

INCLUSIVE LIBRARIES AND INFORMATION SERVICES TOWARDS ACHIEVING PROSPERITY FOR SUSTAINABLE DEVELOPMENT IN AFRICA



Proceedings of the 24th Standing Conference of Eastern,
Central and Southern African Library and Information Associations

8-11 February 2021, Safari Hotel and Conference Centre, Windhoek, Namibia

Chiku Mnubi-Mchombu, Cathrine Nengomasha and Wilhelm Uutoni



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Standing from left to right: Ms Hilya Robert; Ms Aletta Dunn; Ms Sabina Neumbo; Ms Ritva Niskala; Mr Wilhelm Uutoni and Dr Johannes Shimaneni

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FOREWORD

The broad theme of the 24th Standing Conference of Eastern, Central and Southern African Libraries and Information Associations (SCECSAL) was on inclusivity of information services. The question therefore is, why is *inclusive libraries and information services towards achieving prosperity for sustainable development in Africa* an important theme? The need to provide inclusive services is important to ensure that library and information services are reaching out to all members of society without discrimination. In order to achieve the United Nations Sustainable Development Goals and the African Union Agenda 2063, a knowledge-based society is required so as to create a well-informed society which will make the right decisions towards the creation of a sustainable environment.

The publication provides papers presented at the SCECSAL conference which took place in Windhoek, Namibia face-to-face and virtually from the 8th to 11th of February 2021. This conference was originally scheduled for April 2020 but due to the COVID-19 pandemic, it was postponed to February 2021.

The papers included in the publication cover the following subthemes:

1. Inclusive libraries and library services: opportunities, initiatives and challenges;
2. Building capacities of library and information professionals to contribute towards attaining the 2030 Agenda;
3. Research and development in libraries;
4. Information society and knowledge-based economies;
5. Digital technologies in library and information services;
6. Library and information user studies;
7. Information literacy: programmes and strategies;
8. Development, management and access to electronic information resources
9. Specialized information and outreach services;
10. Indigenous knowledge and preservation of cultural heritage;
11. Quality assurance, monitoring and evaluation, role and impact of libraries and information services.

Paper contributors were from more than 10 countries, which gives a good and broad taste of an international conference. The authors are library and information professionals from various sectors.

The papers included in this publication were subjected to an elaborate quality assurance process, which included double-blind peer review by professionals who are experienced in the library and information field.

The National Information Workers Association of Namibia's SCECSAL National Organizing Committee is grateful to all our contributors at this conference, which resulted in these conference proceedings. Our sincere gratitude goes to all our sponsors and partners that contributed in various ways towards the success of this conference. Special thanks to NLIC, and Emerald for their generous contributions.

Finally, we would like to thank all members of the National Organizing Committee for their hard work and commitment to ensure that the SCECSAL conference was a big success. Furthermore, our appreciation goes to Dr John Paul Anbu K. and Dr Justin Chisenga, from the SCECSAL Secretariat, for their unwavering support throughout the preparation of the conference.

Yours sincerely

Dr Chiku Mnubi-Mchombu
Chairperson
National Organising Committee
24th SCECSAL Conference

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Face-to-face participants for 24th SCESCAL Conference at the Safari Hotel on the 11th February 2021.



Members of the National Organizing Committee and volunteers for the 24th SCESCAL Conference on the 8th February 2021.

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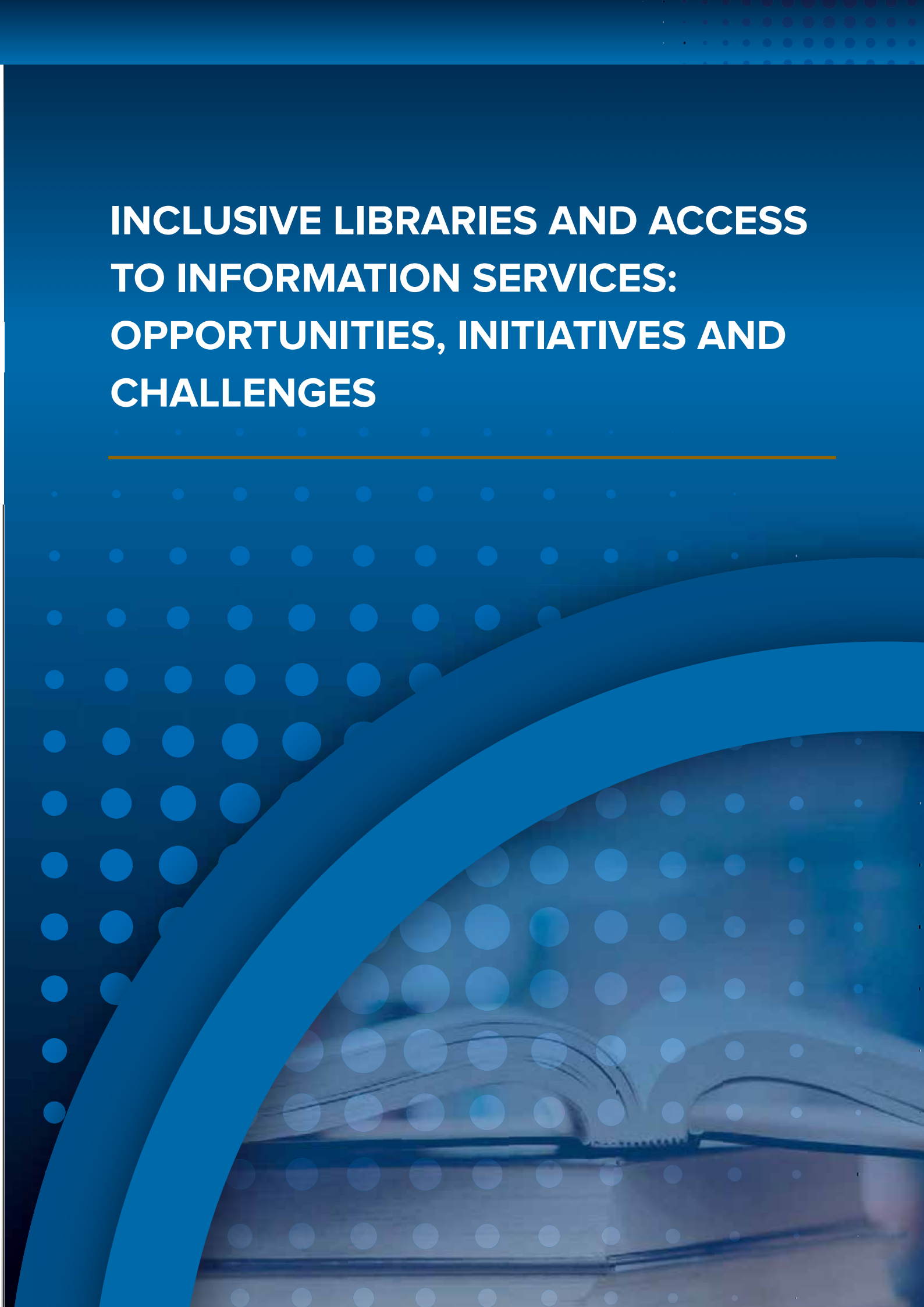
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INCLUSIVE LIBRARIES AND ACCESS TO INFORMATION SERVICES: OPPORTUNITIES, INITIATIVES AND CHALLENGES



PREPAREDNESS OF ACADEMIC LIBRARIES TO SERVE STUDENTS WITH DISABILITIES: REFLECTIONS FROM THE UNIVERSITY OF MALAWI'S CHANCELLOR COLLEGE AND UNIVERSITY OF ZULULAND, SOUTH AFRICA

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ABSTRACT: This paper reports on an empirical study which was conducted to investigate the preparedness of academic libraries to serve students with disabilities at University of Malawi, Chancellor College and University of Zululand. This is a qualitative study that employed an interpretive paradigm. The study used Oliver's social model of disability as an underpinning theory. Data was collected through semi-structured interviews with students with disabilities and library staff. In addition, physical audit of the two libraries was conducted. The study revealed that the two libraries are not ready to serve students with disabilities. Inaccessibility of library buildings, lack of materials in alternative formats, lack of assistive technologies, and lack of awareness of library electronic resources by students with disabilities are some of the barriers facing students with disabilities in the two libraries. Practical implications of the findings include developing enabling policies as the first step towards creating inclusive environments in libraries. Librarians must also move beyond acknowledging the need for equal provision of services by making it a reality. This paper encourages academic libraries to critically reassess their role in building inclusive universities where all students, whether disabled or not, are given an equal opportunity to full participation in the university education system. Regarding social implications, access to any form of information is a fundamental human right that must be enjoyed by everyone in society including persons with disabilities. The UNCRPD and Sustainable Development Goals, especially goal number 4, visualise an educational environment where persons with disabilities have equal and timely access to information like everyone else. Libraries as inclusive societies must champion this vision. As the social model of disability entails, access barriers must be identified and removed to make this a reality.

KEYWORDS: Sustainable Development Goals, students with disabilities, University of Malawi, University of Zululand.

INTRODUCTION

African countries, including Malawi and South Africa, are committed to implementing inclusive education following the Salamanca Statement and Framework for action on special needs education UNESCO (1994). Subsequent treaties and instruments have reinforced the need for countries to treat education for children with disabilities as a priority. The United Nations Convention on the Rights for Persons with Disabilities (UNCRPD) United Nations (2006) obliges state parties to perceive education for persons with disabilities through the human rights spectrum, and not as a welfare policy. The convention emphasises on the right to information for persons with disabilities, which must be respected by all service providers. Academic libraries are centres of knowledge within universities. As noted by Kenyon (2009, 6), access to information in developing countries is an institutional burden and not a personal one. As such, libraries are expected to provide all prescribed and recommended texts for students. Considering the increasing population of students with disabilities in

higher education, academic libraries should be prepared to cater for the information needs of all students, including those with disabilities. Moreover, students with disabilities have the same academic goals as those without disabilities Seyama (2014). Thus, they have the same rights as the non-disabled students.

UNIVERSITY OF MALAWI, CHANCELLOR COLLEGE LIBRARY

The status of information access and services for persons with disabilities in Malawi has been discussed by Eneya, Ocholla and Mostert (2018). The college started enrolling students with disabilities as early as 1970 (Kamchedzera 2015). Some of the services offered by the library include reference services, book lending, internet, printing and photocopying. The library also offers an information literacy programme which covers the following areas: libraries services, resources and facilities for students, online reference tools, plagiarism, e-resource searching techniques, and reference management tools.

The library website is a gateway to the different electronic databases provided by the library.

UNIVERSITY OF ZULULAND LIBRARY

The vision of the library is “to be an integral part of teaching, learning and research at the University of Zululand by offering a world class dynamic and quality information service using multi-skilled personnel” University of Zululand Library (2018). Its motto is “the right information to the right person at the right time.

To fulfil its vision, the library conducts information literacy programmes for both students and staff. The programmes include among others (i) an overview of libraries services, resources and facilities for students, (ii) How to use e-books, (iii) Online reference tools, (iv) Plagiarism, (v) E-resource searching techniques, and (vi) reference management tools. These programmes are compulsory for all first-year students, both under- and postgraduate students. Students have hailed these programmes as being helpful in writing their research projects Ocholla, Mutsunguma, and Hadebe (2017, 12). However, a recent study by Eneya, Ocholla and Mostert (2020) revealed little or no consideration of students with disabilities in the planning and delivery of these programmes thereby denying them the necessary skills for navigating through the information maze.

PROBLEM AND PURPOSE OF THE STUDY

Increased awareness of rights for persons with disabilities has led to growing enrolments of persons with disabilities in higher education. The University of Malawi's Chancellor College and the University of Zululand have seen increased enrolment of students with disabilities over the past years. Additionally, the two institutions are implementing inclusive education as espoused by their respective governments. However, no study has been undertaken in either of the two institutions to investigate the preparedness of academic libraries to serve the growing population of students with disabilities. Considering the critical role that academic libraries play in students' academic success, this study aimed to investigate the preparedness of the University of Malawi's Chancellor College library and University of Zululand library in terms of library service provision for students with disabilities.

The following were the five objectives of this study:

1. To establish the availability and accessibility of library and information resources and services for students with disabilities in the two academic libraries;
2. To establish the accessibility of the buildings of the two academic libraries under study;
3. To investigate the awareness and training of library staff in disability issues of the two libraries;
4. To investigate the existence of library policy on students with disabilities;
5. To propose recommendations for disability service preparedness in the two academic libraries.

RESEARCH METHODOLOGY

This is a qualitative study based on the interpretive paradigm. Linton (1998) recommends the use of qualitative approach to studying disability issues as it is key to understanding the genuine experience of persons with disabilities.

Semi-structured interviews were used to collect data from students with disabilities and library staff from both universities. The existing disabilities during the period of study were physical (mobility), visual and hearing. Although there were students with medical disabilities, they were not included as it was beyond the scope of this study. The students were recruited through the disability units of the two universities. Library staff members were recruited through the office of the College Librarian at Chancellor College, and the deputy director of Library and Information services at the University of Zululand. Library staff included the deputy director/college librarian, client and information services librarian, short loan collection librarian, and electronic resources librarian, for both libraries.

Participation was voluntary and participants were assured of their privacy and confidentiality throughout the study.

A total of 15 students were interviewed at Chancellor College and 12 at the University of Zululand. Four library staff members were interviewed at each of the libraries. Table 1 below shows the number of students per disability type for the student participants.

Table 1 Student participants of the study

Disability	University of Malawi	University of Zululand
Physical	4	4
Visual	8	6
Hearing	3	2

In addition to the semi-structured interviews, we conducted library inspection to check compliance with policy and legislation. We developed an inspection checklist from the IFLA checklist (Irvall and Nielsen 2005).

RESULTS AND DISCUSSION

The results are presented and discussed in relation to the objectives of this study.

Accessibility of library buildings

Students with disabilities from both universities stated that they rarely went to the library because the entrances were fitted with turnstiles which made it impossible for wheelchair users to get through. The turnstiles were also a barrier to visually impaired students. In addition to the turnstiles, stairs leading to the upper level floors in both libraries were a barrier to physically and visually impaired students. Chancellor College Library had a lift which had broken down for over 20 years. The library lift at the University of Zululand Library had been non-functional for over a year during the time of data collection for the study. Despite this, information literacy sessions in both libraries were conducted at the first floor of the library building, which prevented students with physical disabilities from attending.

Students with disabilities at Chancellor College, mainly those with physical and visual disabilities, stated that they depended on their friends to borrow books from the library. Visually impaired students further indicated that they depended on their friends to read to them. Although the disability unit could at times produce alternative formats of texts, resource constraints made it impossible to do that for all students who needed

the service. This validates a recent study by Eneya, Ocholla and Mostert (2018) which showed that libraries in Malawi lag behind in contextualising the United Nations Convention on the Rights for Persons with Disabilities (UNCRPD) despite it being signed and ratified by the Malawi government. UNCRPD devotes the whole article (Article 9), to accessibility of information services and programmes.

Physical inspection in both libraries revealed that the two libraries had paid minimal attention to their physical environment to ensure accessibility for students with disabilities. There were no wheelchair accessible toilets, bookshelves were too high and located in inaccessible areas, with no assigned staff to assist students with disabilities. Library furniture was not adjustable and service counters were too high for wheelchair users. Although the University of Zululand Library had a separate entrance for wheelchair users, this entrance was always locked, and one had to seek permission to use it. The students expressed displeasure at this as it felt like asking for permission to enter the library which was not the case for the other students as stated by one student who had a physical disability:

"I hate it to always ask the security to open the door for me when getting in and out of the library. It's like asking for permission to use the library. It is for this reason that I stopped going to the library."

Another student who uses a wheelchair gave the following response when asked to explain her experience about using the university library:

"There is nothing I can tell you about the library. I don't know the inside of the library. I just know the outside. The first and last time I used the library I just stayed a few minutes because I felt too uncomfortable there. So, I went out and decided to never go back there again. I didn't like asking someone to open the door for me. I wondered why they didn't leave it open like the other door that is used by the rest of the students"

At both institutions, ramps had been constructed around the campuses. However, no ramps were constructed in the library which made navigation between library floors difficult, with the non-functional elevators.

At Chancellor College, students with disabilities were using the resource room located in the disability unit for all their academic activities, including studying. However, the resource room was too small for the number of students with disabilities then. The noise from the Braille embosser in the adjacent room and other students using the resource computers and Perkins Brailers was too much for anyone to study. Chataika et al. (2012, 388) argue that the low provision of service for persons with disabilities is caused by society's unwillingness to invest in them as they are perceived to have low returns on investment.

The countries of both institutions under study have disability legislation policies that promote equal access to information for persons with disabilities. South Africa has the strongest disability legislation and policy on the continent. However, these are not reflected in practice. This substantiates an argument by the Foundation of Tertiary Institutions in the northern Metropolis (FOTIM) (FOTIM 2011) that some South African policies are for political symbolism and not practicality, hence their implementation is not a matter of concern.

Availability and accessibility of library resources

Interviews with library staff showed that both libraries had enough resources for students' use, both print and electronic.

Although students with physical disabilities could use the books and other resources, interviews with them indicated that they used them minimally. The book stock in both libraries was located on upper floors which made access difficult due to the non-functional lifts/elevators. This was escalated by the lack of designated staff in both libraries. Lack of information resources in alternative formats in both libraries made access to

library resources virtually impossible for visually impaired students. In addition, both libraries lacked assistive technologies such as Closed-Circuit Television (CCTVs), computers installed with Job Access with Speech (JAWS) and scanners among others.

