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Students Industrial Work Experience Scheme as Correlate of Digital Skills and Competences among Emerging Librarians from Bayero University Library School

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Abstract

The study carried out a post Students Industrial Work Experience Scheme (SIWES) assessment of emerging librarians at Bayero University Library School with a view to ascertain their digital skills and competencies vis-à-vis places they did SIWES. The study was carried out quantitatively using cross sectional survey design that involves correlation. The population of the study comprises 236 emerging librarians (final year students) from Bayero University Library School, out of whom 146 were sampled using simple random sampling technique, respondents of the study comprise 109 of the 146 emerging librarians, of whom 78 (71.6%) are male while 31 (28.4%) are females. Data for the study was collected using questionnaire that tested to 0.799 Chronbach Alpha reliability value. Data collected was analysed using descriptive statistics and Spearman Rank Correlation (Rho). The post SIWES' assessment indicates that emerging librarians from Bayero University Library School have digital skills and competencies to provide contemporary library services, 68.8% had computer skills, 51% had internet and e-service skills, 14% had database management skills while 8% had networking skills. It was further discovered that only doing SIWES in academic libraries has positive statistical correlation with digital skills by (N=53, Rho= .193>0.05) likewise digital competences of emerging librarians only has positive correlation with academic libraries by (N=53, Rho= .166>0.05). It is recommended that library schools in Nigeria should encourage students to undergo SIWES in academic libraries.

Keywords: Digital Skills, Digital Competences, emerging Librarian, Bayero University Library School, Students' Industrial Work Experience Scheme (SIWES)

Introduction

The advancements in information and communication technologies (ICTs) have necessitated a paradigm shift in the focus of library schools towards inculcating the adoption and use of digital tools among emerging librarians. Moreover, in several forums of progressive discussions about the future of librarianship, librarians are constantly urged to heed towards every innovation brought about by Information and Communication Technology, not only in the face of changes in users' preference for web based services, but also due to changes in job specifications that require peculiar digital skills and competences for the job of a librarian (Itsekor and James, 2012). In line with the impetus of ICTs on library and information service provision, Narasap and Kumar (2016) opined that ICTs have ushered in automation and digitisation to revolutionise traditional library practices, and they pose new challenges for greater opportunities that Librarians must brace up to be re-skilled about, especially to foster and sustain the future of librarianship.

An emerging librarian is a student learning to become a librarian, whose relevance to librarianship greatly depends on education received from a library school, they are to apply ICTs to conventional library practices in order to facilitate access and use of information. Thus, emerging librarians are termed as

modern librarians; they are expected to possess those standards and values to effectively function. Thus, the career prospects of an emerging librarian is ensured by those fundamental digital skills and competencies with which they adapt to emerging technological roles that constantly redefine efforts to foster access and use of information, (Gerolimos, Malliari and Iakovidis, 2015).

In view of the need to produce digital librarians, Students' Industrial Work Experience Scheme (SIWES) programmeme is one of the avenues through which emerging librarians are equipped with requisite skills and competence. Essentially, SIWES is an initiative of the Federal Government of Nigeria designed under the Industrial Training Fund to enable students of tertiary institutions in Nigeria acquire practical skills that will support the theoretical knowledge gained in the classroom. According to Abraham-Ibe (2015) SIWES is an appendage to classroom instructions where students directly and practically participate in real work activities before graduation. In particular to case of library and information science education, Ojokuku, Emeahara, Aboyade and Chris-Israel (2015) informed that SIWES expose and prepare the emergence of skilled manpower with the kinds of library work they will be faced with after graduation.

Bayero University Library School is located in Kano State, North-West Geographical Zone of Nigeria. It was established in 1977 and started with Diploma programme on Library Science. It later introduced Undergraduate, Master's and PhD programmes in Library and Information Sciences in 1980, 1990 and 1994 respectively. Among others, the objective of Bayero University Library School is to give successful students a broad and advanced understanding of basic methods and procedures used by modern library and information science professionals, (Farouk, 2010).This study will leverage on the SIWES training received from various places to find out whether emerging librarians have digital skills and competencies for library and information services delivery in the digital era.

