)Library philosophy and practice (e-journal) Digital commons. University of Nebraska-Lincoln.(2018) 7-17..
- Gbaje, E. (2007). Implementing a national virtual library for higher education in Nigeria. *Libres* 17(2) <http://www.libre.curtian.edu.au>, retrieved on November 2, 2013.
- Henderson, F. (1992). Relationship with users in information technologies in special libraries. Edited by Margaret Britting. London: Routledge.
- Kanton, P. (1994). Information retrieval techniques, annual review of information science and technology, 29, 53-90.
- Madu, E.C. (2004). Automation and service provision in libraries and information centre in developing countries, In Madu, E.C. (ed) technology for information management and services. Ibadan: Eni Coleman.
- Makeri ,Y.A. (2017) ICT and the teaching and learning of physical and health education in secondary schools in Nigeria. *Journal Of cultural studies* vol. 5.109-117
- Mitchell, S. and Monney, M. (1996). Informine-a model web based academic virtual library, *information technologies and libraries* 15(1), 20-25.
- Ngurukwe, E.C. (2006). The role of ICT in stretegic planning and educational services delivery. A paper presented at institute of educational conference on ICT in the education. University of Nigeria. May 15-18.
- Oketunji, I. (2001). Application of information technologies in Nigeria libraries: problems and prospect. Ibadan: *NALISE*.
- Omekwu, C.O. (2004). Planning for library and information centre computerization in developing countries. Ibadan: Eni Colemann.
- Onwubiko, C.P. (2006). Emerging tools in the provision of library and information science in the 21st century Nigeria. *The research libraries* 1(1), 16-27.
- Quadri R. F. and Olaleye S. A (2017). Evaluation of ICT Literacy skills among students of federal polytechnic Offa, Kwara State, Nigeria: A Review of related Literatures. *SCIREA Journal. of Energy* 2 (2) 27-41.
- Sharp, K. (2002). Internet librarian: Traditional role in a new environment. 66th IFLA 13(7), 1-6.
- Tejiri, O. (2009). Building digital library infrastructure: a primer. *Journal of library administration in Nigeria*. 26(3&4), 5-23.
- .Tunde, T.O Fausat, A.O. , Lawal , A. & Dolapo, M.O. .(2018) Assessment of ICT competencies of Library staff in selected Universities in Kwara State Nigeria Library philosophy and practice (e-journal) Digital commons. University of Nebraska-Lincoln.(2018) 7-17.
- Ufuoma, E. (2011). Information and communication technology application in Delta State polytechnic libraries. Unpublished MLS project. University of Nigeria, Nsukka.
- Ukachi, N.B. (2008). Utilization of information and communication technologies (ICTs) in reference services in academic libraries: Threats and Challenges. *The information technologist*, 5(2), 62-69.
- Warner, B. and Barber, D. (1994). Building the digital library, *information technologies and libraries* 13(1), 20-24.
- Womboh, B.S. and Abba, T. (2008). The state of information and communication technology in Nigeria university libraries: The Experience of Ibrahim Babangida Library, Federal University of Technology, Yola, Library Philosophy and Practice. Retrieved October 15, 2013 from <http://digitalcommons.unl.edu/libphilprac/224>

A Survey of the State of Public Secondary School Libraries In Ilorin Metropolis

Usman A. Saliu¹, Titilola A. B. Abdussalam² & Grace O. Babafemi³

University Library, University of Ilorin, Ilorin^{1,2,3}

ajisaliu@gmail.com¹, abdussalam.tab@unilorin.edu.ng², Babafemi.go@unilorin.edu.ng³

Abstract

Purpose:-The purpose of the study was to examine the state of public secondary school libraries in Ilorin Metropolis with respect to staffing and library stocks.