The situation was slightly different at the University of Zululand. In South Africa, students with disabilities receive a disability allowance which they use to buy assistive devices and software through the disability office. So, the provision of assistive technologies is a personal burden, not institutional. It was not surprising therefore that during interviews with the deputy director of library and information services, she expressed ignorance about the existence of students with visual impairment at the institution, yet the disability office had registered over 20 students.

Although both libraries provided electronic resources through their library webpages, students with disabilities indicated that they were not familiar with them. This points to their exclusion from information literacy programmes, which includes usage of electronic resources. This is worrisome because the web has the potential to help students with disabilities to overcome the barriers presented by the physical library environment. It is noteworthy that websites of both libraries do not mention anything about students with disabilities. Even the promotional materials displayed at the entrance of these libraries make no reference to students with disabilities. This silence is worrisome as it gives an impression that the library does not recognize students with disabilities. It is not surprising that the students felt that the library was not meant for them as revealed in the interviews.

These findings echo the many studies highlighted in the earlier section that academic libraries have moved slowly in preparing to serve students with disabilities.

Staff awareness and training

Interviews with library staff responsible for check-in and check-out counters, short loan collection and e-resources section in both libraries indicated that library staff did not receive any awareness training on disability issues. The staff stated that there had been times when they did not know how to assist a student with disability, more especially those with hearing impairment. In turn, one student with a hearing impairment who made regular use of the library expressed dissatisfaction with the difficulty in communicating with library staff as he stated that:

"I don't like it when I go to the library and the staff cannot communicate with me. They keep referring me from one person to another, thereby wasting my time. I really don't like it."

Students with disabilities stated that library staff needed training to serve them better as some of them displayed an attitude that was discriminating. Sensitized and trained staff are key to creating a welcoming atmosphere for students with disabilities and fostering a sense of belonging to the library environment (Bodaghi, Cheong, & Zainab 2016, p. 93). Furthermore, Braathen and Loeb (2011, 73) attribute discrimination and stigmatization of persons with disabilities to lack of awareness in society.

Existence of library policy on disability

The study revealed that both libraries did not have any policy on library service provision to students with disabilities. This echoes Morley's (2010, 14) assertion that disability has not received policy or research attention in relation to higher education in sub-Saharan Africa. In the same vein, an earlier study by Mostert (2001) found that most libraries in Africa operated without a written policy. At Chancellor College Library, lack of a library disability policy has led to inconsistencies in the application of reasonable accommodation where some students with disabilities were given longer loan periods for short loan materials while others did not. This finding also reaffirms Morina's (2018, 14) claim that lack of a disability policy amounts to a barrier

in itself. Library disability policies highlight the library's recognition of and commitment to serving users with disabilities, hence their absence impedes library service provision to this group of users.

CONCLUSION AND RECOMMENDATIONS

The study shows that there is an inadequate provision for students with disabilities in the two participating libraries. Inaccessibility of the library buildings by physically and visually impaired students is a major barrier to accessing library information services in both libraries. Although a special entrance was provided at the University of Zululand library, the students felt uncomfortable with this arrangement because it remained closed and students had to seek permission to use it.

The silence on students with disabilities in the services and programmes offered by both libraries under study is too loud to be ignored. The non-mention of disability in library promotional materials and library websites and lack of library policies on students with disabilities demonstrate the lack of commitment to serve such students by the two libraries. This may create a hostile environment for students with disabilities as stated by some students who felt that the library was not meant for them. This kills the sense of belonging in the students which may have a negative impact on their studies.

Continued reliance on services offered by other units within the institutions like in the case of the University of Malawi's Chancellor College library smacks the "let the other guy do it" philosophy Nelson (1996, p. 399) which has resulted in continued marginalisation of students with disabilities by the library. Similarly, expecting students with disabilities to bridge the accessibility gap using their disability allowance pushes the disability burden to the individual students, and results in continued marginalisation of students with disabilities, as is the case at the University of Zululand library.

The two libraries in this study need to move out of their comfort zones and re-assess their services in relation to access needs for students with disabilities. Collaboration with the existing disability units at both institutions is the key to reaching out to students with disabilities in the libraries' services and programmes.

Access to information is a human right. Academic libraries have a moral and legal obligation to provide services to students with disabilities. The UNCRPD entails that the library, together with all resources and services, should be accessible to students with disabilities in the same way non-disabled students access it. Academic libraries should be prepared to contribute to the academic students with disabilities to achieve the SDGs. Libraries should realise their role of providing non-discriminative services to all users, in the light of ratified policies. While some modifications require national and institutional support with substantive financial investments, other improvements can be done with little or no financial investment, as shown in the recommendations below. The biggest investment towards serving students with disabilities is attitudinal change and sensitisation of staff as no policy or legislation can influence these. In the spirit of the social model, the library's physical, virtual and social environment should be designed in such a way that they are not a barrier to persons with disabilities.

From the findings of this study, for the two libraries to demonstrate preparedness for students with disabilities, we recommend the following:

- The libraries should conduct a needs assessment to identify potential use of special services and determine priorities for implementing improved services.
- The libraries should assign staff to assist students with disabilities and act as an intermediary between the library and disability unit.
- The libraries should develop guidelines for service provision to students with disabilities.
- Both libraries should conduct awareness and sensitisation training for all staff and the same should be offered to all new staff.

- The libraries should conduct information literacy sessions in rooms that are accessible to all students, including those with disabilities.

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INCLUSIVENESS OF ACADEMIC LIBRARIES: THE CASE OF ASSISTIVE AND ADAPTIVE TECHNOLOGIES

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ABSTRACT: *This study assessed the state of inclusiveness of academic libraries in Namibia and Ghana by examining the adoption of assistive and adaptive technologies in their spaces and services to cater for users with disabilities. Applying a quantitative design approach, data were collected through face to face interviews from a sample of 12 library staff, 7 lecturers and 9 disabled students. The study found that the state of adoption of assistive and adaptive technologies is poor. Very minimum assistive and adaptive technologies are available in the libraries. Several reasons accounted for the minimum ATs in libraries but most prominent among them is lack of knowledge on ATs. As a result of this, library inclusion in terms of ATs ranged from very poor to fair. Lack of policy and financial constraints were cited as barriers for creating inclusive libraries. The study recommends the formulation and implementation of policies governing libraries to make them more inclusive; provision of adequate funds to academic libraries to enable them to incorporate assistive and adaptive technologies in their spaces and services. This study used a few university libraries from Namibia and Ghana and hence generalizing the result should be done with caution. Future studies should include more libraries including national and community libraries. This study has made a significant contribution in the understanding of the adoption of assistive technologies by academic libraries in providing spaces and services to users with disabilities. The findings and recommendations could also benefit similar academic libraries and further research in developing countries.*

KEYWORDS: *assistive/adaptive technologies, inclusive libraries, inclusiveness, disabled users, academic libraries.*

INTRODUCTION

Inclusiveness as defined by the Cambridge Dictionary online (n.d) is “the quality of including many different types of people and treating them all fairly and equally”. The Oxford English Dictionary (n.d., 720) defines it as “The practice or policy of including people who might otherwise be excluded or marginalized, such as those who have physical or mental disabilities ...” Applying this definition to the library context, inclusiveness would be termed as meeting users’ information needs including providing an enabling environment to all users irrespective of their ability or disability - a practice that would contribute significantly to inclusive societies. An inclusive society as described by the United Nations (2009, 9) is one that leaves no one behind but aims at empowering all irrespective of among others their ability or disability. One aspect of achieving an inclusive society is empowering its people through access to information, which is a basic human right and is fundamental to people of all walks of life. As such, persons living with disabilities, as part of society, have a right of access to information.

The first aspiration for the African Union Agenda 2063 aims to achieve “a prosperous Africa based on inclusive growth and sustainable development” attained through ensuring that African citizens are educated and skilled, and that “no child misses school due to poverty or any form of discrimination” (African Union Commission 2015, 2). This aspiration of the Africa we want clearly portrays the importance of being inclusive. In the same vein, Article 26 of the Universal Declaration of Human Rights (2015, 54) enshrines the importance of equity

of access by noting that education shall be equally accessible to all as everyone has a right to education. The importance of inclusion is also echoed in Sustainable Development Goal (SDG) 4, which calls for “inclusive and quality education for all”. Suffice to say; in order to be educated, one requires access to information. As such, academic libraries, whose sole purpose for existence is to support the teaching, learning and research of their host institutions should embrace inclusiveness in their quest to meet the information needs of their diversified users; which would ultimately contribute to realizing inclusive African societies in the twenty-first century.

Accessibility and inclusion are at the very core of what libraries are all about and libraries and librarians have an essential and catalytic role to play in facilitating the full participation of people with disabilities in society Small, Myhill, and Herring-Harrington (2015, 74). Therefore, the need for inclusiveness in academic libraries cannot be overemphasized, for without embracing it, a library cannot claim to sufficiently meet the information needs of its users. Academic libraries should be conscious of the fact that they serve clientele with not just different information needs, services and facilities, but also clients who are differently abled. This is regardless of whether the library has current users with disabilities or not, libraries have to ensure that their library facilities, services, programmes, collections, and technology are designed in ways in which all people, regardless of their ability, have equal opportunities to utilise them Small et al. (2015, 74). Actually, a library ought to question why it does not receive users with disabilities, and this is echoed by Mates (2011, 1) who put it this way - “unless libraries are in an alternate reality, they need to examine the reasons why they are not seeing people with disabilities using them”, thus the need of being inclusive.

In the twenty-first century, inclusiveness can be achieved through the use of assistive and adaptive technologies as these technologies make the library and its resources to work for users with disabilities. The term assistive and adaptive technology (AT) in the library context applies to aids that either assist the user in accessing a library resource or adapting a resource in such a way that it becomes usable by users with disabilities. AT promotes greater independence by enabling individuals to perform tasks that they were previously unable to perform or had great difficulty performing through providing enhancements to or changing methods of interacting and accomplish such tasks Burke (2013, 1).

However, in spite of the undisputable importance for academic libraries to be inclusive, and the fact that inclusiveness can be achieved through the use of assistive and adaptive technologies, inclusiveness in most academic libraries in Africa seems to remain a challenge. This study therefore aimed at assessing the state of inclusiveness of academic libraries in two countries from two regions in Africa by examining the adoption of assistive and adaptive technologies in their spaces and services to cater for users with disabilities.

LITERATURE REVIEW

State of inclusion in libraries

A study by Oira (2016, 76) in Kenya to analyse the potential of modern assistive technology in educational achievement for students with visual impairment at Kibos Special Secondary school found that a number of assistive technologies were being used in the secondary school. Contrary to Oira's (2016, 76) study, an earlier study by Grobbelaar-du Plessis and van Reenen (2011, 16) found that information, communication, transport, work opportunity, training and public facilities are not available to people with disabilities. Where information or the said facilities above are available, they are inaccessible to the people with disabilities.

The above is not different in libraries as studies have found that persons with disabilities encounter challenges as they use libraries, with some confirming inability to obtain information or to use the library due to their disability as revealed in a study by Mnubi-Mchombu and Tjilale (2018, 38). This was also confirmed by Alemna (n.d.) whose study found that in most African countries, library and information services to people with visual impairments are almost non-existent. This is supported by the study findings of Majinge and Stilwell (2013, 42), and Chaputula and Mapulanga (2017, 8). According to Majinge and Stilwell (2013, 42), Tanzanian libraries

provide services to persons in wheelchairs and the visually impaired; however, these services are not inclusive. Contrary to Majinge and Stilwell (2013, 42), Chaputula and Mapulanga (2017, 8) highlighted the lack of library and information services to disabled people and acknowledged possible barriers. Respondents in Ahmed (2018, 138) study in the USA emphasized the necessity of providing assistive technologies as these make the learning environment an all-inclusive one.

According to Tungaraza (2010,13), students with visual impairments at the University of Dar es Salaam depend on readers to read for them since the library does not have books in Braille. Majinge and Stilwell (2013, 48) confirmed this as their study found that there are no alternative information resources for people with visual impairments in academic libraries in Tanzania. As a result, visual impaired persons may use normal print information by asking assistance from other persons to help them or by using the services of employed readers as in the case at the University Dar es Salaam. In situations where there are only a few employed readers with more disabled persons requesting for reading services from different academic resources or persons helping the physically challenged to read are busy, then it becomes challenging for the physically challenged to access learning resources in libraries. Similar findings were reported at the University of Namibia in a study carried out by Mnubi-Mchombu and Tjilale (2018, 39). The study revealed that some disabled persons rely on library staff or friends to assist them to use the library, and in the event that they are not available, then it results to none use of the library. This has been confirmed by a study conducted in Malawi, which confirmed the lack of library and information services and lack of equipment to facilitate access to information resources to differently abled persons Chaputula and Mupulanga (2016, 9).

Furthermore, with the advancements in ICTs, most libraries' operations have also shifted from print to virtual permeated Schmetzke (2002, 390). These includes catalogues, indexes, full text databases, books, journals, reserve materials, reference services and information about libraries and their services that are commonly accessible through library websites. Access to information sources is not limited to print publications only; most databases have an option of converting text to audio, and enlarging text which can cater for the needs of the visually impaired person. However, there are also enabling and disabling conditions in the virtual environment that may lead to the exclusion of some sort of access to information Schmetzke (2002, 396). As a result of this, respondents in the study in India by Sanaman and Kumar (2015, 97) agreed that there is need of assistive aids/devices in libraries.

Importance and necessity of adopting ATs in libraries

According to Burke (2013, 45), assistive and adaptive technology makes the library and its resources to work for users with disabilities as they play a major role in aiding persons with disabilities to access information resources in libraries. It is a necessity for people with disabilities to access information resources housed in academic libraries. Adoption of AT in social spaces (like libraries) helps to increase among others integration of the disabled persons Dragoicea et al (2009, 100). AT also facilitates library services' provision to persons with disabilities by making it possible to provide information resources to them easily, independently and in formats that are suitable for them Majinge and Stilwell (2013, 40).

ATs used in academic libraries

According to Oira (2016, 55) and Ishaya and Aduku (2015, 26), assistive aids/devices include Braille machine, computer, iPad, large optical/non optical print materials, Braille books, slate and stylus, talking calculators, braille paper and optical low vision devices, hearing aids/cochlear implants, scanner/reader, talking calculators, magnifying glasses, closed captioned decoders, and audio recorders. In addition, Schmetzke (2002, 396) alludes that the ability to access web-based information is a question of the proper assistive technology such as a modified computer keyboard, an enlarged screen display, or a properly configured screen-reading programme. In a study in Western Nigeria, Ishaya and Aduku (2015, 26) found that computers, hearing aids and audio recorders were the most available assistive aids/devices. On the most frequently used assistive

technologies, the study by Oira (2016, 55) in Kenya found that the braille machine is the most frequently used, followed by the computer and large optical/non optical print materials.

On criteria for selecting the best assistive technology that suits the visually impaired student's individual needs, Oira (2016, 61) study found the functional vision as the most preferred criteria, followed by the instructional media, then lesson objective, experience of the student, nature of the topic, severity of visual impairment and the age at onset of the visual impairment.

Barriers to the provision of inclusive services in academic libraries

Using a library successfully requires positive attitudes from library staff. Reference to this, Seyama (2009, 126) pointed out that for effective library services to be provided to students with disabilities, it is essential that all staff have appropriate attitudes towards them. Majinge and Stilwell (2013, 45) study revealed that persons with disabilities are discouraged from using library services because some library staff and society as a whole display negative attitudes towards them. Library staff's negative attitudes towards persons with disabilities may be as a result of lack of training on how to handle persons with disabilities and how to use assistive technologies. This is confirmed in studies by Bodaghi and Zainab (2012, 243), Sanaman and Kumar (2015, 97), Chaputula and Mapulanga (2017, 9), and Alemna (n.d., 259).

In their study, Bodaghi and Zainab (2012, 244) observed that there are untrained library staff who are unable to assist people with disabilities. Resonating with this, Majinge and Stilwell (2013, 44) found that academic libraries in Tanzania have no trained and experienced staff to assist users with visual impairments and in wheelchairs. Sanaman and Kumar (2015, 98) study's conclusion supports this as they found that there is lack of individual orientation/training sessions and as a result the majority of users (staff and persons with disabilities) are not able to use assistive technologies effectively or to assist others to use it. Similarly, Chaputula and Mapulanga (2017, 6) found that despite an increase in the number of people with disabilities, the majority of libraries do not offer specialized training such as induction sessions or market services that cater for those with disabilities. In view of this, Ishaya and Aduku (2015, 27) recommended from their study that qualified, dedicated and trained service librarians should be posted to work in school libraries in Kaduna State.

The challenge of library use is not only restricted to information but also has to do with policies (at library, school and national levels), library building structure and ICT facilities. According to Ndumbaro (2009), national policies are not clear on the availability of library and information services to persons with disabilities. This applies even at the school or library level. In Tanzania, there is no policy in academic libraries for library services for people with disabilities and the same applies at the national level as the Tanzanian National Policy on Disability of 2004 does not address library services to people with disabilities Majinge and Stilwell (2013, 46).

In addition, the nature of most library building structures does not allow people with disabilities to easily access them in order to access the information resources housed in them. Findings of Leong and Higgins (2010), Majinge and Stilwell (2013, 47 and Sanaman and Kumar (2015, 97) support this as they found that the designs of library buildings do not provide easy access for university students with disabilities. Some libraries lack simple/electric wheel chairs, adaptive furniture and no functioning lifts and ramps.