Research Objectives

This study is aimed at examining the digital skills and competencies possessed by emerging librarians from Bayero University Library School, the objectives are as follows;

1. To identify the institutions where emerging librarians from Bayero University Library School did their SIWES
2. To identify the digital skills of emerging librarians from Bayero University Library School.
3. To identify the digital competencies of emerging librarians from Bayero University Library School.

Research Hypothesis

H_1: there is statistical relationship between place of SIWES and the digital skills of emerging librarians

H_2: there is statistical relationship between place of SIWES and the digital competencies of emerging librarians

Literature Review

The library school as a fountain for acquiring digital skills and competencies

A library school like every other professional school is an institution of learning, providing skilled training for students to become graduates and be employable as librarians or information and knowledge managers. Accordingly there is a very direct relationship between library schools and the digital skills and competencies expected of emerging librarians. The digital skills and competencies that library schools infuse into their students are those that prepare their emergence as librarians who will use digital tools to provide access to information that are geared towards satisfying information needs of users. In view of the impetus for digital skills and competencies that library schools are expected to infuse into emerging librarians, IFLA (2017) noted that library schools should "draw on unique expertise…to develop key digital literacy skills among students and assist educators in integrating digital skills in curricula". In essence IFLA advocates that digital skills and competencies should have a place in the curriculum of library schools with a view to provide training on contemporary requirements to practice as librarian. In line with IFLA Diso and Njoku (2007)

proposed that the aim of training librarians for the 21st Century should equip graduates with relevant theoretical knowledge and practical skills and techniques that will produce digital librarians for all types of libraries and information centers.

What constitute digital skills and competencies for library and information services are in Ayoku and Okafor (2015), Ansari (2013), Ullah,Iqbal and Hussain (2016), Ukwoma, Iwundu and Iwundu as well as Raju (2016). Hence, the scope of digital skills obtained from library schools include; knowledge and skills on computers (including their hardware and software), Internet, networking and those on operating systems that will enable efficient digital interaction between a librarian and networks, websites, databases and library clienteles. In addition, Khan and Bhatti (2017) noted that digital skills and competencies can be viewed from a tripartite perspective that include; the skills and competencies for developing, managing and protecting digital library contents. Furthermore, Nonthacumjane (2011) informed that though technical competencies still underpin the professional practices of librarianship, a set of archetypal discipline-specific knowledge based skills and competencies have emerged in addition to personal and generic skills that initially breed a librarian. These discipline-specific based skills and competencies include; knowledge of metadata, database development and management, user needs, digital archiving and preservation, collection development and content management system.

Based on analysis carried out on market of newly emerging IT-based jobs in library and information sciences, Shabazi, Fahimnia and Khoshemehr (2016) identified that due to globalisation and increased communication in scientific communities, library schools need to prepare emerging librarians with 75 skills and competencies on 7 areas that have to do with; (a) Computer Basics, (b) Internet, Database and Electronic Services, (c) Web Designing and Management, (d)Basic Programming and Database Management, (e) Computer Networking, (f) Computerised Cataloguing and Library Software and (g) Behavioural Characteristics to get employed for four most after job titles like; System Librarian, Metadata Librarian, Electronic Resource Librarian and Digital Archivist. Furthermore, Shabhazi and Hyedati (2016) ranked the competencies of digital librarian according to their frequency in newly emerging it-based LIS jobs and discovered that the employment of librarians are sought after for their:

(a) Knowledge and skills of searching method (basic and advanced) in databases and on the internet, developing and limiting searching and improving results

(b) Knowledge and skills of information seeking consultation (through calls, email, chat etc)

(c) Knowledge and skills of databases (science direct, EBSCO, John Wiley, ProQuest, Ovid, Emerald, Google Scholar, Medline etc) and the registration procedure

(d) Knowledge and skills of search engines and web directories

(e) Knowledge and skills of digital resource collection development; knowledge and skills of integrated library systems e.g Dspace