Methodology:- A survey method was used for the study. stratified random sampling technique was used to select school libraries in Ilorin Metropolis. The data collected for the study were analyzed using frequency, and percentages. A total of ten (10) copies of a questionnaire were distributed and administered to officers in-charge of the libraries in the selected schools in Ilorin Metropolis. All the ten (10) copies of the questionnaire were returned due to my personal visit to collect them. This represents 100% of the total copies of the administered questionnaire.

Findings: - The outcome of the study revealed that all the school libraries under study were under-staffed and lacked library stocks.

Implication: The implication is that users of these public schools neither have enough guidance and supervision from library staff nor lots of library materials to consult in these public libraries

Value: The paper's value is to alert public school authorities in Ilorin Metropolis of inadequacies in library staffing and library stocks, so that they should intensify efforts to address the issues.

Keywords: Learning, Library stocks, Public school libraries, Reading skills, School libraries

Introduction

The word library signifies a place set apart for reading or reference and by extension, collection of books. It also describes a library as a collection of books and other recorded forms, housed, organized, and interpreted to meet broad and varying needs of people for information, knowledge, recreation and aesthetic enjoyment. It is a common place in developing countries like Nigeria that schools and colleges set aside a room or hall, cramped with some rickety, old tables, chairs, cupboards, a bizarre collection of books and magazines (most of which are outdated) and deploy a clerk or teacher who puts the building under lock duties, Chambers Encyclopedia (1975). Nnaji (1986), observes that library is regarded as a room or building where collection of books and other literary materials are properly arranged for the promotion of human knowledge. Library is one of the educational facilities required to achieve the stated goals of sound education at any level, hence, for primary schools in Nigeria,

'libraries' as claimed by the Federal Government 'are already being incorporated into the new primary schools being put up as part of the successful implementation of the Universal Free Primary Education' which began in 1976, Opaleke (1996).

According to Ahmad (2012) traditionally, school libraries offer conservative lending services and reading room facilities wherein students borrow books and browse through some newspapers and magazines. There was no concept of innovative personalized services. This state of affairs usually resulted in children's lack of interest in libraries. However, with the advancement of technology, school libraries do provide innovative programmes and services for children. (Mardis 2009) states that teachers have very specific information need relating to mastering the curriculum content and the behavioural structure of their class room for a divers rage of learners. Since school librarians form an important link to the scheme of things in school libraries they, therefore, need to play an active and collaborative role in knowledge

acquisition and dissemination, According to Moruf (2015), provision of library services is crucial and indispensable to both primary and secondary education systems. He concluded that school libraries must be assisted with proper funding to acquire relevant and varied materials as well as books and non-book materials for this purpose. They must be well organized and the right caliber of staff must be put in place to disseminate information directly or give assistance to those seeking information. Ose-Idiegbeyan and Okowdion, (2012). The educational aims of school libraries include;

- To stimulate and enhance the reading habit, promoting lifelong learning.
- To develop in children the ability to read for information
- To help pupils to increase and improve their knowledge of reading, speaking and writing
- To train children to care for books and make good and intelligent use of the library.
- To enhance children's reading and communication skills
- To provide children with information, both current and retrospective.

In the same vein, the school library prepares both the teacher and pupil to achieve sound and quality education by all or any of the following:

- a. The improvement of teaching by enabling the teaching staff to make reference to current books in the preparation of their lessons
- b. Providing information for teachers and student on current affairs.
- c. Providing supplementary reading for teachers, enriching class work.
- d. Serving as the laboratory where all books on all disciplines encourage self-reliance, good use of leisure time and arouses interest in reading (Ekweozoh, 1989 cited by Ogunrombi, 2005).

School Library World (2009) summarized the effectiveness of a school library as follows; it is accessible to the total school community, it

is cost effective because one book is used by many, it provides flexible scheduling and timely access to the collection by all students. A broad range of materials, adds new resources throughout the school year to keep collection dynamic, create a sense of ownership that is shared by the entire school community.