As highlighted by Sanaman and Kumar (2015, 97), barriers to using assistive technologies include 'lack of sufficient assistive technology facilities, books marked with pen and pencil which is difficult to scan for recognizing by the scanner as old scanners may not be working properly, lack of computer updates and lack of large track ball (mouse). Ezeani and Ukwoma (2017, 9) identified lack of assistive technologies to aid their access to information, unavailability of lifts to facilitate their movements especially to the floor where ICT facilities and other resources are located as the main challenges experienced by differently abled person in Nigerian universities. Other challenges enumerated by other researchers include lack of

computer maintenance and software installations and lack of local books printed in braille Silman, Yaratan, and Karanfiller (2017, 4811). Ngipandulwa (2019, 5) noted that lack of books produced in accessible format like audio books is a challenge for the visually impaired persons.

Usually a standard library computer is not usable by library users with certain disabilities, such as blindness or limited motor ability. As a result, many ATs are aimed at adapting computer-based resources such as screen magnification software, screen-reading software, and trackball controllers to make libraries more usable by patrons with disabilities Burke (2013, 45). Burke (2013, 45-46) further states that there are several technologies that can aid in making traditional library sources more usable to users with disabilities. These technologies include those that make both computer and non-computer resources more accessible and usable by library users with disabilities. Technologies such as voice recognition software such as Jaws, screen-magnifying software, screen-reading software, touchpad, trackball controllers and on-screen keyboards which make computer resources more accessible and usable, while those that make non-computers resources more accessible and usable include the teletypewriter, closed-captioning, magnifiers, audiobooks, Kurzweil readers and braille equipment (Nordström et al. 2018, 2; Rayini 2017, 5; Burke 2013, 45-46; Bell and Peters 2005, 46).

METHODOLOGY

The study employed a quantitative design approach. The study covered four academic libraries in two countries, Namibia in Southern Africa, and Ghana in West Africa. A face to face interview research instrument was employed to collect data. The interview guide for the face to face interview consisted of 23 items.

To ensure validity and reliability of the interview guide, six experts reviewed it and made inputs into the initial interview guide and after modifications it was submitted to the Research and Ethics Committee for approval (approval was sought for every library studied). Upon further modifications and approval by the ethics committee, a pilot study was administered three month(s) before the actual study commenced. After additional modification to the interview guide based on informed inputs from the pilot studies, the final interview guide was developed and the face to face interviews conducted to collect data from 12 library staff, 9 disabled students and 7 lecturers.

To ensure that informed consent was adhered to the first page of the interview guide sought respondents' consent before proceeding with interview. As part of the consent instructions, respondents could decide to opt out of the survey any time without any consequences.

DATA ANALYSIS

Demographic information

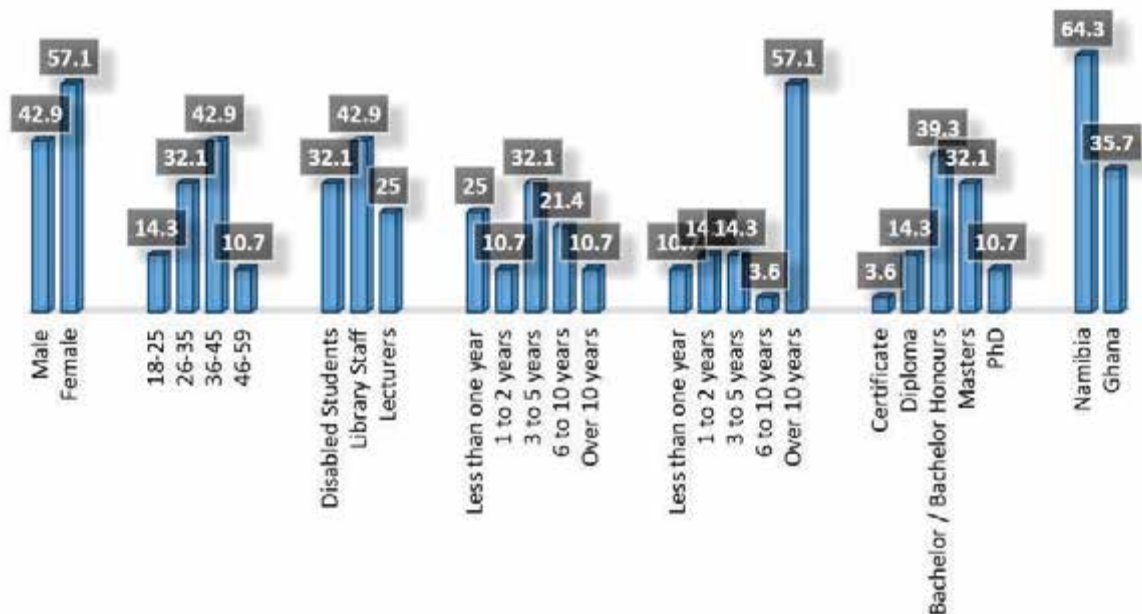


Figure 1: Demographic information of respondents

Figure 1 indicates that 42.9% of the respondents were librarians, 32.1% disabled students and 25% lecturers. The majority of the respondents indicated that they had worked or studied for three to five years in their institution. Over 50% of the librarians indicated that they had worked for over 10 years in the library. Majority of the respondents were in their youth (aged between 18 to 45 years) and held a Bachelor /Bachelor Honours Degree. The above strongly indicates that the respondents understood how libraries operate and the library needs of disabled persons.

Importance, necessity and conversance with ATs

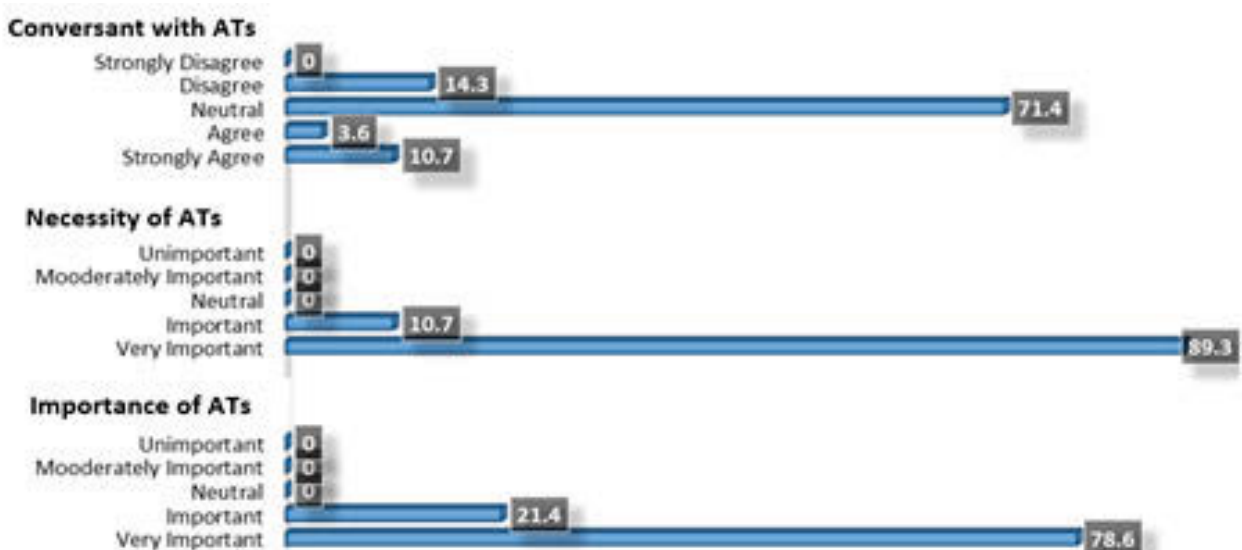


Figure 2: Importance, necessity and conversance with ATs

Figure 2 illustrates the comparison between the importance, necessity and conversance with ATs. Though 100% of the respondents indicated that ATs are necessary and important, only 14.3% of them are conversant with it. This confirms Ahmed's (2018, 136) and Sanaman and Kumar's (2015, 93) findings that ATs are important and necessary but awareness of it is low. The 100% response rate of respondents to the necessity and importance of ATs affirms the need for further ATs' actions in libraries to make them inclusive as outlined in the AU Agenda 2063 on any form of discrimination African Union Commission (2015), the Universal Declaration of Human Rights (2015) on access to education, and the Sustainable Development Goal (SDG) 4 on inclusive and quality education for all. The low percentage (14.3%) on conversance with ATs confirms Ishaya and Aduku (2015, 27) findings that available ATs are not well utilised. This is less desired and hence more should be done to get disabled persons be conversant with and use available assistive and adaptive technologies.

ATs available in academic libraries in Namibia and Ghana

Table 1: Available ATs and ATs software

Item	Yes	No
Availability of general ATs		
Braille Books	0	100
Braille Machine	0	100
Braille Embosser	0	100
Talking Books	3.6	96.4
Large Print Books	0	100
Tape Recorders	0	100
Playback Machine	0	100
Magnifying Glass/Sheet	0	100
Text to Speech (TTS) Reader	30	70
Epub	10	90
Single Handed Keyboard	0	100
Availability of ATs Software for the Blind / Sight Impaired		
SAFA Software	0	100
JAWS Software	0	100
Window-Eye Software	0	100
Zoom-Text Magnifier	17.9	82.1
Document Reader Software	0	100
Kurxweil Software	0	100
Multilingual / Bilingual OCR	0	100
Duxbury Software	0	100
Screen Enlargement Software	64.3	35.7
Availability of ATs Software for the Deaf / Hearing Impaired		
TTY emulating Software	0	100
Dragon Dictate or Convert Software	0	100
Big Mac Software	0	100
Cheap Talker Software	0	100
I Communicator	0	100
Video Captioning Software	0	100
Dragon Natural Speaking	0	100
Voice Recognition	0	100

On Screen Keyboard	67.9	32.1
Word Predictor	89.3	10.7
Abbreviation expansion	10.7	89.3
I-Learn	0	100

Table 1 shows that the libraries in Namibia and Ghana have very minimum ATs and ATs software. ATs and ATs software that are not available in the libraries include braille books, braille machine, braille embosser, large print books, tape recorders, playback machine, magnifying glass/sheet, single handed keyboard, safe software, jaws software, window-eye software, document reader software, kurxweil software, multilingual/bilingual OCR, duxbury software, dragon dictate or convert software, big mac software, cheap talker software, I-communicator, video captioning software, dragon natural speaking, voice recognition, and I-learn.

Available ATs and ATs software in some of the libraries include talking books, TTS reader, Epub, zoom-text magnifier, screen enlargement software, on screen keyboard, word predictor, and abbreviation expansion. This confirms Ishaya and Aduku's (2015, 27) and Oira's (2016, 55) findings that computers, hearing aids and tape audio recorders are available in libraries.

Table 2: Available ATs hardware

Item	Yes	No
Availability of ATs hardware for the Blind / Sight Impaired		
Scanner / Reader	0	100
Talking Calculator	0	100
Voice Recorder / CD Player	10.7	89.3
Braille Printer / Embosser	0	100
Tactile Image Enhancer	0	100
Speech Synthesizer	3.6	96.4
Magnifying Glasses	0	100
Availability of ATs Hardware for the Deaf / Hearing Impaired		
TTY / TDD	0	100
Portable Speech Synthesizer	0	100
Alarming Devices / Signal Systems	3.6	96.4
Assistive Listening Systems	0	100
Closed Captioned Decoders	0	100
Hearing Aids / Cochlear implants	0	100
Availability of ATs Hardware for the Locomotive Impaired		
Prosthetic & Orthotic devices	0	100
Simple / electric wheels	0	100
Walking Frames / Rotators	0	100
Adaptive Furniture	35.7	64.3
Adaptive Keyboards	17.9	82.1
Speech Input Devices	0	100
Cursor-control Devices	25	75
Television / Projection Tricycle	14.3	85.7
Cervical Collar	0	100

Table 2 indicates that the libraries in Namibia and Ghana have very minimum ATs hardware. ATs hardware that are not available in the libraries include scanner / reader, talking calculator, braille printer / embosser, tactile image enhancer, magnifying glasses, portable speech synthesizer, assistive listening systems, closed captioned decoders, hearing aids / cochlear implants, prosthetic and orthotic devices, simple / electric wheels, walking frames / rotators, speech input devices, and cervical collar. As a result, most library buildings and facilities are not accessible by persons with disabilities. Available ATs and ATs hardware in some of the libraries include voice recorder / CD player, alarming devices / signal systems, adaptive keyboards, cursor-control devices and television / projection tricycle. Contrary to the findings of Samson (2011, 275) and Beaton (2005, 474-475) in the USA and Scotland that ATs are provided in libraries, this study confirmed the findings of Chaputula and Mapulanga (2016, 9) that libraries in Namibia and Ghana have very minimum ATs hardware.

Barriers to the adoption of ATs

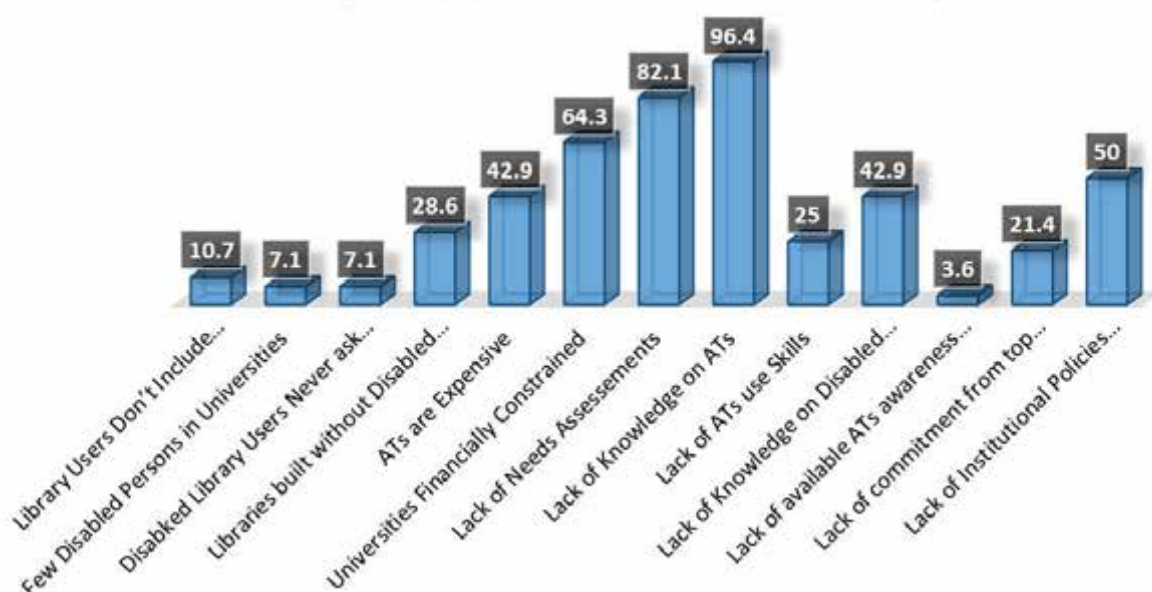


Figure 3: Factors accounting for lack of ATs in academic libraries

In a descending order, respondents indicated the following as reasons for lack of most ATs and or available minimum ATs, ATs software and hardware in the libraries. The above is illustrated in Figure 3.

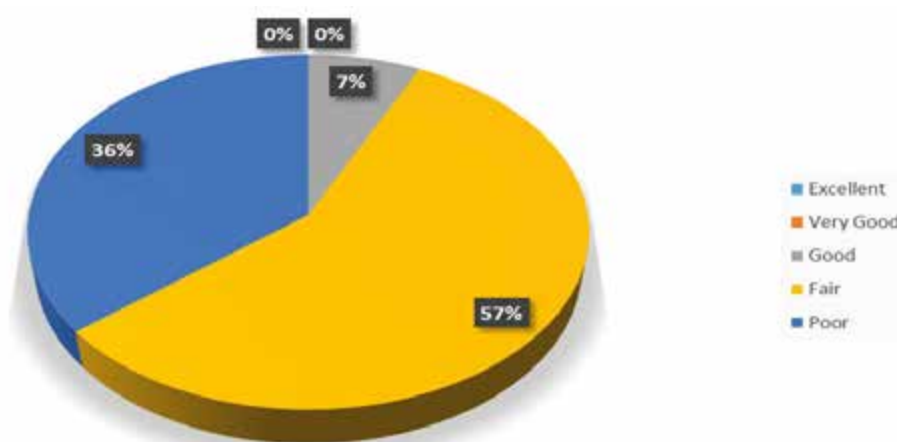


Figure 3: ATs awareness creation by libraries

Figure 4 illustrates the comparison between ATs awareness creation by libraries, training on ATs use and disabled persons trained on ATs use. Though 53% of the respondents indicated that ATs awareness creation was undertaken by libraries, only 7.1% of respondents were trained on ATs use and only 3.6% of the disabled persons were trained on ATs use.