(f) Knowledge and skills of digital resources dealers and suppliers

(g) Knowledge of web 2.0 services (social networks, wikis and weblogs etc)

(h) Knowledge of general reference materials and services in the digital environment

(i) Knowledge of basic concepts of computers and windows operating system; knowledge of specialized reference materials and services in the digital environment

(j) Knowledge of free scientific resources websites (reference resources, articles, movies, etc)

On the need for digital skills and competencies among librarians informed that digital skills and competenc are needed to carry out tradition a library operations in the area of acquisition, cataloguing, classification and reader services using digital tools. In addition, Seena and Pillai (2014) remarked that digital skills are highly needed for reference services such as current awareness, selective dissemination of information and reference interviews.

Digital skills and competencies are now inevitable for securing the job of a librarian basically

because of the continuous proliferation of information in electronic sources and the increasing need to access them in electronic format. Thus, evolving developments in librarianship have now necessitated libraries to be selective in employing emerging librarians into their workforce so as to meet the information need of today users who are millennial and technologically savvy, Oyedokun, Oyewumi, Akanbi and Laaro (2018).Moreover, Ayoku and Okafor (2015) noted that with the advent of ICTs and their being incorporated into library services, librarians needed to undergo additional on- the- job training to be well equipped with the skills and competencies to deal with queries on modern search techniques and provide practical guidance to users on finding, borrowing and use of online resources.

In the literature of SIWES in library science Ojokuku, Emeahara, Aboyade and Chris-Israel (2015) expressed that SIWES students gain various degrees of digital skills and competencies that comprise online cataloguing, use of OPAC, Microsoft excel cataloguing, use of KOHA library management software, database operation and image database. On the contrary, Ibegbulam, Ejikeme and Enem (2017) reported that despite adequate availability of training facilities, SIWES students from University of Nigeria, Nsukka, Enugu State College of Education and Micheal Okpara University, Umudike lacked digital skills and competencies because they did not learn digital skills and competencies on: Internet literature search, library database management, digitisation and online cataloguing compared to how they learnt traditional skills and competencies of librarianship.

Where facilities to impart practical skills is not a problem, Ugwanyi and Ezema (2010) noted that the mismatch between the curriculum to teach Library and information science negatively impact on how LIS students acquire digital skills and competencies. Nse (2012) empirically established that the effectiveness of SIWES training which emerging librarians will receive during their SIWES year is proportionate to the skills and competencies possessed by library staff.

Methodology

The study was carried out on emerging librarians (final year students) of Bayero University Library School. The choice of using final year students is not merely because they are the most senior undergraduate students in Bayero University Library School, but because they have acquired requisite practical experience through Students' Industrial Work Experience Scheme (SIWES). Prior to the study, a pilot survey carried out through an interview with emerging librarians who registered to do SIWES at Bayero University Library indicated that they have only received theoretical lectures in class but have not been taken to the computer laboratory for practical knowledge.

The study was carried out using quantitative methodology, and cross-sectional survey design was used to collect data from respondents. Questionnaire was designed and used to collect data from respondents. The questionnaire was tested for reliability using Chronbach Alpha, a score of 0.799 was obtained.

The population of the study comprised 236 emerging librarians from Bayero University Library School during the 2017/2018 academic session. To give every member of the population an equal chance to participate in the study, simple random sampling technique was used with Krejcie and Morgan (1971) formula for determining sample size to obtain a sample size of 146 (approximately 62% of the total population),who were administered with questionnaire to serve as respondents of the study. Data collected was analyzed using Statistical package for Social Science (SPSS) Version 23, presented on tables and analyzed using descriptive and inferential statistics.

Findings

Out of the 146 copies of the questionnaire distributed, 109 or 71.6 % were returned. Of the 109 copies received 78 or 71.6% were male. Table 1 shows the institutions in which the respondents served their SIWES.