School Libraries and Secondary Education

The socio-economic and cultural development of a nation depends to a large extent on the achievements made in education and research. Libraries play a vital role in all stages of education especially in secondary education, the basic foundation on which the edifice of higher education is built. Libraries in schools are the natural supporting centres for individual's intellectual development and are particularly important today in view of the shift in emphasis towards individualized and heuristic learning. (Kumar, 1994). The change in instructional methods had been reflected in the function and role of libraries in learning process. This, renewed role of the library prompts it to provide documents and services for intellectual as well as recreational needs of individuals. School library becomes a source and force for educational excellence only when it functions as an integral component of the total teaching-learning process. The educational programme and library programme are interdependent and inseparable and have undergone tremendous changes since second half of the 20th century.

Although, libraries in higher educational institutions in Nigeria are well equipped and provide better facilities than their counterparts in school, the school libraries are still not considered as an instrument of learning process. The integration of school libraries with the educational system from school level would lead to considerable quality improvement in teaching-learning process.

To achieve these objectives, a sound, well equipped and managed library is required. As an adage says 'catch them young'. To catch them young library implement at this level of education is very necessary, as primary and secondary education is the key to the success or failure of any education system, since the rest of education programmes are built upon it.

Statement of the Problem

The study investigated the survey of the state of public secondary school libraries in Ilorin Metropolis. The rapid growth in secondary school Education contributed to the development of school libraries. Library is the first academic unit to be established in the school if it puts in the right direction.

The researchers have deemed it fit to conduct a research into the state of public secondary school libraries because we observed that many public secondary schools do not have functional school libraries. It is against this backdrop, therefore, that the study investigates the state of public secondary school libraries in Ilorin Metropolis.

Objective of the Study

The study aims at examining the state of secondary school libraries in Ilorin metropolis and identifying the present state of school libraries with a view to proposing solution to the problems so as to improve state of public secondary school libraries in Ilorin metropolis.

Scope of the Study

In view of the state of secondary school libraries in Kwara State, the study focused on the state of public secondary school libraries in Ilorin metropolis.

Significance of the Study

The report of this study adds to the already existing literature on the state of public secondary school libraries. The findings can serve as eye-opener to the problems so that the school authorities should improve on the state of public secondary school libraries in Ilorin metropolis.

Literature Review

The importance of school library is clearly stated under section 10 of the National Policy on Education (1981: p.43).

It is stated that libraries are one of the most important education service. Every State Ministry of Education needs to provide for the establishment of libraries in all our educational institutions and library assistants for this services.

The National Policy on Education (1981) highlighted the provision of libraries in schools as an integral compliment towards efficient and functional education. It also stated that each school is to be provided with library and a trained staff to run the libraries.

The new educational trend requires the utilization of non-book resources such as flash cards, slides, filmstrips films, records and computers in the teaching and learning processes. This is because emphasizes is no longer on the subject matter but on the learner.

The school library is crucial in the teaching and learning processes in a primary or secondary school. It is an integral part of the school community. School library pursues the vision, principles of the school management. Fakomogbon et.al (2017) opined that school library helps to support the school curriculum by providing up-to-date information to keep teachers and students abreast of new development. The school library compliments the work of the classroom teacher with the ultimate goal of ensuring that each student has equitable access to resources, irrespective of home opportunities or constraints. School library reflects and encourages collaborative learning and sharing of ideas. Krasher, (2005) who was cited by Yusuf (2011) in his thesis stressed that availability of a print rich environment and digital resources lead to more free voluntary reading that promotes students' potential for comprehensive knowledge, language ability and grammatical and spelling competence.