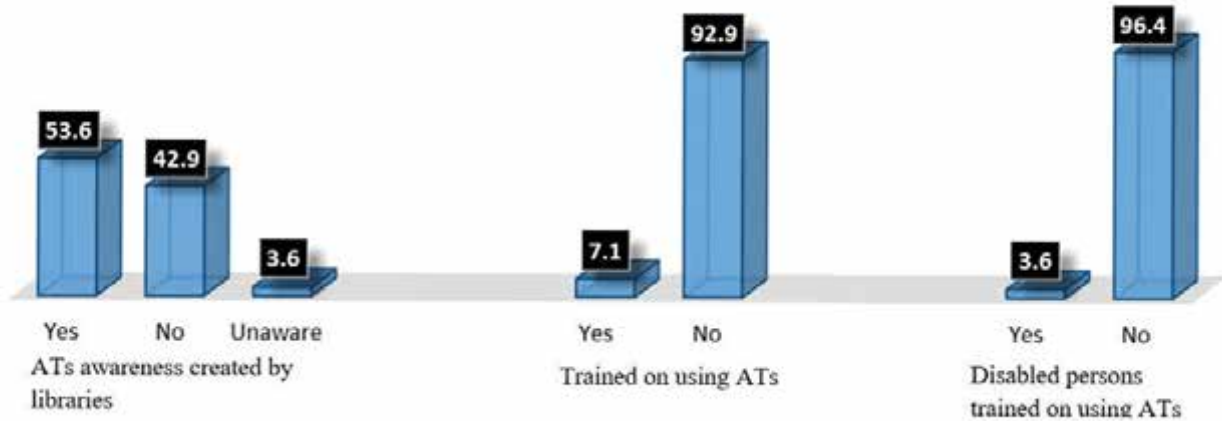


Figure 4 ATs awareness creation by libraries and training

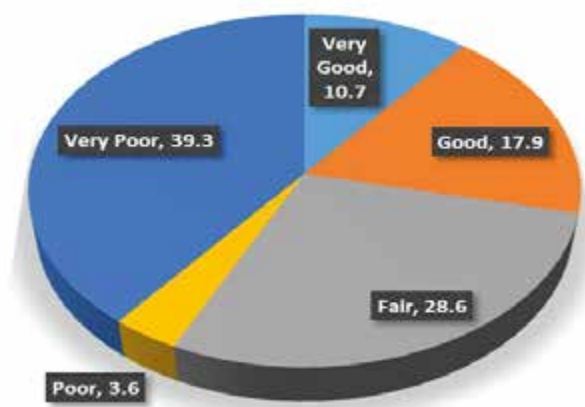


Figure 5: Perception of inclusiveness of libraries in terms of ATs

Figure 5 show that most respondents perceive inclusiveness of libraries in terms of ATs below good as the majority of them (71.5) indicated that it is very poor, poor and fair. The poor perception could be because of the lack of ATs equipment and training to support disabled persons' access to library and information resources.

CONCLUSION AND RECOMMENDATIONS

This paper aimed at assessing the state of inclusiveness of academic libraries in two countries from two regions in Africa by examining the adoption of assistive and adaptive technologies in their spaces and services to cater for users with disabilities. Findings of the study revealed that the state of adoption of assistive and adaptive technologies is poor as very minimum ATs are available in the libraries. Several reasons accounted for the minimum ATs in libraries but standing most prominent among them is lack of knowledge on ATs. As a result of this, library inclusion in terms of ATs ranged from very poor to fair.

It is recommended that libraries create more awareness of ATs and that management of universities invest more in ATs for their libraries to make them more inclusive. This study used a few university libraries from Namibia and Ghana and hence generalizing the result should be done with caution. Future studies should include more libraries including national and community libraries.

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TOWARDS AN ACHIEVEMENT OF INCLUSIVE SCHOOL LIBRARY AND INFORMATION SERVICES IN THE KINGDOM OF ESWATINI: CHALLENGES AND OPPORTUNITIES OF HHOHHO REGION

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ABSTRACT: *The Kingdom of Eswatini is a signatory to the 2006 UN Convention on the Rights of Persons with Disabilities (UNCRPD). Since the adoption of inclusive education, inclusive school library and information services form part of the promotion of equal access to information by all students in the Kingdom of Eswatini. This study investigated the country's preparedness for the implementation of inclusive school library and information services as one of the educational means in strengthening inclusive education. The study explored and analysed several inclusive school library and information services best practices including having legislations in place, accessibility, human and non-human resources and equipment, in preparation to implement inclusive school library and information services in the Hhohho Region. Challenges and opportunities towards implementation were determined. Data was collected using telephone interviews, questionnaires and observations, which were analysed using content and thematic analysis techniques. The findings of the study revealed that while the Government was prepared to implement the inclusive library and information services programme, there are still several barriers that need to be addressed. These include amongst others: limited human and non-human resources, and shortage of facilities and equipment. This study adds value to the literature on preparedness for best practices and challenges of implementing inclusive school libraries.*

KEYWORDS: *inclusive education, inclusive school library and information services, access to information, preparedness, Special Educational Needs (SEN) and disabilities.*

BACKGROUND AND PURPOSE OF THE STUDY

Most countries the world over have realised the importance of inclusive practices, hence, conventions and declarations are being signed to reinforce the key principles of inclusive education. In the same vein, the Kingdom of Eswatini signed legally binding instruments that address the rights of persons with disabilities to inclusive education including the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). Article nine of the convention discusses accessibility in order “to enable persons with disabilities to live independently...” UNCRPD (2006, 8). Moreover, the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled (2013, 5), in Article 4 emphasis on “national copyright laws for a limitation or exception to the right of reproduction, the right of distribution, and the right of making available to the public as provided by the WIPO Copyright Treaty (WCT), to facilitate the availability of works in accessible format copies for beneficiary persons” “has a clear humanitarian and social development dimension and its main goal is to create a set of mandatory limitations and exceptions for the benefit of the blind, visually impaired, and otherwise print disabled (VIPs)” (2013) is the first copyright treaty to include a clear human rights perspective. The Marrakesh Treaty demonstrates that copyright systems are an important part of the solution to the challenge of improving access to books and other printed works for persons with print disabilities. Furthermore, Goal no. 4 of the Sustainable Development Goals (SDGs) emphasizes opportunities for all, countries need to ensure inclusive and equitable quality education and promote lifelong learning.

Inclusive school library and information services play a fundamental role in promoting and sustaining inclusive education UNCRPD (2006); UNICEF (2013). They promote the mainstreaming of learners with various forms of disabilities to access relevant information in different formats to enhance their respective learning abilities. Various forms of inclusive learning and information enabling facilities and equipment are being introduced in ordinary schools as means of catering for all students UNESCO (2012); Messiou (2012); Sharma, Forlin, Deppeler, and Guang-xue (2013). It is thus the role of inclusive school libraries to highly promote inclusion and contribute to the personal growth of students with disabilities in mainstream schools, and to fostering acceptance and understanding of these students by their non-disabled peers Murray (1999).

The Kingdom of Eswatini is one of the African countries that signed an agreement with the International Federation of Library Associations and Institutions (IFLA) to carry out awareness-raising activities and to meet with policy makers to ensure that libraries are recognised as key partners in supporting the United Nations 2030 Agenda for sustainable development during the International Advocacy Programme (IAP). A study by Chaputala and Mapulanga (2017) which was conducted in Malawi, revealed that governments have realised the challenges that people with disabilities face and the Malawi National Assembly passed the Disability Act (2012), one of the enacted laws that guarantee equal opportunities for people with disabilities. Similarly, the Kingdom of Eswatini, has taken a further step in promoting the new educational agenda, inclusive education in various ways, some of which include: the legislation and development of the National Education and Training Sector Policy of 2018, National Disability Policy 2013 and the National Disability Act of 2019, as well as the establishment of inclusive model schools in the four regions of the country National Education and Training Sector Policy (2018).

The country is committed to inclusion and has realised the importance of equal access to information. Although there are barriers such as limited human and non-human resources, facilities and equipment, there are organisations that have partnered with the government and they play a crucial role in initiating and implementing inclusive public libraries. These include the American Embassy and the eSwatini Revenue Authority (ESRA). The American Embassy established a first of its kind Disability Corner in the Mbabane Public Library, eSwatini National Library Service headquarters, and another one in the Nhlangano Public Library. The American Embassy provided facilities and equipment such as Screen Reading Software; Computer Software and Hardware; OCR (Scan and Read) Software and Hardware; Braille Embosser; Braille Translation Software; Braille Paper; Screen Magnification Software to promote accessibility to information for visually impaired people. ESRA on the other hand, established a disability corner in Manzini Public Library. These organisations trained library staff in the best practices of inclusive public libraries and provided the necessary facilities and equipment. The plan is to transform school library and information services for them to be inclusive.

An inclusive school library and information service is defined as a primary or high school library that: (a) allows students with special educational needs to interact and use school library services with non-Special Educational Needs (SEN) classmates; (b) meets the individual needs of all students, including students with SEN; (c) is physically accessible; and (d) provides services tailored to the specific needs of all students Canter, Voytecki, Zambone, and Jones (2011); United Nations Convention on the Rights of the Child (2008); UNESCO (1994). This study therefore examined conditions in which the conventional school library can help achieve an inclusive educational goal Coskun, Tosun, and Macaroglu (2009).

PROBLEM STATEMENT

Inclusion needs to be initiated at school level. The Ministry of Education and Training has put in place inclusive education policies. The Hhohho region in the Kingdom of Eswatini has a total of 232 schools (both primary and high schools) but according to the Kingdom of Eswatini, Ministry of Education and Training Annual Education Census (AEC) (2017), there are only 89 schools with school libraries. Due to the signed legally binding instruments that address the rights of persons with disabilities to inclusive education, all the schools in the country should implement Inclusive Education (IE). However, there are nine (9) models of

inclusive education scattered in the four regions of the country. The Hhohho region has two model schools for inclusive education, but Mbasheni Primary School in the North of the region together with two Mbasheni receiving schools are selected schools for this study to explore the preparedness of implementation of best practices of inclusive school library and information services and to determine challenges and opportunities of the programme. Moreover, even though inclusive public libraries have been implemented, schools seem to be left behind.

RESEARCH OBJECTIVES

The objectives of the study were to:

- explore selected schools' preparedness to implement inclusive school library and information services;
- determine challenges towards the implementation of inclusive school library and information services;
- determine the opportunities of implementation of inclusive library and information services; and
- suggest strategies that can facilitate the effective implementation of inclusive school library and information services in the Kingdom of Eswatini.

RESEARCH QUESTIONS

The following research questions were used to guide the study:

- What is the school doing to make the library and information services inclusive and as the means for preparedness for implementation of best practices of inclusive school library and information services?
- What are the challenges faced by schools while working towards implementing of inclusive school library and information services?
- What are the opportunities of implementation of inclusive library and information services?
- What possible strategies can be adopted to facilitate the effective implementation of inclusive school library and information services?

SIGNIFICANCE OF THE STUDY

This study is an eye opener on how best schools need to do as a means of being prepared to implement inclusive school library and information services successfully in terms of accessibility, facilities, human and non-human resources and equipment. Moreover, the study adds value in literature on best practices for preparedness, challenges and opportunities for an inclusive school library and information services. This study helps to enforce existing policies that were designed to uplift the standard of disabled persons. Inclusive library and information services can play a pivotal role in education and knowledge.

LIMITATION OF THE STUDY

There were several limitations for this study, which include the unavailability of time and inadequate financial resources which hampered the breadth of the research. Furthermore, the study did not cover the input of the students using the inclusive school libraries, which can be recommended for future researches. The research was also focused on one geographical region and several factors may prevent the results from being adequately used to generalise for the entire country.

LITERATURE REVIEW

Preparedness for implementation of best practices of inclusive school library and information services is determined by several indicators including accessibility of the physical library building and resources Mapulanga and Chaputula (2017). Bodaghi and Zainab (2013, 4), as cited in Mapulanga and Chaputula (2017) mention that “the right to access facilities, information sources and services without any hindrance is one of the fundamental rights a society should protect, especially for people with disabilities” . According to Nassimbeni and De Jager (2014), and Majinge and Stilwell (2013), as cited in Chaputula and Mapulanga (2017) providing assistive technologies as well as reading materials to people with disabilities are best practices for inclusive library. Murray (1999) indicates that it is vital that the environment be welcoming and physically accessible. Moreover, enabling people with disabilities to easily access information sources and information resources such as talk books, Braille and large print is important.

Research studies conducted elsewhere, for example one of which was conducted by Epp (2006), as cited by Chaputula and Mapulanga (2016), notes that equipment for people with disabilities is expensive. It has been realised that challenges towards the implementation of an inclusive school library and information services include the fact that there are very few library materials that are transcribed into accessible formats Phukubje and Mpho (2016). Moreover, there is lack of equipment like talking books and Braille Embosser to assist the disabled students.

Opportunities include utilising the legislations including the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) which has made progress in terms of access to information and physical accessibility. Countries globally have indeed created an inclusive environment. In the United States of America, the Americans with Disabilities Act (ADA) that was made law in 1990, made a significant progress in the physical accessibility of buildings. According to a study conducted by Mapulanga and Chaputula (2017) in Malawi, the Disability Act (2012) was adopted in Malawi, while in the Kingdom of Eswatini, the National Disability Act, 2019 was adopted and this has made an impact on issues of persons living with disabilities.

The use of technology can be one strategy that can be effectively used to accomplish an inclusive school library and information services. According to Epp (2006), as cited by Chaputula and Mapulanga (2017), access to information resources for all can be made possible through the use of assistive tools and technologies. Commonly used technological devices include Braille books, talking books, playback machines, audiotapes and screen readers.

METHODOLOGY

Due to shortage of time and lack of resources, this study used a qualitative method and took a small sample population which was ethnologic in nature Alemu, Stevens, Ross, and Chandler (2015); Creswell (2009). The study targeted government schools within the Hhohho region. The region has a total of 232 schools and only 89 schools have a school library and information services. A purposive sampling technique was used in the study. Three schools were selected. The study focused on personnel that were in charge of the school library and information services in the selected schools as well as the Regional Educational Officer, as these were deemed as key informants of the study. The sample size was four (4) participants who included one education policy maker and, the Inspector of schools who is based in the Hhohho Region. The education policy maker was picked up because he has an idea on what the policy entails about the inclusive school library and information services and knows what is really happening in these schools. The other three (3) participants were picked from the three schools of which one was a model primary school and the other two were from ordinary high schools who have the potential to receive students from the model school. Data was collected through telephone interviews, questionnaire as well as observation. Data analysis was done using the content analysis technique. The rigorousness of the study was maintained using the criteria given

by Guba and Lincoln (1985) which involves the application of credibility, transferability, dependability, and conformability respectively Choongwa (2018); Ponelis (2015).

FINDINGS AND DISCUSSIONS

The findings and discussions of the study focused on the following: current state of preparedness for implementation of best practices of inclusive school library and information services; the challenges towards the implementation of an inclusive school library and information services; the opportunities of implementation of an inclusive library and information services; possible strategies that can be adopted to facilitate the effective implementation of an inclusive school library and information services

Preparedness to implement inclusive school library and information services

The study established that the status or level of preparedness for the implementation of best practices for an inclusive school library and information services in the three (3) investigated schools are at the early stages of implementation. However, the model school, Mbhasheni Primary School, has made some progress as compared to the ordinary schools with regards to the preparedness indicators including accessibility, human and non-human resources, equipment and facilities.

The model school was provided with some library facilities set that promoted the inclusivity of the students in using the facilities.

Table 1: Preparedness for the implementation of inclusive school library services

Preparedness	Responses		
	School A (Primary)	School B (High)	School C (High)
Accessibility	<ul style="list-style-type: none"> - Reachable distance - Physically accessible, ramps provided - Enough and suitable furniture and space for all students - furniture and space for mobility 	<ul style="list-style-type: none"> - Absence of user friendly physical accessibility means, no ramps - Not enough furniture and space for mobility 	<ul style="list-style-type: none"> - Absence of user friendly physical accessibility means, no ramps - Not enough furniture and space for mobility
Human and non-human Resources	<ul style="list-style-type: none"> - No professional Librarian - provided brailled material, high-tech gadgets that enable visual impaired learners access information using them 	<ul style="list-style-type: none"> - No professional Librarian - Absences of reading Braille material 	<ul style="list-style-type: none"> - No professional Librarian - Absence of reading Braille material

Equipment	<ul style="list-style-type: none"> - None of the following: Screen Reading Software; Computer Software & Hardware; Braille Embosser; Braille Translation Software; Screen Magnification Software - Available - Braille Note touch and Prodigy connect 12 	<ul style="list-style-type: none"> - None of the following: Screen Reading Software; Computer Software & Hardware; Braille Embosser; Braille Translation Software; Screen Magnification Software 	<ul style="list-style-type: none"> - None of the following: Screen Reading Software; Computer Software & Hardware; Braille Embosser; Braille Translation Software; Screen Magnification Software
Facilities	<ul style="list-style-type: none"> - No Computers, No Internet - Assistive technologies not provided 	<ul style="list-style-type: none"> - No Computers, No Internet - Assistive technologies not provided 	<ul style="list-style-type: none"> - No Computers, No Internet - Assistive technologies not provided

Challenges towards the implementation of inclusive school libraries

Limited resources were the most common form of challenges of an inclusive school library and information services in the selected schools. A respondent from one of the participating schools indicated that; *“Lack of resources to develop and meet the needs of the students/ users is one of the greatest challenge”*. Another participant mentioned that; *“The challenge may be that the school library does not have internet for more research and to develop student’s reading skills and communicating skills”*.

From the administrative perspective, the Ministry of Education and Training indicated that although the programme was still at its pilot stage, technical and administrative challenges were faced such as limited capacity for the library staff and non-human resources. The following responses specified some of the current challenges faced as it was stated that:

“There may be a number of challenges and opportunities that may be cited these may include capacity building for teachers in identifying LSEN that may need differentiated information access”

The respondents indicated that due to the high expectations of the programme in Eswatini, the needed resources were one of the main challenges that could either delay the entire programme or to some degree compromise its standards. These resources could be considered in the form of both humans such as trained library personnel as well as the provision of all the necessary facilities that would strengthen the implementation of the programme.

OPPORTUNITIES FOR IMPLEMENTING INCLUSIVE SCHOOL LIBRARIES

One of the participants from the Ministry of Education and Training indicated that one of the opportunities for implementing inclusive school library practices is taking advantage of the adopted IE programme and utilising the available trained personnel on inclusive education. Moreover, the respondent mentioned that there are policies in place such as the National Education and Training Sector Policy (2018) and the National Disability Act (2019) that could be effectively utilised.