Table 1: Institution of SIWES to respondents

Institution	Frequency	Percent
Academic library	53	48.6
Public library	12	11%
National library	3	2.8
Special library	17	15.6
IT based organisations	24	22%

The table 3 shows that emerging librarians from Bayero University Library School did their SIWES in five categories of institutions. Majority comprising 53 (48.6%) did their SIWES in academic libraries while only 17(15.6%) did their SIWES in special libraries.

Table 2: Digital Skills of emerging librarians

Digital skill	Frequency	Percent
Computer skills	75	68.8%
Networking skills	7	8%
Programmeming skills	0	0
Library management	0	0
Web design skills	1	0.9%
Internet and e-service skills	56	51.4%
Database management skills	16	14.7%

Table 2 reveals that emerging librarians from Bayero University Library School possessed five out of seven digital skills which the study inquired about. Data shows that 75 (68.8%) possessed computer skills, followed by 56 (51.4%) skills for Internet and e-service. On the other hand, data shows that emerging librarians possessed only 1 (0.9%) and 7 (8%) skills for web design and networking respectively, and none possessed the skills for programming and use of library management systems.

Table 3: Extent of digital skills among emerging librarians

Digital skill	VH	H	L	VL	Mean	Decision
Computer skills	30(27.5%)	27(24.8%)	15(13.8%)	37(33.9%)	2.5	H
Networking skills	0	4(3.7%)	59(54.1%)	46(42.2%)	1.6	L
Web design skills	4(3.7%)	4(3.7%)	50(45.9%)	51(46.7%)	1.6	L
Internet and e-service skills	44(40.4%)	35(32.1%)	12(11.0%)	18(16.5%)	2.6	H
Database management skills	0	18(16.5%)	52(47.7%)	39(35.8%)	1.8	L
Programming skills	0	1(0.9%)	75(68.8%)	33(30.3%)	1.7	L
Library management System skills	3(2.8%)	6(5.5)	47(43.1%)	53(48.6%)	1.3	L

Table 3 shows that emerging librarians have high skills on internet and e-services and also on computer with mean score of 2.6 and 2.5 respectively. Conversely, they had low skills to operate library management systems with mean score of 1.3, followed by low networking skills and web design skills with mean score of 1.6 respectively. They further had low programming skills with mean score of 1.7.

The respondents were asked to indicate areas of digital competences which they had abilities. The table 4 shows the abilities of respondents.

Table 4: Digital competencies of emerging librarians

COMPETENCIES	FREQUENCY	PERCENT
Install computer programs	33	(30.3%)
Create, save and backup files and documents	40	(36.7%)
Send/share files and documents	44	(40.4%)
Use Microsoft office packages	52	(47.7%)
Scan and digitise documents	18	(16.5%)
Troubleshoot computer problems	27	(24.8%)
Perform basic and advance search in a database or through the internet	48	(44.0%)
Use social networks and web 2.0 tools for library service	41	(37.6%)
Attach documents and send via email	48	(44.0%)
Consult websites for information	63	(57.8%)
Register with a database for scientific information	52	(47.7%)
Download and retrieve documents from a database	72	(66.1%)
Develop library database	6	(5.5%)
Manage library database	6	(5.5%)
Create a virtual group using social media and web 2.0 for collaboration and knowledge sharing with other libraries and users	68	(62.4%)
Bookmark websites	45	(41.3%)
Design website	2	(1.8%)
Use podcast and web conferencing tools (e.g. Skype) for library service	74	(67.9%)
Create a network (e.g. LAN, WAN, MAN)	24	(22.0%)
Write programs	6	(5.5%)
Operate library management software	5	(4.6%)
Create and operate OPAC	22	(20.2%)
Hyperlink pages	19	(17.4%)
Do online cataloguing	5	(4.6%)

Table 4 indicates that emerging librarians from Bayero University Library School had digital competencies, only that they were deficient of those cognate competencies for delivering digital library and information services. Their competencies comprised 72 (68.1%) ability to download and retrieve documents from database/internet, 52 (47.7%) ability to register with scientific database for information, 45 (41.3%) ability to bookmark websites, 48 (44.0%) ability to attach documents and send via email, 63 (57.8%) ability to consult website for information, 52 (47.7%) ability to use Microsoft Office packages, 48 44.0%) ability to perform basic and advance search in a database or through the internet and 68 (62.4%),ability to create a virtual group using social media and web 2.0 for collaboration and knowledge sharing with other libraries and users.