Aanu and Olatoye (2011) noted that the quality of library collection has tremendous impact on student's academic performance and higher test scores and even more with a higher usage of the school library resources. School libraries provide more than just books, magazines, newspapers computers and other technology databases of accurate information, e-books, plus fun and educational activities. Arua and Chinaka (2016) identified the type of books which school libraries should acquire to include reference books, non-fiction books like textbooks, fiction books like the story books, novels and cartoons. According to Afolabi (2016) , a school library by minimum standard of policy outline should consist of books, pamphlets, paper cuttings, gazettes and

government publications, atlas, maps and charts, photographs, and periodicals. School library collections will not be complete without reference books, non-fictions and fictions. There is the need to provide these school library resources in order to provide a clear path towards the realization of curriculum goals of school subjects. It is important to build reading comprehension. With today's easy-to-navigate eBook platform, students and teachers are provided access to eBooks for easy browsing, and digital media materials vital for classroom instruction. Ajegbomogun and Salaam (2011), discussed the state of school libraries in Nigeria. The authors highlighted declining financial support; inadequate infrastructure and equipment; employment of unqualified declining in emptiness of the book shelves and low level of information technology development as problems facing school libraries. They therefore suggested that the problem of poor library patronage and information usage among Nigerian children should be given adequate attention.

Selbar, et al. (2009) cited Ojoade (1993) and summarized the present state of school library in Nigeria. They emphasized in their findings of school libraries in Nigeria and expressed that "Libraries do exist in secondary schools, but many almost in name because all the element required for them to operate are not put in place. In the same vein, Elaturoti (1983) surveyed the state of secondary schools libraries in Oyo, Ondo and Ogun states of Nigeria he reported that the state of school libraries in these states were very poor, he stated that there were very few or no staff to manage the school libraries in these states. This study also confirms the finding of Aniebo (2006), who discovered that school libraries in Imo state lacked adequate accommodation, material and funds, as well as trained staff to manage the libraries in Imo state. Ogbonna, (2009), states that school libraries are libraries established in the primary and secondary schools mostly by the authorities of the schools to serve the pupils/students, the teachers and other staff members of the schools. In a school library, learning resources such as books and audio-visual materials are systematically collected and organized for the use of the students and teachers.

Methodology

Data for this study were collected using survey method. This study covered some selected secondary schools in Ilorin metropolis. Hence, a structured questionnaire was designed to obtain necessary information which was carried out during first terms of 2017/2018 academic year. The population used was randomly sampled. This was made up of eight (8) secondary schools. Copies of the questionnaire were thereafter sent to the schools through a personal visit to each of the schools surveyed to facilitate prompt, high and accurate response from school librarians/teacher librarians. The study covered some selected secondary schools in Ilorin metropolis. Data were analysed using frequency and percentages. Ten copies of the questionnaire were administered to the officers in charge of the libraries in the selected schools in Ilorin metropolis. All the eight (8) copies were returned due to my personal visit to collect them. This represents 100% of the total copies of the questionnaire administered. Each school was administered a copy of the questionnaire which was filled by the librarian or officer in-charge of the school library under review.

The schools were categorized into three, based on the year of establishment; the first category is 1st Generation schools, established before 1970, the second category is 2nd Generation Schools established before 1990, while the last category is 3rd Generation schools established before year 2000. The first generation has two schools. These include; Government High School Ilorin, established in 1967 and Ilorin Grammar School established in 1967. The second generation comprises three schools. Government Day Secondary School Tanke established 1984, Barakat Community Secondary School established in 1980 and Baboko Community Secondary School Ilorin established in 1980. The third generation has three schools. The schools are, Government Day Secondary School Adeta, Ilorin, established in 1997, Government Day Secondary School Adewole, Ilorin, established in 1997, and Government Day Secondary School, Odo-Okun established in 1997.

Table 1: Distribution of Respondents Based on the Year of Establishment

S/N	Name of School	Year Established	Frequency for school library	Percentages for school library
First Generation				
1.	Government High School, Ilorin,	1968	1	12.5
2.	Ilorin Grammar School, Ilorin.	1967	1	12.5
Second Generation				
3.	Government Day Secondary School, Tanke, Ilorin.	1984	1	12.5
4.	Barakat Community Secondary School, Ilorin	1980	1	12.5
5.	Baboko Community Secondary School, Ilorin	1980	1	12.5
Third Generation				
6.	Government Day Secondary School, Adeta, Ilorin.	1997	1	12.5
7.	Government Day Secondary School, Adewole, Ilorin.	1997	1	12.5
8.	Government Day Secondary School, Odo-Okun.	1997	1	12.5
Total			8	100

Table 1 above indicated that each school was administered a copy of the questionnaire, which was filled by the librarian/officer in-charge of the school library.