Furthermore, the policy maker stated that inclusive school library and information services had the capacity of:

“...offering information to users of the facility in all forms i.e. audio; signed; Brailled and Large printed material enabling people and learners or students to access information in their comfort zone of language choice and font preference. The facility could also provide information through high-tech gadgets like braille Note Touch and Prodigy Connect 12, laptops and desk pads.”

The volunteers who assisted in setting up the school library and information services in the ordinary schools had substantial experience in setting up school libraries, which could be an opportunity to other schools to make use of volunteers. One respondent from one of the benefiting schools stated that; *“...the school library was improved by a well-trained American Volunteer but now the teacher librarian is just an English teacher.”*

With regards to community engagement and development of the library, one respondent from participating schools indicated that, there was support from various sectors that brought about the development of the library through various means such as technical support from the Eswatini National Library Service, volunteers work and donations from FUNDZA respectively. Schools could take advantage of these engagements to develop an inclusive school library and information services.

Possible strategies that can facilitate the establishment and development of inclusive school libraries

Possible strategies to establish school libraries include:

- School needs to adopt technology and utilise technological devices including Braille books, talking books, playback machines, audiotapes and screen readers;
- Schools could take advantage of the legislations that are in place like the National Education and Training Sector Policy (2018) and acquire resources;
- Advocacy for inclusive libraries, involvement of parents and communities;
- Sensitize stakeholders and organisations about the importance of an inclusive school library and information services, and request for support like what happened with public libraries;
- Attract volunteers to assist schools with their skills and resources that can develop inclusive libraries;
- Stakeholders like the Eswatini National Library Service need to reach out to school libraries and provide technical support on the establishment and development of inclusive school libraries.

CONCLUSION AND RECOMMENDATIONS

The aim of the study was to determine if the Kingdom of Eswatini, particularly the Hhohho Region is really making strides and if it is prepared to implement inclusive school library and information services with regards to best practices. The study revealed that there was much support for an inclusive school library and information services in the model school. The community and other stakeholders, such as the government and non-governmental organisations were supportive as well. However, other schools which provided inclusive library services did not enjoy as much benefits from the government as the model school. But they received support from volunteers and the Eswatini National Library Service and FUNDZA. Challenges ranged from lack of necessary facilities and resources such as accessible buildings and relevant computer gadgets and software. The study further indicates that there is a glimmer of hope in the sense that through extensive training and awareness building for both teachers and the communities, they are likely to work hand in hand towards ensuring that all children in the near future stand to benefit from an inclusive library and information services regardless of their condition.

In the light of the above findings and conclusions, the study proffers the following recommendations:

- Training of specialised personnel is a necessity as there can never be improvement if the libraries are managed by personnel who lack an in-depth understanding of inclusivity and library skills.
- Creating awareness could help change the attitude of the communities, politicians as well as teachers and students who will end up adjusting the way they perceive issues related to disability. A change of mind-set will yield positive results in terms of inviting the much needed support from these stakeholders just like the organisations that supported the public libraries.
- There is a need to enforce existing policies that were designed to uplift the standard of disabled persons. Education and knowledge, which can be enhanced through inclusive libraries, can play an important role in improving the lives of these people so that their contribution in society can be recognised.

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BARRIER ON ACCESS TO ARCHIVES BY PEOPLE WITH DISABILITIES AND INCLUSIVE SOLUTIONS: A REVIEW OF LITERATURE

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ABSTRACT: Access to archives by members of the public is essential in promoting democracy, accountability, good governance and civic engagement. It is normally provided for by archival legislation. It is also vital in fostering an informed society. The International Council on Archives' (ICA) Principles on Access to Archives further also nurtures access to archives by all, regardless of their physical health, race and religious affiliation, just to cite a few. However, literature has shown that people with disabilities (PWDs) are denied access to archives due to existing barriers. These include unfriendly building infrastructure and challenges related to physical disabilities, visual impairment, and hearing impairment or other physical coordination. This study is based on a review of literature, and it seeks to identify barriers on access to archives by PWDs and inclusive solutions geared towards facilitating access to archives. Qualitative in terms of the research approach, the study uses the ICA Principles on Access to Archives as a theoretical lens to identify barriers on access to archives by People with Disabilities (PWDs) and to determine the inclusive solutions required to promote access to archives by PWDs.

KEYWORDS: access, archives, persons with disabilities, inclusivity.

INTRODUCTION AND CONTEXTUAL BACKGROUND

According to Nyangwesa (2018), more than a billion of the world population is made up by people with disabilities (PWDs). Even though more PWDs are believed to be residing in developing countries, the study indicated that 40% live in Africa. In Africa, specifically, there are many beliefs that are attached to disabilities, which have contributed to the immense discrimination against PWDs. Supporting this sentiment is Rohwerder (2018, 1), who explains that "misconceptions about the nature and abilities of people with disabilities includes that they are unable to contribute financially; that they are not able to have a normal relationship; that their disability is contagious or brings bad luck; their bodies have magical powers; or they are witches; they also contribute to the stigma, discrimination and abuses they experience." In the view of the above, people with disabilities face many barriers in society, and access to information is one of such challenges. Discrimination prevents people who are discriminated against from exercising their rights to access information resources in libraries and information centers Chaputula and Mapulanga (2016).

The Society for American Archivists (2018), explains that disability is part of the human condition and almost everyone will be temporarily or permanently impaired at some point in life. According to the World Health Organization (2011), disability refers to the negative aspects of the interaction between individuals with a health condition (such as cerebral palsy, down syndrome, depression) and personal and environmental factors (such as negative attitudes, inaccessible transportation and public buildings, and limited social supports). Archivists are therefore, urged to recognize that they interact daily with people living with both visible and hidden disabilities Society for American Archivists (2018).

Additionally, the Society for American Archivists (2018) expounds that the term accessibility within the archival profession is often used relating to the discoverability and ease of use of archival collections. In the context of archival facilities and services, accessibility is about minimizing barriers that enable equivalent access for people with disabilities. In addition, the International Council on Archives (2012) explains that an access service links archives to the public as it provides information for users about the institution and the holdings, and influences whether the public will trust the custodians of archives and the service they provide. For people with disabilities, the term 'accessibility' means that all things available to all people should be made available to those with disabilities Kepley (1983).

Toritsyn and Monjurul (2013, 39) emphasise that access is about creating an environment in which systemic barriers to the full participation of PWDs are reduced or eliminated, so that these people can have equal access. Ngulube, Sibanda and Makoni (2013, 123) note that facilitating access and use is fundamental to all core functions of the archives, namely, acquisition, accession, appraisal, arrangement, description and preservation. Through these functions, the archives collection can be easily accessed and used by the society as it is the mandate of their existence.

However, these institutions are not always inclusive in their delivery of service. It has been emphasised that it is only when records get utilised that the archives can justify their utility society Ngulube, Sibanda, and Makoni (2013, 124). This is so, because, people with disabilities in most cases are neglected and their needs are not considered for inclusion when physical infrastructures and other essential services are being designed. According to Society of American Archivists (2018), "Universal Design" is an approach to designing facilities and services that can be accessed, understood, and used by anyone regardless of their ability. Hence, the present study explored the barriers experienced by people with disabilities when accessing archive services.

LITERATURE REVIEW

There are many barriers that are experienced by PWDs when accessing archive services, and some of them include inaccessible buildings, the availability of the collection in print format only and many others. In the sustainable development goals (SDGs), the United Nations (UN) singled out the following as some of the barriers faced by people with disabilities in society, namely, discrimination and stigma on the ground of disability, lack of accessibility to physical and virtual environments, lack of access to assistive technology, essential services, rehabilitation and support for independent living that are critical for the full and equal participation of person with disabilities as the agents of change and beneficiaries of development United Nations (2018).

Winn (2015) in a study entitled "Ethics of access in displaced archives" identified the following as some of the barriers to accessing information, language, distance and lack of description. Lack of access to information for vulnerable groups and people with disabilities have been identified in a number of literatures Ngula (2018); Mnubi-Mchombu and Ocholla (2011); Nakuta and Mnubi-Mchombu (2013). Meanwhile, Ngulube, Sibanda and Makoni (2013) identified office hours, providing services to physically disabled, location of the archive and technology as some of the barriers that hinder access and use of archives. In their study, these scholars also found out that the Bulawayo Archives was not equipped to respond to disability needs because there was no reading room that is equipped to serve that purpose, materials were inaccessible to those with visual impairments (VI) and wheelchair access to the building was also limited Ngulube, Sibanda, and Makoni (2013).

In view of the above, some studies conducted to date have acknowledged that compared to other information sectors, archives are understood to be lagging behind in terms of service provision to people with disabilities (Kepley (1983); Jeremy (2017)). Kepley (1983, 42) emphasises the importance of adhering to the principle of accessibility; at the time also acknowledging that archives are very slow in recognizing the special needs of disabled people. It is for this reason that Serene (n.d.) indicated that an archive should be prepared to meet and deal with a variety of disabilities that may involve restricted walking, seeing, hearing, and perceiving, understanding or physical coordination.

However, access does not mean the ability to access the physical building, but, it includes the ability to use the collection kept within the archive buildings. Win (2015), posits that access is a product of both physical and intellectual availability, reflecting the ability of researchers to find and explore records both in person and online. Similarly, Chaputula and Mapulanga (2016) who focused on the service provision of PWDs in libraries in Malawi, alluded that apart from its services, the quality of a library is measured by its collection and the equipment that allows patrons access to the collection. Archivists must be content with all these groups if they are to provide equitable access to their collections (Ngulube, Sibanda and Makoni (2013)).

CONCEPTUAL FRAMEWORK FOR THE STUDY

Regoniel (2015) opines that a conceptual framework depicts the researcher's understanding of how the particular variables in the study are connected with each other. Thus, it identifies the variables required in the research investigation. It is the researcher's "map" in pursuing the investigation. According to Ngulube (2018), the conceptual framework glues and binds social research together such that without it, the whole research design crumbles. The conceptual framework guiding this study is the International Council on Archives' Principles on Access to Archives (ICA 2012). There are ten principles and they are as follows:

1. The public has the right of access to archives of public bodies. Both public and private entities should open their archives to the greatest extent possible.
2. Institutions holding archives make known the existence of the archives, including the existence of closed materials, and disclose the existence of restrictions that affect access to the archives.
3. Institutions holding archives adopt a pro-active approach to access.
4. Institutions holding archives ensure that restrictions on access are clear and of stated duration, are based on pertinent legislation, acknowledge the right of privacy and respect the rights of owners of private materials.
5. Archives are made available on equal and fair terms.
6. Institutions holding archives ensure that victims of serious crimes under international law have access to archives that provide the evidence needed to assert their human rights and to document violations of them, even if those archives are closed to the general public.
7. Users have the right to appeal a denial of access.
8. Institutions holding archives ensure that operational constraints do not prevent access to archives.
9. Archivists have access to all closed archives and perform necessary archival work on them.
10. Archivists participate in the decision-making process on access (ICA (2012, 8-11)).

However, this study uses only four (4) principles as the conceptual framework guiding the study and these are Principle 1, 3, 5 and 8. The next section presents the research objectives which have been developed using the three aforementioned principles which serve as the constructs in the conceptual framework. Archival agencies take deliberate steps to promote access to archival material in their holdings. Archival public programming activities are undertaken for that purpose. For example, the national archives in Botswana, South Africa and Tanzania have archival public programmes to promote the usage of archives Kamatula, Mnkeni-Saurombe and Mosweu (2013). Furthermore, the National Archives of Zimbabwe also has a dedicated archival public programme through which members of the public are afforded an opportunity to have access to and use archives Chaterera and Rodrigues (2019). Access to archives is a human right hence archival agencies have to satisfy this right Onyancha and Ngoepe (2011). It is also a public right which should not be limited by bureaucracy Smart (2011).

STATEMENT OF THE PROBLEM

ICA principles on access to archives, among others indicate that the public has the right of access to archives of public and private bodies, and such access should be on equal and fair terms. In addition, the principles say that institutions holding archives should adopt a pro-active approach to promote access to archives. Any operational constraints that prevent access to archives should also be removed ICA (2012). Following on this, it suffices that collections in memory institutions such as archival agencies need to be used by the public to justify their existence Chaterera and Ngulube (2019); Mosweu (2019). Usage of archives becomes even more a necessity as literature indicates that archives are underutilised in Africa, such that there is a need to lure users to the archives and even make them more visible and thus accessible Mnjama (2008); Ngoepe and Ngulube (2011); Murambiwa and Ngulube (2011); Mosweu (2019). These users of archives include PWDs who like every member of society are entitled to have unhindered access to archives Onyancha and Ngoepe (2011); ICA (2012). The main purpose of this study was to identify barriers to access to and use of archives by PWDs and suggest inclusive solutions geared towards usage.

RESEARCH QUESTIONS

The first steps of any study are developing the research questions, aims and objectives. The researchers' choice of population, setting, data to be collected and time allocated for the study have their entire cue from the research questions, aims and objectives Doody and Bailey (2016). It is thus important to define the research question prior to the commencement of the study. Scholars such as Creswell (2014), and Johnson and Christensen (2014) aver that defining a research question narrows the aim and objective down to specific areas that the study intend to address. According to Lipowski (2008), research questions determine the methodology, methods, sample, sample size, data collection instrument and data analysis techniques to be adopted for a study. This study asked the following questions to find out and identify barriers on access to archives by PWDs and to suggest inclusive solutions geared towards facilitating archives to archives by them.

- What are the barriers to access to archives by people with disabilities?
- What inclusive solutions can be suggested to enhance to archives by people with disabilities?

METHODOLOGY

The study adopted a qualitative research approach Creswell (2014) and collected data from available literature on access to archives by people with disabilities. Content analysis was conducted on the identified literature and the analysis was guided by the research objectives which turned into themes for a focused analysis. The use of secondary data in research is an acceptable methodology and this has been used in studies in Library and Information Science research. For example, studies by Khayundi (2011), Ngoepe and Saurombe (2016), Khumalo, Bhebe and Mosweu (2017), Mosweu (2019), and Chaterera and Ngulube (2019), respectively investigated existing records and archival programmes to the job market in South Africa, the

provisions for managing and preserving records created in networked environments in the archival legislative frameworks of selected member states of the Southern African Development Community, compared the freedom of information legislation in Botswana, South Africa and Zimbabwe, assessed factors to be considered for collaboration on public programming by memory institutions in Botswana, and determined global perspectives on the challenges and prospects of accessing and using documentary heritage all used secondary sources in their investigation.

FINDINGS OF THE STUDY

This section presents the findings of the study in accordance with research questions. First to be presented are the barriers to access to archives by people with disabilities.

Barriers to access to archives by people with disabilities

Although archives and the use of archives is a human right and honourable undertaking in the archives' community, it faces several challenges and for the purpose of this study, these have been termed barriers to access to archives. These barriers are briefly presented in the next sub-sections.

Physical condition of archival holdings

The state of archival holdings can become a barrier in accessing the archives. Ngulube (2003, 11) avers that "preservation activities facilitate continued availability and access to public records and archives." According to Gordon (1992), a survey in the 1990s revealed that up to 20% of researchers who took part in a study voiced a concern that they were prevented from accessing material because of its poor physical condition. Greene (2008) notes that it is likely that even over the passage of time, the figure cited was likely not to have changed significantly because of a relative dearth of funds for conservation compared to the size of the conservation problem. Ngulube (2003) states that making archives accessible and knowable across space and time is a good enough reason to avail resources for undertaking research into their protection. This view is shared by Graf (2000) who indicates that access to archives and records is not possible without preservation in as much as preservation should be focused on providing access.

Unprocessed archives

For archival records to be processed, described and made available to users with the assistance of finding aids, they are first appraised to select the archive from the mass of records, normally 20 years and older, in the context of Botswana. Ramokate, and Moatlhodi (2010) lament that due to unappraised backlog of records, users have been denied the right to consult the archives, contrary to the provisions of the National Archives and Records Services Act, Section 12(1), which guarantees that access once archival records reach 20 years Government of Botswana (1978). The denial of the right to information occasioned by unappraised backlog of records is thus a barrier to access to archives. It is not peculiar to Botswana only. The Society of American Archivists (2019) argues that some collections need to be examined, identified, and organised for researchers to use and the collection is yet to be processed, then access is impossible. Mnjama (2006) revealed that archival institutions in eastern and southern Africa were faced with the problem of a backlog of unprocessed archival material which had accumulated for periods of up to a hundred years. Similarly, Ngulube, Makoni and Sibanda (2013) also found that users complained about the difficulties they endure in accessing archival materials because of the backlog of unprocessed materials.

Unfriendly infrastructure for PWDs with limited movement abilities

Since access to archives is a human right Onyancha and Ngoepe (2011), it follows therefore that archival agencies should ensure that the building infrastructure accommodates the needs of PWDs with limited movement. Chaterera and Rodrigues (2017) argues that despite the provision of physical access by a national archival institution being an essential component of improving access to and use of its archives, the National Archives of Zimbabwe (NAZ) neither had facilities to assist the physically challenged visitors nor explicit

procedures in place for responding to their disability needs. Chaterera and Rodrigues (2017) add that in overall terms, the NAZ does not have provisions to cater for the physically challenged. For example, “nowhere in the interior and exterior of public spaces is there the international symbol of accessibility to identify the facilities, elements and spaces to be used by the physically challenged” Chaterera and Rodrigues (2017, 88). The archives building at the NAZ does not have parking space designed for PWD and the rest rooms do not accommodate wheel chairs. Similarly, Ngulube, Makoni and Sibanda (2013) also state that wheelchair access in the BA building was limited. Furthermore, Kepley (1983) noted that in archives, persons with mobility problems encounter many physical barriers, including lack of wheelchair access to the building, research room, and restroom facilities; reference room tables that cannot accommodate a wheelchair; and difficulty in lifting large volumes or simply turning the page of a document. Lack of public elevators are some of the infrastructures that hinder access to archives.