On the other hand, emerging librarians from Bayero University had areas of little digital competencies. some of whom included: 2 (1.8%) ability to design website, 5 (4.6%) ability to operate library management software and do online cataloguing respectively, 6 (5.5%) ability to write programs,6 (5.5%) ability to design and maintain database, 18 (16.5%) ability to scan and digitize documents, 19 (17.4%) ability to hyperlink information and 22 (20.2%)ability to create and operate OPAC.

Table 5: Source of digital skills and competencies

SOURCE	YES	NO
Library school	92(84.4%)	17(15.6%)
Internet café/computer training school	33(30.3%)	76(69.7%)
SIWES	27(24.8%)	96(75.2%)
Conference and workshop	2(1.8%)	107(98.2%)
Online tutorials (e.gyoutube)	49(45%)	60(55.0%)

Table 5 reveals different sources through which digital skills and competencies were acquired by emerging librarians. Data indicates that 92 (84.4%) acquired their skills and competencies from library school, 49 (45.0%) through online tutorials, 33 (30.3%) through internet café/computer training school, 27(24.8%) through SIWES and only 2 (1.8%) had attended conferences and workshops to gain digital skills and competencies.

Table 6: Relationship between place of SIWES and digital competence

VARIABLES	N	Mean	SD	Rho
Digital competence	109	57.5	23.9	
Academic library	53	1.514	0.502	.166**
Public Library	12	1.889	0.314	-.542**
National Library	3	1.973	0.169	-.327**
Special Library	17	1.844	0.364	-.629**
IT-Based Organisations	24	1.779	0.416	-.718**

**.correlation is significant at the 0.01 level (2-tailed)

Table 6 shows that correlation (Rho) between places of SIWES and digital competences is only significant in 1 out of the 4 places that emerging librarians did their SIWES. The value (N=53, Rho=.166>0.05) indicates a weak positive correlation between academic library and digital competence. While the (N=24, Rho=718<0.05) indicates a very strong negative correlation between IT-based organizations and digital competence. Moreover, (N=17, Rho=-.629<0.05)for special library and (N=12, Rho=-.542<0.05) for public library indicate a strong negative correlation respectively, while (N=3, Rho=-.327) indicates a moderate correlation between national library and digital competence.

From results of the correlation, the hypothesis that states that there is statistical relationship between place of SIWES and digital competences is only applicable in academic libraries and not so in special, national, public libraries and IT-Based organisations.

Table 7: Relationship between place of SIWES and digital skills

VARIABLES	N	Mean	SD	Df	Rho
Digital skills	109	17.982	4.426	2	
Academic library	53	1.5138	.50212	2	.193**
Public library	12	1.8899	.31445	2	-.539**
National library	3	1.9725	.16436	2	-.283**
Special library	17	1.8440	.36450	2	-.621**
IT-Based Organisations	24	1.7798	.41628	2	-.718**

**.correlation (Rho) is significant at the 0.01 level (2-tailed)

Table 7 reveals that correlation (Rho) between digital skills and place of SIWES is only significant in 1 out of the 4 places that emerging librarians did their SIWES. The Rho (N=53, Rho =.193>0.05) indicates a moderate positive correlation between academic library and Digital skills, while Rho (N=24, Rho -.718< shows a very strong negative correlation between academic library and digital skills possessed by emerging librarians.

Moreover, the Rho of -.539<0.05 and Rho-.621<0.05 shows a strong negative correlation for digital skills with a public library and a special library respectively. Consequently, Rho of-.283<0.05 indicates a moderate negative correlation between public library and digital skills.