Table 2 below revealed that two schools out of eight have two professional librarians (i.e.) Degree in library science. The schools are; Government High School, Ilorin and Ilorin Grammar School, Ilorin. It is very unfortunate

that most of our school libraries in Ilorin metropolis lack qualified staff and non librarians which falls short of minimum standard of school library.

Table 3 below, revealed that the stock of the school libraries, it is very clear from this table that these schools have few or no materials, even where they exist, the materials are old, outdated and dusty.

Table 2: Staff Strength of the Selected Schools Library

S/N	Name of School	Library staff strength	Percentages
1.	Government High School, Ilorin,	2	12.5
2.	Ilorin Grammar School, Ilorin.	2	12.5
4.	Government Day Secondary School, Tanke, Ilorin.	1	12.5
5.	Barakat Community Secondary School, Ilorin	1	12.5
6.	Baboko Community Secondary School, Ilorin	1	12.5
8.	Government Day Secondary School, Adeta, Ilorin.	1	12.5
9.	Government Day Secondary School, Adewole, Ilorin.	1	12.5
10.	Government Day Secondary School, Odo-Okun.	1	12.5
Total		10	100

Table 3: Library Stock

/N	Name of School	Library Stock	
		Books	Journals
1.	Government High School, Ilorin,	30,000 vol. of books	15 titles journal
2.	Ilorin Grammar School, Ilorin.	35,000 vol. of books	10 titles journal
3.	Government Day Secondary School, Tanke, Ilorin.	20,000 vol. of books	No journal
4.	Barakat Community Secondary School, Ilorin	15,000 vol. of books	No journal
5.	Baboko Community Secondary School, Ilorin	10,000 vol. of books	No journal
6.	Government Day Secondary School, Adeta, Ilorin.	12,000 vol. of books	No journal
7.	Government Day Secondary School, Adewole, Ilorin.	15,000 vol. of books	No journal
8.	Government Day Secondary School, Odo-Okun, Ilorin.	10,000 vol. of books	No journal

Table 4: Qualification of the Teacher Librarian/Official in-Charge of the Library under Review

S/N	Name of the Schools	Qualification of the Officer in charge of the Library
1.	Government High School, Ilorin.	Library Certificate Course
2.	Ilorin Grammar School, Ilorin.	Degree in Library Science
3.	Government Day Secondary School, Tanke, Ilorin.	Master in Library Science
4.	Barakat Community Secondary School, Ilorin.	Library Certificate Course
5.	Baboko Community Secondary School, Ilorin.	Library Certificate Course
6.	Government Day Secondary School, Adeta, Ilorin.	Library Certificate Course
7.	Government Day Secondary School, Adewole, Ilorin.	Library Certificate Course
8.	Government Day Secondary School, Odo-Okun, Ilorin.	Library Certificate Course

Table 5: Does the School have Library Period for the Students?

S/N	Name of School	Yes	No
1.	Government High School, Ilorin,	√	
2.	Ilorin Grammar School, Ilorin.	√	
3.	Government Day Secondary School, Tanke, Ilorin.		√
4.	Barakat Community Secondary School, Ilorin		√
5.	Baboko Community Secondary School, Ilorin		√
6.	Government Day Secondary School, Adewole, Ilorin.		√
7.	Government Day Secondary School, Adeta, Ilorin.		√
8.	Government Day Secondary School, Odo-Okun, Ilorin.		√

Table 6: Does the school have annual budget for the library?