Distance from users

The location of the archival repository in terms of distance from users is a barrier to the access and use of archives Greene (2008). According to Chaterera and Rodrigues (2017), distance is among one of the well-known barriers that prevent accessibility of archives by members of the society. Archival institutions in Zimbabwe and Kenya are found in the capitals, Harare and Nairobi respectively, compelling anyone who desires to use the archives to physically go to those centres. The two scholars add that some archival institutions have tried to meet the challenge of distance by digitising their materials and making them available on the Internet. Botswana National Archives and Records Services (BNARS) (2019) acknowledge distance as a barrier to access to archives, and it has made efforts to improve the situation by building three records centres across the country. The records centres document the histories of the people in the regions, and serve as regional archival repositories for such documentation.

Elsewhere, Winn (2015) notes that at times the location of such archives may not be unknown, and even located in a foreign country. Winn (2015) observes that general users of archives may be hindered from getting access because the archives have been misplaced and located in remote areas in areas that are undisclosed. Former imperial countries such as Britain took away many archival materials from former colonies, and even denied having them in possession for 50 years and only admitted possession after Kenyans obtained a court order to provide access Winn (2015). Still, access is difficult as the archival materials are located at the UK National Archives in Kew while the citizens of Kenya and other former British protectorates remain physically detached from their own history. Taking archives away from people denies them to have access to their documentary heritage, and this is a denial of their human rights.

Copyright issues

The endeavour to observe copyright provisions may serve as a bottleneck to accessing and using archival materials. This has been particularly with PWDs who have what Roos (2004) refers to as people with print disabilities. Roos (2004, 3) defines people with print disabilities as “...those who, due to blindness, partial sight, dyslexia or physical impairments, cannot access visually represented information in the ordinary course. They require the conversion of such information into an alternative format which renders it accessible via their remaining senses, either through touch, hearing or increased visibility. Formats which are currently accessible are Braille, audio, larger print or digital text in some formats, but we should not try to list them more accurately, since we may blindfold ourselves before a proper examination of the problem”.

Clearly, the need to comply with copyright provisions can become a barrier to access to information in archival holdings such as books. For instance, open and free access to moving image archives clashed with some copyright law provisions for some copyrighted materials. Secondly, providing access to some private collections was against the law due to prevailing agreements with donors Prelinger (2007). Dryden (2014) observes that in their duty to obey the law as it pertains to copyright, archivists struggle to find the appropriate balance between their fundamental mission to make their holdings available for use and the constraints of relevant laws and contractual agreements. While the observance of copyright laws for access to information

has proven a daunting task for archivists, it is notable that attention has been given to copyright issues that block access to information and this has seen a number of countries making moves to remove such legislative barriers (Roos 2004). This move will greatly remove the barriers related to copyright provisions.

Language barriers

According to the United Nations Educational, Scientific and Cultural Organization (2003), language barriers impede access to archives. For archives displaced from their country of origin, as has been common with former colonial masters, the archives are described using the language of the host country and institution. If such descriptions are not translated to the language of the people from where the archives originated, access would be impossible due to the language barrier Montgomery (2014). In addition, if the finding aids are prepared in a different language than the materials themselves, members of the originating community are likely to be excluded by the language barriers from accessing the archives. The following indicates the reality faced by archival institutions as they make attempt to accommodate PWDs in the archives:

As disabled children and young adults matriculate through high school, college, and graduate school, and as disabled adults endeavour to pursue their own interests in history, government and legal research, or genealogy, it is clear that they will be seeking access to archival collections in greater and greater numbers. Archivists should be prepared to welcome them into their facilities. Kepley (1983, 43)

PWDs, especially those who use Braille to communicate would be denied the use of archival resources simply because no one in the archives may understand Braille. This is in spite of the fact that for PWDs, access to archives means that “all things available to all other people should be available to those with disabilities” Kepley (1983, 43). At NAZ, Chaterera and Rodrigues (2017, 8) noted that the NAZ “does not have Braille, and that no employee is able to properly converse in sign language.” This goes against the ICA Principle on Access to Archives which states that archives should be made available on equal and fair terms ICA (2012).

Lack of staff members who specialises on disability issues

It has been found that archives and other information agencies such as libraries do not employ staff members who specialise on disability issues Whiteside (2002); Ezeani et al. (2017). Ezeani et al. (2017) found that students with disabilities wanted qualified and trained personnel that is employed to serve them. Ezeani et al. (2017) further pointed out that employing staff with special abilities in the library should serve as a motivation for people with special abilities and to enhance their education. Similarly, Ngulube, Makoni, and Sibanda's (2013) study found that staff members at BA revealed that procedures for responding to disability needs were not established mainly because staff members in a reading room were not prepared to respond to users with various needs.

Inclusive solutions to enable access to archives by people with disabilities

Inclusive archive services are very vital for a progressing society. The United Nations through the SDGs also pledges the need to ensure that none is left behind, and this includes those that are the most vulnerable in the society, namely, women and children, people with disabilities and other disadvantaged groups. In archive settings, to ensure accessibility is to remove physical and design barriers and ensuring that the content is available in the alternative formats apart from print. All areas of the archive must be accessible including parking lots, entrance to the buildings, and it must be able to accommodate users who are wheelchair bound and routes within the building and outside must be free of obstruction for the safety of those with visual impairments Serene (n.d.); Chaterera and Rodrigues (2019). Similarly, Todd (2016), as cited in Ezeani, Ukwoma, Gani, Ingwe and Agunwamba (2017) emphasise that the Disability Act passed in 1990 in the United States puts emphasis on the importance of availing the following services to users with disabilities. These include access to ramps, elevators, more convenient shelf light, large print books, closed captioned films, braille, audio books, and picture communication systems Ezeani et al. (2017).

In addition to the entrance, archives must have at least one automatic opening door which is wide enough (i.e. 36 inches) to accommodate wheelchairs and scooters, and users with disabilities must be allowed to use the employee elevators in case there is no public elevator that is available Society for American Archivists (2019). Furthermore, all service points such as reference areas and reading rooms must be accessible. Kepley (1983, 45) also recommends that there are many adjustments that can be made to buildings including research rooms to make them easily accessible to the disabled, making sure restrooms can accommodate those with wheelchairs and providing adjustable tables in the reading rooms. For users with visual impairments, the door and its features should be easily distinguishable from the surrounding structure.

Archives should make provisions for materials in braille, acquire talking books as well as large print books. Additionally, archives should also consider scanning to braille for the deaf-blind, audio access can also be achieved by scanning print Andrew (2002, 76). Furthermore, the research area must include soundproof facilities as some researchers take notes orally using Dictaphones or tape recorders as they would have difficulties reading handwritten notes Andrew (2002, 76).

Archival agencies are also challenged to employ staff with specialised knowledge on disability issues in order to attend to their needs wholeheartedly. It is for this reason that Whiteside (2002) states that the process of facilitating the employment of visually impaired archive staff would necessarily bring with it much of the facilitation that is essential for the provision of services to the visually impaired. It has been shown in this study that reference archivists struggle to assist PWDs, specifically those that use sign language for communication Chaterera and Rodrigues (2019). It is therefore recommended that archival agencies should capacitate archivists to learn and use sign language in order to ensure that users who use it for communication are able to converse with archivists and be assisted. This explains why archival institutions should train employees to be flexible and sensitive to accessibility requests relating to using assistive devices, allowing extra time on machines and providing additional employee assistance SAA (2018).

With the integration of technologies in our environments, there are many ways through which people with disabilities can access archive services to overcome some of the barriers such as those posed by inaccessible archive buildings. Jeremy (2017) provided an example of accessible websites as some of the tools by which those with disabilities can engage with information about the service in a format that can be adapted to suit their needs. These websites can also provide the opportunity for comments or feedback so that archive users might engage in commenting about the service they have received. Archivists must also ensure that the content is available in digital format so that it can be accessed when using a screen reader or screen magnification programme. It is also important to ensure that it can be navigated using a keyboard without a mouse American Society for Archivists (2018).

CONCLUSION AND RECOMMENDATIONS

This study concludes that there is a gap in terms of the provision of information by archivists to people with disabilities. It is evident that in the design of archives and other information sector buildings, the inclusion of those with disabilities is limited. It is however, worth noting that users with or without disabilities should be treated equally in terms of information use and access. Kamatula (2011) puts the importance of access to archives into context by saying that it is an undeniable fact that access to records and archives is a very important aspect in the society and there is a need for the general public to be aware of the treasures the archival institution is holding on behalf to the society.

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ACCESS TO INFORMATION FOR PEOPLE WITH ALBINISM: ISSUES, CHALLENGES AND RESOLUTIONS

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ABSTRACT: Albinism is an inherited genetic condition that reduces the amount of melanin pigment formed in the skin, hair and eyes. The difference in appearance between pigmented people and those with albinism is often the object of inaccurate and harmful beliefs about the condition. These beliefs are fuelled by myths, lack of knowledge and understanding. In recent years, it has cost people with albinism (PWA) severely with the mutilation of their body parts and killings in some countries in Africa. PWA challenges include discrimination, stigmatisation, derogative naming, skin cancer, visual impairment, rejection, and social exclusion in fundamentals such as healthcare, education, and employment. Also, access to information remains a challenge to PWA due to poor eyesight and myths associated with the condition, making it difficult for society to openly discuss albinism issues and share information with those in need.

The study explored PWA's challenges, parents of children with albinism (CWA) and organisations that serve PWA in Khomas region Namibia when accessing information. The researchers adopted the interpretivism paradigm and employed a qualitative approach. Data was collected through individual face to face interviews with all the participants. Sixteen participants, both male and female, took part in the study. The findings show that PWA encounter problems when accessing information. These include lack of awareness of information sources coupled with poor eyesight for PWA and reading of information in small fonts that are not provided in alternative formats. The immediate sustainable resolution is delivering inclusive information services that avail health information in multimedia formats to accommodate people with challenges such as visual impairments and other forms of impairments. Although far-fetched, a change in mind-set and negative attitude to PWA, especially in Africa, is critical.

KEYWORDS: people with albinism, challenges, Namibia, information.

INTRODUCTION

Albinism is characterised by a lack of melanin, a pigment that gives colour to the hair, skin and eyes, and it can occur in all genders regardless of ethnicity, and it is common in all countries of the world United Nations, General Assembly (2013, 4). Every PWA inherited the condition from both parents (mother and father). It does not matter whether these parents have albinism or not; as long as they carry the genetic trait of albinism, they can potentially have a child with albinism Under the Same Sun (n.d.).

Despite the challenges caused by hypervisibility eminent with their condition, PWA have other challenges such as poor eyesight that accompanies all forms of albinism, vulnerability to skin cancer and the worst of them all is the misconception of albinism and the negative perception by African society towards albinism in general. According to Doris (2019, 61), in Sub-Saharan Africa, the condition is viewed as a curse, evil, or some form of punishment from the gods or ancestors for parents' wrongdoing.

The challenges mentioned above have contributed to PWA's social exclusion from some basic services (if not all) such as health care, education, safe employment opportunities, proper housing, and information access. Among the stated challenges, information plays a crucial role because it provides the foundation for which PWA can become aware of issues affecting their lives, make informed decisions and defy the myths associated with the conditions. However, accessing information remains a challenge due to poor eyesight. For these reasons, the National Federation of People with Disabilities of Namibia's chairperson indicated that 'People with disabilities still have limited or no access to information Namibia Press Agency (2019). The chairperson noted that information in most cases is displayed on screens for people to read for themselves. Those with visual impairment are incapable to do and therefore are automatically excluded. Besides, Albinism Umbrella (2017) indicates that poor access to information, particularly in rural areas regarding albinism, its causes and effects, preventive measures for sunburn and skin cancer is a significant concern.

THE CHALLENGES FACED BY PWA IN AFRICA

The historical use of the term 'albino' has contributed to PWA's derogatory naming throughout Africa. Although the term 'albino' is commonly used to refer to living creatures with albinism, it has been established inappropriate to refer to human beings as albinos. This was underscored by Thuku's (2011, 7) assertion that "even though the term albino is still valid today, it is essential to mention that the term is a high point of contention amongst PWA communities". This is a critical issue, given that because of stigma and social rejection in many African countries, different terms are used to refer to PWA. As noted by Cruz-Inigo, Ladizinski, and Sethi (2011), most of these terms are dehumanising, with little regard to PWA's dignity.

Traditional beliefs and witchcraft have also contributed immensely to the discrimination and stigmatisation of PWA today. Among some societies in Africa, PWA are viewed as less human, and in some cases, as phantoms that do not die but disappear Uromi (2014). Ntinda (2011, 244) explains that PWA were also killed in certain Namibian communities in the past, and their body parts were used for 'muti' (witchcraft practices). The utilisation of each part of the body has a symbolic meaning. For instance, the utilisation of eyes for 'muti' means one's partner would not have an extramarital sexual relationship. The use of legs is believed to perpetuate the user of such 'muti' to promiscuity, while 'muti' with blood, hair, nails, sexual parts, and breasts would bring wealth.

In recent years, the killing of PWA started in Tanzania; it spread to some parts of Southern Africa, with Malawi topping the list, where the number of reported crimes against people with albinism in Malawi has risen to more than 163 cases, including 22 murders since November 2014, according to official figures Malekezo (2019). Namibia Press Agency (2019) article attests that Malawi judges sentenced three people to death for albinism murder.

According to Kapitako (2018), Namibia has the most albinos per capita in the world. With a population of about 2.4 million people, the country has between 1,800 and 2,000 people living with the condition. However, it is worth noting that Namibians with albinism still feel safe because they have not experienced killing in recent years. This is attributed to some of the most progressive legislation and national policies safeguarding people with albinism Kapitako (2018). But, misconceptions about the condition still exist. The following newspaper quote is presented as an example; "Besides discrimination and stigmatisation that people with albinism face in the country, Kangoute said he is fortunate to live in a peaceful society, unlike his counterparts in other parts of Africa where persons with albinism are hunted and killed for their body parts to be used in rituals and other black magic due to myths" Angula (2018).

REVIEWED LITERATURE

Generally, people with albinism have the challenge of poor eyesight, which, most of the time, prevents them from attending mainstream schools. There are very few special needs schools in Namibia, so learners with various disabilities are often grouped in one class. Most of these schools are usually under-resourced and lack information services, school libraries and assistive devices for access to information. Brilliant (2015, 224) concurs that people with albinism have a feeble correctable vision, and as a result, they are disadvantaged in schools and employment opportunities. At best, they are discriminated against, while at worst, they are hunted and often killed for their body parts for witchcraft use. In most cases, if they survive these attacks, they are very likely to develop skin cancer that is most often untreated, leading to a preventable premature death Brilliant (2015, 224).

Mawere (n.d.) expressed that this stigma about albinism exists, has always existed, and it will continue existing as if it is being passed on from generation to generation. However, this is the sickening side of society, where information about albinism is either lacking or absent, and that albinism is not a curse, a plague, or a disease. Several studies have repeatedly stated that PWA face discrimination and barriers that restrict their participation in society on an equal basis every day. Due to these challenges, PWA, especially in Africa, cannot enjoy the full range of human rights and the same standards of equality, rights and dignity as people without albinism Gaigher, Lund, & Makuya (2002); United Nations, General Assembly (2016).

The following constraints were reported by Baker et al. (2010, 170) after investigating the myths surrounding PWA in South Africa and Zimbabwe, namely, lack of finances, education, and the reduced visual understanding associated with the condition, as well as the environment of people with albinism.

Additionally, Mnubi-Mchombu and Mostert (2011, 402) identified the lack of information channels that could inform caregivers on issues such as how to apply for grants for the orphans and vulnerable children (OVC) in their care, as well as a lack of funding when traveling long distances to access information sources. Mansour (2015, 16) adds a lack of time to access information and a lack of training and skills to access it as some of the challenges noted when investigating the information needs and seeking behaviour of domestic workers in Egypt. Moreover, the psychological burden suffered from the image of being house servants and the lack of awareness about their fundamental rights, including the right to information, were other challenges disclosed by the study. According to Lund (2005, 171), a lack of knowledge among medical staff in approaching people with albinism with sensitisation or sensitivity is another challenge. It came to light that people, including healthcare professionals, often avoid physical and social contact with those who are affected; it has been proposed that this social context essentially structures and limits the lives of people with albinism, preventing them from reaching their full potential in a non-supportive environment Gaigher, Lund & Makuya (2002).

Furthermore, Omeluzor, Oyowwe-Tinuoye, and Emeka-Ukwu (2017, 445) mention that a lack of awareness of information sources can hinder access to information. Ugah (2007, 1) further elaborates that information seekers and users may not know about the sources available because libraries' role has not been made clear to the information seekers. Beverley, Bath, and Booth (2004, 19) found the lack of knowledge on specific health topics, limited knowledge, as well as language and cultural barriers associated with ethnicity, community-level barriers, including social taboos and insufficient time, as some of the obstacles identified in their study of the health information needs of visually impaired people. Ugah (2007, 3) describes adequate infrastructure as the basic framework for any information organisation. Ugah (2007, 3) further argues that effective information access and use depends on communication facilities such as telephone, internet, telefax, computers and even postal services, as well as an adequate supply of electricity. Language limitations and illiteracy are among the identified barriers that hinder access to information. A significant number of studies on information needs have found language as a barrier to accessing information Chiware (2008); Mnubi-Mchombu & Mostert (2011); Mnubi-Mchombu (2013); Madumo (2017). Mansour (2015, 16) also notes that illiteracy was one of the challenges faced by domestic workers when accessing information. This is a

sentiment echoed by Masanja, Mvena, and Kayunze (2014, 24) who reveal that illiteracy is the main force behind the beliefs and attitudes towards albinism and PWA.