From results of the correlation, the study hypothesis which states that there is statistical relationship between place of SIWES and the digital skills of emerging librarians is only applicable in academic libraries and not in special, national, public libraries and IT-Based organisations.

Discussion of Findings

In this study the places where emerging librarians did their SIWES were correlated with their digital skills and competencies, the discovery is that the correlation is significant and positive in academic library only. Unlike Nse (2012) where it was discovered that majority of emerging librarians did their SIWES in cybercafés, computer business centers and information centers and ended up gaining skills and competencies that are outside the core functions of library services, emerging librarians from Bayero University Library School had acquired some digital skills and competencies for doing their SIWES in academic, public, special, national libraries and IT-based organizations. Moreover, Ojukwu, Emeahara, Aboyade and Chris-Isreal (2015) discovered that when emerging librarians who did their SIWES in library based organisations, they became exposed to new work methods and their professional development was positively influenced.

The various digital skills and competencies that emerging librarians from Bayero University Library

School had and the extent to which they possessed these skills and competencies is indicative of the impact of SIWES on making emerging librarians have digital skills and competence, but unlike Igbebulam, Ejikeme and Enem (2015) that discovered that emerging librarians did not acquire digital skills and competencies on library database management, online cataloguing, internet literature search and digitisation as compared to how they acquired the skills on shelf management, filing catalogue cards, original (manual) cataloguing and subject classification, this study has discovered that because emerging librarians from Bayero University Library School predominantly did their SIWES in academic libraries and they have gained more digital skills and competencies compared to before doing their SIWES.

Findings of the study have shown that the objective of SIWES that seeks to achieve synergy between education and industry as a means of providing requisite digital skills and competences is deficient in some place where emerging librarians are posted to acquire digital skills and competencies from. This can be attributed to inadequate equipment and poorly motivated human resources needed to provide the required training to emerging graduates, (Katuli-Munyoro and Mutula, 2016). Nse (2012) corroborates that SIWES training to emerging librarians is directly proportionate to the skills and competencies possessed by library staff. Similarly, Ogbuanya, Njoku, Kemi and Ogunkelo (2018) outlined some of the challenges affecting the attainment of the objectives of SIWES to include; lack of modern facilities/machineries in training stations, lack of equipped industries to absorb and impart requisite skills to SIWES students, and inadequate training facilities. In all these challenges there is the need to ascertain that where students, emerging librarians are posted to where there is modern training facilities and adequate manpower.

Thus, Jibril, Sabitu, Jamila and Liman (2018), just as Ezeama, Ugwuaniand Ugwu (2014) informed that for librarians to deliver efficient services to users and by extension have the capacity to train others, they themselves should have digital literacy skills and competencies about; electronic mailing, social network, surfing the internet, electronic conferencing, computer operations, multimedia projecting and sharing resources online.

Conclusion

Unlike prior to the study where a pilot survey indicated that most emerging librarians from Bayero University Library School did not have digital skills and competencies, they now have computer skills, networking skills, Internet and e-service skills and database management skills after undergoing SIWES. However, the study has shown that emerging librarians from Bayero University Library School do not have programming and web design skills and competences to deliver library and information services despite having gone through SIWES. Moreover, the study has also shown that digital skills and competencies positively correlate with doing SIWES in academic library only. In essence, other places which emerging librarians chose to do their SIWES did not have the capacity to make them acquire requisite and cognate digital skills and competences for library service.

The placement of emerging librarians (library and information science students) to where they will do SIWES should be carried out bearing in mind that an institution has the requisite facilities and manpower to train upcoming librarians in line with contemporary digital skills and competencies for library services. Essentially, emerging librarians are encouraged to engage in self-development on digital skills and competencies to meet the requirements for being relevant in the profession.

There is the need for a synergy between library schools in Nigeria and professional bodies such as The Nigerian Library Association (NLA) and The Librarians Registration Council of Nigeria(LRCN) to do an accreditation of library and information centres in Nigeria with a view to certify them, not only for service delivery but also for SIWES training on cognate digital skills and competencies for library and information services.

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