S/N	Name of School	Yes	No
1.	Government High School, Ilorin,		√
2.	Ilorin Grammar School, Ilorin.		√
3.	Government Day Secondary School, Tanke, Ilorin.		√
4.	Barakat Community Secondary School, Ilorin		√
5.	Baboko Community Secondary School, Ilorin		√
6.	Government Day Secondary School, Adewole, Ilorin.		√
7.	Government Day Secondary School, Adeta, Ilorin.		√
8.	Government Day Secondary School, Odo-Okun, Ilorin.		√

Table 4 above indicated that two schools out of eight employed professional librarian in their school libraries.

Table (5) above, indicated that two schools out of eight stated that they have library period for their students. Majority of schools indicated that they do not have library period for their students.

Table (6) reveals that none of the schools under review have annual budget for library.

Interpretation of the Findings

From the analysis, table 1 revealed the distribution of schools based on the year of establishment. The table 2, above showed that the first two schools were established in the 1960s, the second three schools were established in the 1980s while the last three schools were established in the 1990s.

From table two which revealed the various library staff strength, it can be deduced that all the libraries under investigation are understaffed, which corresponds with findings of Selbar, et al. (2009). Human resources in libraries contribute to the standards of that particular library. From table 3, it was revealed that school libraries lack library stocks. For instance, two (2) out of eight (8) schools under review had some books and journals, even where they exist, the materials are old, outdated and dusty. This research revealed that all the schools visited are under stocked with library materials. This conforms to the findings of Ose-Idiegbeyan & Okoedio (2012) which revealed that school libraries in Benin City Edo State are outdated, old and dusty.

From table 4, it was revealed that two (2) of eight (8) schools under review had library period for their students. Majority of the school libraries in Ilorin metropolis do not have

library period for their students. This confirms the findings of Aniebo (2006) that revealed that school libraries in Imo state are not provided with library period for their students.

From Table 5, it was revealed that school libraries in Ilorin metropolis lack fund. It can be deduced that all the school libraries under investigation have no budget of their own, which corresponds with the findings of Aniebo (2006), who discovered that school libraries in Imo state lack funds to manage the libraries in Imo state. This is similar to what is on ground in Ilorin metropolis.

From Table 6, it was revealed that two schools out of eight employed professional librarians in their school libraries. Majority of school libraries did not consider professional librarian in appointing head of library. It corresponds with the findings of Selbar et al (2009) Human resources in libraries contribution to the standards of library.

Problems of School Libraries in Ilorin Metropolis

School libraries in Ilorin face many problems which include:

Poor Library Administration: The Administrators in a library assist in managing the libraries. They ensure the libraries are open, functional, and serve the school and/ or community in which they operate. The administrators are expected to have received academic and practical training in basic librarianship from their respective higher institutions before venturing into the art of managing a library effectively for public consumption in Ilorin metropolis. The reverse is almost the case where quack professionals who see the art of managing the library as something very simple, are entrusted with the management of a library in Ilorin metropolis. They in turn mismanage, misfile, 'misemploy' unqualified individuals. These actions lead to the death of the libraries as users tend to stop patronage when they seek and don't find what they need. Entrusting the employment of qualified individuals into any hands has led to the appointment of incumbent unqualified administrator in the Ilorin metropolis library sector.

Solution: The possible solution is to always seek consultants from professional recruitment

agencies who know what to look out for when recruiting library administrators.

Poor Reading Culture: Nigerians have a low attention span rate, the average Nigerians believes in thinking action rather than reading to find a solution. This applies to Ilorin metropolis. The reading culture in our libraries has to be improved. If people do not read, they may not make use the library.

Solution: The possible solution here is simple to encourage the reading culture through prize competitions such as the cowbell maths competition and etisalat literature competitions.

Mismanagement of small budgets: We understand Government is not funding the public the libraries in Ilorin Metropolis up to expectations. Where are the funds going? This problem has surfaced the traditional behavior of Nigerians as corruption –Everyone wants to get it fast. The little channeled to the library management after being cut from above is diverted into personal pockets.