STATEMENT OF THE PROBLEM

Although the government of Namibia and non-governmental organisations are taking care of PWA, access to relevant information to address their specific conditions and problems is limited, especially among people in rural areas who sometimes deliver babies at home. At the time of this research, no study was found on PWA's information needs, especially in Namibia. This conclusion was reached after an intensive literature search that was conducted on various databases such as EBSCOhost, I.S. Web of Science, Emerald and Google Scholar, and various search engines by using keywords such as information needs, information seeking, and information behaviour in combination with albinism, and using the Boolean operator AND. Seemingly, respective databases cluster PWA's information needs with other user groups' information needs, even though they have unique conditions that might often trigger distinctive information needs. The one-size-fits-all approach to using information systems and services' design does not do justice to the conditions and nature of information needs of distinct user groups such as PWA.

RESEARCH QUESTION

What are the challenges that PWA in Khomas region face daily when seeking information?

METHODOLOGY

The study investigated the challenges experienced by people with albinism when accessing the information. It covered the parents of children with albinism, people with albinism themselves and the organisation that serves PWA in Namibia, namely: Support in Namibia for albinism sufferers requiring assistance (SINASRA) and Namibia Albino Association Trust (NAAT).

This study adopted the qualitative approach to collect and analyse data. Creswell (2013, 65) defines this approach as "the study of research problems that explore the meaning that individual groups ascribe to, either as a social or human problem". The qualitative approach involves studying the phenomena as they happen in their natural setting. Denzin and Lincoln (2008, 4) echo this sentiment by explaining that by so doing, researchers attempt to make sense of or interpret phenomena in terms of the meanings that people bring to them.

Thomas (2010, 306) points out that the qualitative approach is most appropriate when the researcher wants to become more familiar with the phenomena of interest, to achieve a deep understanding of how people think about a topic, and describe, in detail, the perspectives of research participants.

The qualitative case study design was collected through semi-structured interviews with PWA, parents of children with albinism, and the organisational representatives. Interviews are valuable sources of information, and if conducted correctly, they allow researchers to interpret and understand the meaning of participants to answer specific questions Du Plooy-Cilliers, Davis, & Bezuidenhou (2014, 189).

Besides, scholars such as Henry (2012), Beverley, Bath and Barber (2007), Fourie (2008), and Litzkendorf et al. (2016), all employed semi-structured interviews to investigate the information needs of various user groups. In all these studies, it was noted that face-to-face interviews worked out well with vulnerable participants.

DATA PRESENTATION AND ANALYSIS

Among those interviewed were sixteen people with albinism; of these, eight were males, and eight were female. The study identified two organisations that deal with people's plight with albinism in the country, namely, NAAT and SINASRA. As a result, two males were interviewed as organisational participants, including the NAAT president and the chairperson of SINASRA. The NAAT president was a corporate participant and a respondent in the study as he is a person with albinism. Both interviewees are responsible for overseeing the operation of their respective organisations, including securing donations. The Namibia Albino Association Trust was established in 1999 and was officially inaugurated in 2001. SINASRA was established in 2001 by Rotarians and optometrists.

FINDINGS

Information seeking challenges of participants

This section presents the challenges experienced by participants when accessing information related to albinism. Therefore, one of the questions addressed in this section was to determine whether PWA and CWA parents experience any challenges when trying to find information. Furthermore, the section presents challenges experienced by key organisations when trying to disseminate information to PWA.

Challenges raised by PWA

Data collected revealed that some of those who possess it are not approachable when seeking information, and they are rude to PWA. Participants acknowledged being discouraged from approaching those with information after the negative experience. One interviewee (PWA2) made the following comments:

There was a time I went to the office of one of the regional councilors to inquire about information on houses because I heard people were registering themselves there, but when I got there, the regional councilor asked me what I was looking for at his office, he told me to go away; he said that I am already receiving the disability grant from the government, without giving me a chance to explain myself.

Furthermore, people with albinism commented that there are occasions when they are not provided with disabilities because people regard them as non-disabled. They explain that they experience this mostly when they are looking for information on the disability grant.

Poor eyesight was mentioned repeatedly by PWA; they maintained that even if they have access to the information, such information is always in an unsuitable format for PWA. As a participant (PWA11) claimed:

Most of the materials are in print format, and with the print, you cannot enlarge it. Books in the library are always in the form that they are sold in; being a law student, I finished law school without using a single textbook because I cannot see. I better use information that I can google because I can zoom and expand as I want, but if I have to use a newspaper article or a book, I would rather not bother.

An example given was that during conferences and meetings on disabilities, the materials distributed are usually in fonts inappropriate for PWA. The challenges of poor eyesight expressed during the interviews were like the challenges experienced at school by children with albinism who could not see on the chalkboard or print textbooks Lund (2001, 3).

Furthermore, the background colours of some print materials or PowerPoint presentations during meetings and conferences pose some of the challenges as noted by PWA. Interviewee PWA12 remarked that:

It is not only the font that is a problem but also the background color on which the information is written; for example, writing with black text on a red blood background is a problem for poor eyesight. After all, black almost blends in red, even newspaper articles, because people who write these articles do not understand issues related to disabilities.

Language is another challenge eminently hindering access to information by PWA. Participants stressed that most of the time, the information is provided in English, and most of the participants do not understand English. They claimed that information is not provided in a language accessible to PWA and their families. There is a lack of information on albinism in local and sign languages in Namibia.

Several participants highlighted a lack of awareness of where to look for information, such as the office, clinics, and so forth. They narrated that sometimes they would find themselves in a situation where they need medical attention, but when they get to the hospital, in most cases, they would not know to which room to go. Besides, sometimes they would be referred from one office to another, and, in most cases, they are likely to give up. Participant PWA8 claimed that:

My principal sent me to the hospital to get a letter stating that I have poor eyesight to be provided with extra time during the examination. Still, at Windhoek Central hospital, some offices told me to go back without being assisted; I found another person who referred me to an eye clinic that I never saw. As a result, I found a doctor who wrote a letter for me stating the following: a girl is complaining about eyes, but I am not the one who is supposed to provide her with this information or letter, and she complains that she has limited time". "As a result, I could not be assisted because the letter I got was not stating anything.

Lack of access to computers and the internet, especially after hours for those employed, is problematic. However, they explained that they could access computers and the internet at work and a public library during working hours. Financial constraint is eminently an inhibiting factor to information seeking. The majority of those interviewed mentioned the fees associated with transport due to long distances. Most of them are not driving due to poor eyesight, which is yet another disadvantage. One participant claimed that she had lost her car allowance benefit at work because she could not drive because of her poor eyesight. Only two participants have acquired a driving license and therefore able to drive themselves around. Apparently, PWA has no choice but to use public transport like taxis to access information.

The lack of communication facilities is one of the barriers identified by some participants, who revealed that they do not own television and radio sets because there is no electricity in the informal settlements where they are residing. Finally, participants' lack of time to seek information was stressed as a barrier to information seeking.

Challenges raised by parents

The same question was posed to parents of children with albinism about their challenges when seeking information. Lack of finances to access information was one of the main difficulties noted by parents. The parent's participants indicated that even though information related to application forms for disability grants are available at different centres and offices throughout Windhoek, parents must travel to different health facilities. State doctors usually complete these forms. Meanwhile, parent participants narrated how sometimes they are turned away by some officers when they try to access information on how to register their children for the disability grants; these officers apparently inform them that their children do not qualify for the disability grant because they are not disabled. A parent participant (Parent1) narrated that:

When I try to acquire information to register her for a disability grant, they always tell me that the child is not disabled; until now, she is not recorded as such; therefore, she is not getting any assistance from the government.

Parent participants shared similar sentiments to PWA that a lack of awareness of where to look for information is a challenge for them, such as the office, clinics, and so forth. An example provided by a parent was when her child had sores on her legs, she would go to the hospital, but at the hospital, she would not know exactly where to start or whom to approach to get treatment.

The language barrier was mentioned almost by all participants because information on albinism is always provided in English, the official language, making it impossible for them to access such information. Participants indicated that even newspapers and pamphlets are written in English, and television programmes are broadcast in English. Sometimes in hospitals, clinics and offices, people communicate in English. A participant claimed that sometimes she would take her daughter with her so that she can translate for her, while Parent 4 remarked that:

I do not understand English very well, and most of the information on albinism is provided in English, and I have never come across information on albinism in Oshiwambo.

Challenges raised by organisational participants

Organisational Participant 1 mentioned that the biggest challenge for disseminating information is reaching out to people who still believe that albinism is a curse. Lund (2005, 171) explains that raising community awareness to improve social integration and acceptance is a significant challenge in a region where albinism is steeped in myths and superstitions and misconceptions that albinism is contagious affected families have been cursed, resulting in fear and misunderstanding. Besides, OP2 linked the lack of a budget to cover the organisation's activities such as raising awareness throughout the country, lack of understanding of what albinism is, and long distances to travel to disseminate information.

DISCUSSION

Challenges experienced by participants when searching for information

Some of the significant obstacles to prevent access to information can be attributed to issues unrelated to albinism. These include long distances, Lack of funds, language barriers, lack of time, Lack of electricity, etc. Most of these barriers were confirmed by previous studies Mansour (2015); Mnubi-Mchombu & Mostert (2011); Baker et al. (2010); Beverley, Bath & Booth (2004). Lack of relevant literature or materials on albinism, especially from a Namibian perspective, lacks equipment, such as computers with an internet connection. Participants mentioned a lack of ownership of radio and television sets due to the none availability of electricity.

The organisational participants also mentioned that the challenges they face when disseminating information are reaching out to people who still believe that albinism is a curse, budget constraints, and a lack of understanding of what albinism is. Some of the challenges are presented below.

Lack of finance, long distances and lack of time

This study indicates that a lack of finance when seeking information is an impediment; this is mainly due to long distances between information seekers and information providers. The interviewees admitted having no taxi money. This is so, despite the majority of them acknowledging that they receive the disability grant from the government and being able to generate extra income from their informal businesses. Organisation participants mentioned that lack of adequate funds makes it difficult for them to reach out to PWA countrywide to implement their activities because they depend on donations. Financial constraints, limited infrastructure, and public transport inefficiencies, as well as long distances that one needs to travel from one area to the next to access information resources, were noted by Mnubi-Mchombu & Mostert (2011, 402); Mnubi-Mchombu & Ocholla (2011, 39); Nakuta & Mnubi-Mchombu (2013, 343) specified distance to government departments to access information as a barrier.

Lack of time to seek information was stressed by participants, especially those whose livelihoods are sustained through informal businesses, who complained that they do not have time to seek information that will require them to leave their businesses unattended. This constraint has been discussed in several previous studies such as Mansour (2015); Beverley, Bath & Booth (2004); Madumo (2017).

Language

The findings show that most of the information on albinism in Namibia is written in English, making it difficult for some PWA to absorb it. The study results confirm that the majority of those interviewed did not have secondary education, hence making it difficult for them to understand English. A participant confirmed that she has never come across information on albinism in the Oshiwambo language, one of the vernacular languages spoken in the country. Even the flyers used by SINASRA to disseminate information about albinism were available in English only.

Chiware (2008, 34) explained that though very small, the Namibian population is highly diversified in terms of languages and makes it difficult for service providers to satisfy all the language groups, especially when they cannot read English Afrikaans. Mnubi-Mchombu and Mostert's study (2011, 402) found language to be a barrier to accessing information. They explained that a caregiver would sometimes go to an office only to be told that the person who can understand and communicate in their language was not available and returned later when the official was available.

Lack of awareness on where to look for information

The findings showed that most of the participants were not familiar with information-seeking techniques and, in most cases, they are referred from one office to another until they give up. This process also cost money and time. Madumo (2017, 28) explained that lack of awareness "simply means not knowing where to find information when in need of information and faced with a complex task or a problem". These findings were substantiated by reviewed literature by Beverley, Bath, and Barber (2011) that visual impairment can be a barrier to information and be aware of what information is available. Also, Crudden and Sansing (2011, 175) highlighted that visually impaired people's failure to seek services is because they are unaware of the help available to them. Nakuta and Mnubi-Mchombu's (2013, 343) study singled out too much bureaucracy as the highest impediment to government information.

Poor eyesight

Information needs to be provided in as many formats as possible and large print because PWA participants mentioned that their poor eyesight makes it very difficult for them to access information that is in general provided in inappropriate fonts and formats. They claimed that information is in print formats; therefore, it cannot be zoomed or enlarged to cater to them. The researcher observed that even flyers used by SINASRA were in an inappropriate font for PWA. This agrees with reviewed literature that even though people with visual impairments (PWVI) have information needs related to their condition, this information is not always accessible and does not always meet specific groups' needs, and one such being people with visual impairment Beverley, Bath & Booth (2004, 2).

Beverley, Bath, and Barber (2007, 2) also explain that when dealing with people with visual impairments, a more comprehensive range of formats should be available, for example, large print, audio cassettes, internet (with internet so that one can send emails, floppy disks, Braille (but a more comprehensive range, so that people have got more choices) instead of having a standard print letter that visually impaired users cannot read.

RESOLUTIONS ON HOW TO IMPROVE ACCESS TO INFORMATION

This section presents suggestions made by participants with albinism on how access to information can be improved. Therefore, participants were asked to make suggestions as to how the community, the nation, or the government could assist in meeting people's information needs with albinism. The aim was to ascertain the modes and platforms through which PWA prefer to receive information.

Almost all respondents identified regional councillors as platforms that can be used to disseminate information on albinism to the community. They stressed that regional councilors understand their people's needs better and have a special programme on local radio stations that airs every morning. As such, they can include information and services directed to PWA in their announcements.

Other suggestions were to organise community meetings and bring PWA together to share experiences. They also indicate that PWA should be provided with information through the platforms that are easily accessible to them, such as radio and newspapers in appropriate fonts and information in vernacular languages to make sure that those less educated and in the villages are not left out. Participants further emphasised that PWA needs information, but it is equally essential to sensitise PWA's society. For example, they need to explain that PWA are normal human beings who deserve to be treated humanely.

Several participants argued that the government should provide finances for sensitisation campaigns because the information is vital. With data, information, and knowledge, PWA know what services they are entitled to and where to go to access them. They will be able to share this information with others because albinism is a condition that will not go away; it is not like a disease that you can cure once and for all.

Furthermore, participants appealed to the Ministry of Information and Communication Technology to ensure that information is accessible to everyone, not only to those who can read print materials. They should implement an easy-to-read mechanism, explained as a mechanism used by the United Nations (U.N.) to provide information to people with intellectual disabilities. Participant PWA 11 articulated this:

The ministry should ensure that books and pamphlets and other printed materials such as newspapers are written in larger fonts; at least they can use Arial 14 up; otherwise, font 11 will not work for us.

Another suggestion was that the government recognise sign language as an official language and have official documents in sign language, such as the Namibian Constitution, where people learn their rights.

CONCLUSION

The study identified many challenges experienced by participants when accessing information. All participants identified long distances that they have to travel to access information and lack of funds. People with albinism raised a concern that information is never presented in appropriate fonts and formats for their eyesight. Other challenges include rude staff members, people who refuse to classify PWA as disabled and lack of awareness of where to look for information when the need arises. Language barriers, a lack of facilities such as access to computers and the internet, radio and television, and a lack of literature about albinism specifically in Namibia, are some barriers identified by participants.

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BUILDING CAPACITIES OF LIBRARY AND INFORMATION PROFESSIONALS TO CONTRIBUTE TOWARDS ATTAINING THE 2030 AGENDA



EDUCATING TWENTY-FIRST CENTURY INFORMATION PROFESSIONALS IN AFRICA: ISSUES AND PROPOSED COURSE OF ACTION

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ABSTRACT: *An educated workforce is among the ingredients to creating a strong economy and a society with a high quality of life. This is especially true in this global and knowledge-based economy. To enjoy sustained growth and development as well as building a knowledge economy, countries need to have favorable policies and the right ingredients, such a highly skilled workforce. However, African countries have chronic shortages of highly skilled workforces, including in the library and information professions. In addition, library and information science (LIS) schools in Africa lack some important components of 21st century LIS education such as collaborative as well as engaged teaching and learning, both within and outside the classroom. This is essential because involving libraries and information centers in LIS education is critical to the achievement of most of the Sustainable Development Goals (SDGs). This paper attempts to identify major issues with respect to contemporary LIS education in Africa and to propose a course of action to address them, based on the extant literature and lessons learned from LIS programmes across the globe.*

KEYWORDS: *library and information science, education, Africa, information professional, sustainable development goals.*

INTRODUCTION

Employment and education are among the first steps to creating a strong economy and a society with a high quality of life. The global economy is increasingly becoming a knowledge economy Powell and Snellman (2004). Hence, if countries are to enjoy sustained growth and development, they need to put in place all the necessary policies and to have the ingredients for a knowledge economy, spurring economic and social development to alleviate poverty and build opportunities and foundations for national success. One of those ingredients is an educated workforce because human intellectual capacity, more than physical or natural resources, is the key component of any knowledge economy.

However, the continent of Africa suffers from a chronic shortage of an educated workforce Shango (2019); among these is the library and information professions. In addition, Library and Information Science (LIS) education in Africa has, for the most part, been steeped in a primarily British tradition when it is supposed to emphasise a more global perspective. Many LIS programmes in the world are now engaged in activities outside the classroom, including collaboration (e.g., collaborative teaching and research) and global experiences (e.g., faculty and student exchanges and engagements, and study abroad). These activities are important components of the twenty-first century LIS education to produce library and information professionals with global understanding and strong critical thinking skills. These activities also contribute to building the human resource capacity of higher learning institutions in Africa, thereby contributing to fulfilling the continent's development goals.