Solution: The possible solution here is to make each library stand independent from any organization or body collecting funds for it from the government, lay down organizational charts in line with the library budget and then establish offices that would be held responsible if the budget allotted for a project is unutilized and/or the project left undone within the stipulated period of time.

Irrelevant/ outdated information: The library is expected to be a place of current information resources. It is pitiable that in Ilorin metropolis libraries, the latest or most current books on the library shelves can be dated as far back as 2003.

Solution: The administrators need to understand that if they don't get funding, they should improvise.

Lack of funds: Finance is the life wire of any establishment including land, labour, capital, entrepreneur and information. Fund is obviously the major element in every establishment. It is equally the working capital of an establishment. Lack of funds hampers the provision of modern libraries in Ilorin metropolis and in the country at large. Without funds there cannot be growth. Government has

turned a blind eye in the educational sector which involves the library and focused more on oil as a way of getting income. The problem will be obvious in future generations where the current youths will have no idea of reading in a library as a way of finding solutions to the problems they may be facing.

Solution: The possible solution here is to encourage government through the House of Representatives to set out bills that will enhance the distribution of funds to the Nigerian Libraries. Also Kwara State government should encourage students by establishing school libraries in public schools

Poor infrastructure: Another problem is the existing inadequate infrastructure facilities in most school libraries. This shows that libraries in public schools in the nation are not given due recognition they deserve especially in Ilorin metropolis and this is traceable not only to the non-quantifiable nature of library services but also the misconception given to libraries by government to get off these problems.

Solution: There must be re-orientation on the part of the policy makers in government to accord school libraries the recognition they deserve in terms of provision of good quality infrastructure.

Inconsistent Government Policy: In Ilorin metropolis, each oncoming government introduces its own different type of policy. This has been the trend from time immemorial in the political settings of Ilorin metropolis. This ugly trend has adversely effected rapid development and participation of Nigerians in public libraries.

Solution: Governments should encourage public schools' library development and continue with that policy.

Conclusion

School libraries in Ilorin metropolis need urgent attention. They should be provided with the necessary facilities so that students can have access to the services of a functional school library which will enable them to compete favourably with others in a larger society. The existing secondary school libraries' facilities in Ilorin metropolis are far from being satisfactory. The essentials like

proper physical facilities, adequate collections, professional manpower, proper organization and basic services are lacking. Authorities should acknowledge the problems of school libraries in the state and address them. It is high time that recommendations of various commissions, committees, seminars, conferences and standards regarding school libraries were revisited and necessary steps taken to solve them. There should be regular funding to improve their extant plight.

Finally, this paper concludes that there is the need to revitalize the role and functions of school libraries and enhance their status through co-operation and assistance by the society. There is no doubt that well stocked school libraries manned by qualified school librarians should offer variety of library services which would contribution enormously not only towards raising the standard of education in the country, but also instilling the habit of self-directed independent learning which is antecedent to life-long education.

Recommendations

The survey has revealed the state of the public secondary school libraries in Ilorin metropolis in particularly and in Nigeria, and in general. Public library services in Ilorin metropolis has been rendered impotent because of the apparent neglect by the authority even at this crucial point in our educational development.

To achieve the objectives of establishing libraries in primary and secondary schools, quite a number of measures are expected to be taken;

1. Government should ensure that all her schools are mandated to have libraries which are separately set aside and recognized for library services.
2. Books and a variety of reading materials which would stimulate and awaken students' interest in reading should be provided so that students should become familiar with books, journals, magazines and other printed materials. This will not only serve as knowledge and information resources but also that of relaxation and pleasure.
3. The State Ministry of Education should enact legislation on school libraries. This

will provide for a special grant from the State Ministry of Education. Equally, it will ensure state-wide school library services that would procure and process all school library needs, plan and supervise library programmes in the schools and so on.

4. There is need for the government and various school owners to employ professional librarians to head the school libraries in Ilorin metropolis so that these librarians can render professional services to library users.
5. There should be annual budget for library development to meet the minimum standard for a school library
6. School management should include a library period in the time-table so that students can be taught to make use of the library.
7. The Nigerian Library Association (Kwara State Branch) should liaise with the Ministry of Education on the issue of minimum standards for school libraries.

References

- Aanu, E.M., & Olatoye, R.A. (2011). Use of library resources, study habit and science achievement of junior secondary school students, *Educational Research*, 2 (7), 1265-1269.
- Afolabi, K. A. (2016). School library media resources' availability as a predictor of secondary school students' academic achievement in social studies in Ondo state, Nigeria. (Online) *Library Philosophy and Practice (e-journal)*. Paper 1449. Available:<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?libphilprac/5>
- Ajebomogun, F.O. & Salaam, M.O. (2011). The State of School Libraries in Nigeria. *PNLA Quarterly*, 75 (3).
- Amune, S. A. & Dauda, H. M. (2001). New approach to the successful school library services in the new millennium for effective implementation of Universal Basic Education. *Communicate Journal of library and Information Science*. 3(1&2).
- Aniebo, M.U. (2006). Problems associated with applications of school library standards in Imo State. *Coal City Libraries* 4.
- Arua, U and Chinaka G. I. (2011). Use of library resources by staff and students of secondary schools in Umuahia North Local Government Area of Abia State. *Journal of Library Philosophy and Practice*, (Online), Available: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1821&context=libphilprac>.
- Elaturoti, D.F. (1983). Survey of secondary school libraries in Oyo, Ondo and Ogun States of Nigeria. *Nigeria Journal of Library and information*.
- Fakomogbon, M.A., Bada, A.A., & Omiola, M.A. (2012), Assessment of school library resources in public secondary schools in Ilorin metropolis, *Interdisciplinary Journal of Contemporary Research in Business*, 3 (10), 486-492.
- Krashen, S. (2005). The hard work hypothesis: Is doing your homework enough to overcome the effects of poverty? *Multicultural Education*, 12 (4), 16.
- Kumar, S. K. (1994). Higher secondary education and school libraries in Kerala. Role of libraries in education. Beacon Books, New Delhi. PP. 101-119
- Mardis, A. M. (2009). Classroom information needs. *D-Lib Magazine*. 15 (1/2)
- Moruf, H.A. (2015). Students utilization of secondary school libraries in Akinyete Local Government in Oyo state. *Journal of Research and Methods in Education (JRME)*, Vol.5, (3) iosrjournals. Org.
- Morris, B. (2004). Administering school library media center libraries Unlimited. 32.
- Nigeria Education (Federal Ministry of National Policy on Education (revised) (1985). 50P.
- Ogbonna, M. I. (2009). Appreciating the library. Enugu: His glory publishers, p.87.
- Okoedion, I., & Ose-Idegbeyan, J. (2012). A survey on the present state of school libraries in Benin-City. Institute of Technology and Management Library Usen, Edo State, Nigeria. *Library Philosophy and Practice* <http://unllib.unl.edu/lpp/> (online)
- Olanlokun, S.O. & Salisu, T.M. (1993). Understanding the library: A handbook on library use. Yaba: University of Lagos Press, pp. 22-24.
- Opaleke, J.S. (1996) An Examination of the state of libraries in public primary schools in Kwara State, Nigeria. *Library Herald*, 33, (3-4) 123-13.

- Selbar, J.J. et al (2009). The predicament of school libraries in Nigeria: A case study of the Jos metropolis. Available: <http://forge.fhpotsdam.de/~IFLA/INSPEL/95-4seju.pdf>.
- Yani, S.D. (2003). Reading habits of senior secondary school students in Zaria Local Government Area. *Zaria journal of Librarianship* 6.
- Yusuf, N. (2014). Impact of high school library service and library usage on student performance: The case of Eastren Hararghe. A Thesis Submitted to the Department of Information Science School of Graduate Studies Haramaya University, (online).