LIS schools, libraries or information centers, and library and information professionals are critical to the attainment of most of the Sustainable Development Goals (SDGs). This is because at the center of the SDGs

are not only humans that are the primary users of information environments, but also partnerships among academia, the civil society, and the private sector. An information environment is defined here as an entity or system with people, information sources, and technology as the main elements and where these three elements interact in order to allow the creation, processing, organising, managing, dissemination, and use of information. As such, a high quality education system that produces citizens, employees, and end users of information with the level of education that is necessary to make the right judgments about relevant sources of information and library and information professionals capable of taking on critical roles in a continuously global information environment are vital to the successful pursuit of meeting those goals. Librarians are primarily trained to create, manage, and run information environments and their services to assist an informed citizenry who can make educated decisions in their lives and in the future of their nations. But how do we create excellence in LIS education for future librarians who will be responsible stewards of information and knowledge that will aid the future development of Africa?

The purpose of this paper is to attempt to identify major issues with respect to contemporary LIS education in Africa and to propose a course of action to address these issues, based on lessons learned from LIS programmes across the globe and the extant literature on LIS education on the continent. As such, our goal is not to present a survey or analyses of LIS schools and/or programmes in Africa. Other LIS researchers and educators have adequately done that e.g., Ocholla (2008); Ocholla and Bothma (2007); Onyancha and Minishi-Majanja (2009); Raju (2013, 2015). Therefore, using works by those who conducted in-depth analyses of LIS education and programmes in Africa as a foundation and background to our work, we, for the most part, focused on issues related to curriculum, research, teaching, service and outreach, engaging with stakeholders, including government entities, in order to recommend some immediate actions. The recommended course of action includes:

- Strategies for educating librarians and information professionals to support the development agendas of the United Nations (UN) and the African Union (AU);
- Clearly stated technology and other skills necessary for librarians to achieve those goals and become twenty-first century library and information professionals;
- Curriculum design that incorporates articulated roles of librarians in the effort to seek solutions to human problems, including the importance of preserving African culture and heritage for development.

LIS EDUCATION IN AFRICA TO SUPPORT ITS DEVELOPMENT AGENDA

A work by Raju (2015) based on a comprehensive review of the literature on LIS education in Africa, a survey of heads of LIS programmes in South Africa, and a content analysis of Websites of LIS schools in the country, with the help of Abbott's (2001) chaos of disciplines theory, concluded that the chaotic nature of the LIS field should be considered an opportunity for a paradigm shift that will aid the broadening of the field's domain rather than a challenge or crisis to be fixed. Whereas Raju's (2015) work is unique among several others that looked at the nature and history of LIS education in Africa, others e.g., Ocholla (2008); Ocholla and Bothma (2007); Onyancha and Minishi-Majanja (2009); Raju (2013) hold the view that several challenges either existed in recent years and/or still remain to be addressed. Chief among these and supported by researchers from outside Africa are; (1) lack of resources and infrastructure that is also partly due to low economic development, conflicts, debt, corruption, and over population Coulibaly (2018); (2) no clearly defined disciplinary boundaries Palmer (1996); (3) competitive environments that forced some of the LIS programmes and schools to merge and/or dissolve; and (4) lack of job opportunities for graduates of LIS programmes in Africa. We are of the view that the chaotic nature of LIS in Africa and globally is both a challenge and an opportunity and there are issues that need addressing if LIS schools, information environments such as libraries, and library and information professionals are to fulfill not only their mandates, but also to serve a bigger purpose – supporting their countries' and the continent's development agenda. Raju (2008) concurs

that the LIS field, information environments, and library and information professionals, in conjunction with other sectors of society in Africa, need to work together to address the challenges codified into the SDGs.

Another important principle that LIS curricula in Africa need to incorporate, with respect to the nature of information environments and the roles of library and information professionals, is the fact that libraries and museums: (1) are cultural heritage institutions that preserve African culture and heritage for posterity; and (2) support the development of democratic institutions, contribute to efforts that seek solutions to human problems, and effect economic development. Some of the measures that have been taken by LIS schools on the continent to fit this vision include Raju, (2015): (1) broader focus by the LIS field; (2) technology integration into the curricula; (3) addressing issues that hamper LIS programmes and schools to compete for viability in their institutions; (4) awareness of LIS schools' contributions in addressing the continent's development challenges; and (5) incorporating issues related to the digital divide into their curricula. Most of these measures clearly fit into the United Nations' Sustainable Development Goals (SDGs).

For LIS education in Africa to contribute to the SDGs, it is important to have guidelines for quality LIS education. This is the work of the International Federation of Library Associations and Institutions (IFLA) working group, the Building Strong Library and Information Science Education (BSLISE), a partnership between the IFLA sections on Education & Training (SET) and Library Theory & Research (LTR) Chu et al. (2018). In 2018, they published a white paper detailing their research on LIS education around the world. The purpose of this research was to conduct a worldwide survey to investigate the qualification requirements for library and information practice, focusing on LIS qualifications and certification requirements and what it means to be an LIS "professional." It also sought to identify organizations who oversee professional LIS requirements across different geographic regions. With over 700 responses from 100 plus countries, the BSLISE is currently working on harmonizing the standards and guidelines of professional practice from organizations across the world to develop recommended guidelines. Many African countries are represented on the BSLISE as well as participants in the survey. These guidelines will be helpful to ensure that standards of LIS education are met, to prepare information professionals to meet the needs of their communities and countries.

The role of libraries in addressing the Sustainable Development Goals (SDGs) are of increasing relevance and importance to the LIS community as it seeks to address the major challenges facing the world today. For example, the theme of the Annual Meeting of the Association for Information Science & Technology (ASIS&T) in 2020 is "Information for a Sustainable World: Addressing Society's Grand Challenges" (<https://www.asist.org/am20/>). The previous year at the ASIS&T 2019 Annual Meeting, there was a "President-Elect's International Incubator Session 1: Transformational Actions Using Information to Advance the United Nations' Sustainable Development Goals" (<https://www.asist.org/am19/international-incubator-sessions/>). The purpose of this workshop was to "develop and create transformational actions using information to advance the United Nations' Sustainable Development Goals (SDGs). These and other activities in the information community are preparing LIS professionals to address these important development goals.

In particular, with respect to African LIS programmes and courses that can be designed and introduced (if not available already) to address some of the Sustainable Development Goals (SDGs) (see Figure 1 below) are: (1) Development informatics/librarianship (programme and/or course: SDG #1, 2, 4, 7, 8, 9, 10, 11, 13); (2) Social informatics (course: SDG #1, 2, 5, 6, 8, 10, 11, 12, 16); (3) Health informatics /librarianship (SDG #3, 6, 13, 14, 15, 16). Obviously, these are, by no means, a complete list of potential courses and/or programmes. They are offered as examples of how LIS schools in Africa, through their programmes, curricula, and courses can begin to address some, if not all, of the SDGs. Raju (2008) also offers the following list of areas of the SDGs that LIS and the LIS professions can address: (1) quality education - literacy - SDG #4; (2) poverty reduction - SDG #1; (3) social & economic problems - SDG #1, 2, 3, 5, 7, 8, 10, 16; and (4) managing ICTs to bring about the knowledge society - SDG #8,9. If enough of the above-mentioned programmes/courses are offered, there is no reason why LIS students, and future librarians, cannot have a good grasp of what challenges lie ahead and ways to support their institutions, communities, governments at all levels, and the end users of information

environments to support the individual countries' and the continent's development agenda, hence meet the SDGs.



Figure 1: Sustainable Development Goals (SDGs)

(Source: https://upload.wikimedia.org/wikipedia/commons/d/df/Sustainable_Development_Goals.png)

SUSTAINABLE DEVELOPMENT GOALS: THE ROLE OF INFORMATION ENVIRONMENTS AND PROFESSIONALS

Although there have been varying degrees of relationships between LIS schools and the library and information professions and, at times, those relationships are not clear Cornelius (2004), it is advantageous to all the stakeholders when LIS researchers, educators, and practitioners work in tandem. Strong relationships and alliances are necessary to enhance individual schools' or programmes' or groups' strengths and minimise any apparent weaknesses. Only when existing and future relationships and alliances are calibrated that LIS, as a field, and library and information professions can meet their primary goals that are, potentially, aligned with the Sustainable Development Goals (SDGs).

In light of the relatively lower rates of literacy, both general and information literacy, combined with low enrolments in both K-12 and higher learning institutions in Africa, well-trained LIS professionals are necessary for the learners and educators to be effective users of information resources as well as for the countries on the continent to achieve their education, social, and development goals. LIS education and library and information services play crucial roles in addressing the Millennium Development Goals (MDGs) that were set after the United Nations' Millennium Summit in 2000 see Albright and Kawooya (2007); Forsyth (2005); Godlee, Pakenham-Walsh, Ncayiyana, Cohen, and Packer (2004) for more on how LIS education and services can address the MDGs). They also have a role in bridging the digital divide Aqili and Moghaddam (2008), paving the way for a country's progression towards a knowledge economy and poverty alleviation.

A fundamental shift in the types and nature of services by information environments as well as the practice of library and information professionals are required if the above is to be realised. Sturges (1999) has identified

one of those shifts as moving away from the model where information resources are collected 'just in case' they become accessed and, eventually, used to a model where they are made available 'just in time' based on a user's need for information. As Sturges (1999) rightly argues, the new information environment and library and information professional need to engage in several activities beyond collecting and providing access to information resources, whether this is done 'just in case' or 'just in time'.

INFORMATION AND COMMUNICATION TECHNOLOGIES, LIS EDUCATION, AND THE INFORMATION PROFESSIONS

Because we are in the middle of the digital or knowledge age, the success of any endeavour is bound to be tied to the extent to which it takes advantage of the dynamic changes and developments in information and communication technologies (ICTs). Albright (2005) notes that ICTs are causative of economic, social, political, and cultural change. Economic growth is identified as an increase in gross domestic product per capita. Social change is defined as increases in education, life expectancy, and urbanisation. Cultural change reflects the number of women in parliament, and political change is measured through civil liberties, political freedom, and freedom of the press. All measures were indirectly and causally related to an increased ICT infrastructure in a country. Thus, ICTs provide the necessary means by which information is made accessible and information resources are more readily available.

As a field and profession, LIS and the library and information professions are the beneficiaries of developments in ICTs and other related innovations. In fact, it could be argued that while the user remains the focal point, save a few exceptions, technology is the main driver of every new development, product, and service in today's information environment. Even what end users exhibit with respect to their information seeking, search, and use behaviours is, in part, determined by the specific type of technology available to them. This is not to say that ICTs are the be-all and end-all when it comes to information environments and the information behaviour of their users. Some of the innovations that had significant impacts throughout human history include the ink, papyrus, mechanical movable type, and the telephone.

As more and more countries in Africa and elsewhere in the developing world as well as their citizens, organisations, and businesses continue their adoption and wider utilisation of ICTs, they will eventually pave the way for the transition to an "information society" and a "knowledge economy". The last few decades saw the rapid transition of the global economy from the industrial age - what Toffler (1980) calls the "Second Wave" - to a knowledge economy (or the post-industrial age or "Third Wave"). Because of this transition, countries, their citizens, and institutions that had the means to acquire and adopt relevant and appropriate ICTs to create, manage, package, market, deliver, sell, and provide access to information and knowledge are able to thrive and prosper.

On the other hand, those who lacked the economic and financial strength to do the same remained underdeveloped, although the fast rate at which developing countries are adopting ICTs Miniwatts Marketing Group (2019) could spur their transition. Not only did this create the often-discussed digital divide and information or content divide, it also made the economic divide even wider. Although library and information professionals have less direct influence on addressing the digital divide, they have a major role to play in addressing the content or information divide as curators, stewards, and facilitators of access to information resources and services. Information environments such as libraries as well as library and information professionals, especially those in Africa, must recognise that information and information resources are sometimes exclusionary (for instance, information resources that reside in databases and not accessible through everyday devices). That is, information resources may not be public goods because of barriers such as geography, economic level, and culture. Fortunately, through open access initiatives Davis and Walters (2011), activism by professional associations (e.g., IFLA), and other collective actions, library and information professionals, in collaboration with library vendors, booksellers, and publishers are doing their fair share to address information access related issues.

If library and information professionals in African and beyond are to play these key roles effectively, they need to both be prepared, through systematically designed LIS programmes and curricula that emphasise not just information and communication technologies within the confines of the information environment but also in individuals' homes, workplaces, and other settings as well as organisations in all sectors of the society, economy, and culture. In addition, library and information professionals should embrace life-long learning in order to keep up with new developments with respect to innovations and ICTs that are being adopted and used by the various communities of users of their information environments. LIS schools also need to assess the gaps that exist within the library and information professional communities in terms of skills, knowledge, attitudes, and values in order to provide a feedback loop into their curriculum design/revision efforts and incorporate any missing elements into their teaching and scholarship.

Collaborative efforts by all stakeholders, including LIS schools and library and information professionals, could go a long way to leveraging ICTs for teaching, scholarship, and practice in order to serve the information and other types of needs (e.g., social, economic, etc.) of communities across the continent. For instance, the makerspace movement is becoming a standard feature of the LIS curricula as well as library and information services. While all makerspaces do not rely on ICTs entirely, the projects and activities that could be accomplished through makerspaces could intersect various issues related to a community or society. This makes makerspaces a good example of a facility and a way of thinking or mindset that leverage what is already available and practiced by the community to meet community needs, thereby addressing several of the Sustainable Development Goals. Although skills-based opportunities, also known as makerspaces in advanced economies, often exist in educational settings, at both primary, secondary, and post-secondary education levels, their impact could even be greater when deployed in and integrated into a community's social, economic, cultural, political, governance, and environmental structures. Although they may not have the label "makerspace", communities in rural villages and small towns across Africa have community centers and hubs that function as "makerspaces" that are also centers of social, economic, and cultural activities.

CONCLUDING REMARKS AND RECOMMENDATIONS

With the help of foundational works on LIS education in Africa, we set out to present the major issues related to LIS education in Africa, offer some recommendations for a course of action to address the issues, and do so within the context of the Sustainable Development Goals (SDGs) and Africa's development agenda. Our intent was not to paint a rosy picture, although there are many positive examples of African LIS programmes as well as initiatives by the library and information communities and professional associations within and outside the continent. It was to show that what has already been done could serve as a solid foundation to build LIS programmes, create information environments, and produce library and information professionals with 21st century skills and knowledge that will support the continent and African countries to meet the SDGs and their developmental targets. We acknowledge that, like all developing countries, African countries have several challenges, including: (1) lack of adequate staffing at LIS schools, especially those with advanced degrees; (2) brain drain - even those schools with enough faculty with advanced degrees; (3) lack of adequate ICT infrastructure and not being able to keep up with obsolescence; (4) lack of options for students in terms of LIS programs, specializations, and courses that are appropriate and of high quality; and (5) lack of adequate facilities and support from parent institutions and governments.

Some of the ways that these challenges could be addressed, at least with respect to LIS education and the information professions, are: (1) forming alliances and consortia among LIS schools within and outside a country, between LIS schools and information environments, and between LIS schools and professional associations; (2) continuous programme assessment and improvement to meet demands as well as instituting program accreditation processes and standards taking a national or regional approach to ensure quality assurance in LIS programs.; (3) using their alumni base to lobby relevant institutions, businesses, and authorities; (4) engaging other relevant stakeholders, including students, to make them aware of the issues

facing the LIS field and professions and seek for help in finding solutions through various media, including Social Media.

Recent reports and discussions by IFLA's Building Strong Library and Information Science Education (BSLISE) Working Group IFLA BSLISE Working Group (2018) could also offer the roadmap for redesigning programmes that meet the needs of African LIS schools, their stakeholders such as students, and the library and information professionals who are at the forefront of the provision of library and information services to a diverse community of end users. One of the Working Group's next steps is developing "an international framework for the assessment of quality standards in LIS education" IFLA BSLISE Working Group (2018. 2) which could prove useful to LIS programs and the information profession in the continent.

To build and sustain strong LIS programmes, an alternative approach could be the creation of accrediting bodies, either at the national, regional, or continental levels. Experiences by the LIS schools and accredited programmes in North America (where programmes are accredited by the American Library Association, ALA) and the United Kingdom (where CILIP is the accrediting body) could also offer another model to ensure the consistency and quality of LIS education and programmes in Africa that meet common standards created to address the needs of all stakeholders.

Other initiatives currently underway by Chu, Mehra, Albright, and Du (2019), may offer specific information action items that can be considered to address each Sustainable Development Goal. For each goal, Chu et al. (2019) are building teams across the world to develop "action briefs" to discuss the importance of each SDG to the library and information community, how it relates to the profession, and 10 specific ways in which that community can act to address the SDGs from an information activity(ies) perspective. These action briefs are currently under development and will be made available at a later date.

In addition to this paper, the session at the SCECSAL conference will outline issues in LIS education that are important to supporting the Sustainable Development Goals, and these include audience participation to review the list of issues, and identifying those that are the most critical to prepare future LIS professionals in Africa that are capable of managing information environments and services that address the SDGs.

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CAPACITY BUILDING FOR PUBLIC LIBRARIANS IN ZAMBIA: THE IMPACT ON NATIONAL DEVELOPMENT

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ABSTRACT: One of the major assets of any organization is its workforce. A well skilled workforce will have a positive impact on the productivity of the organization. Librarians are at the centre of ensuring that people have access to information as well as skills to access the information in the most appropriate format. To achieve this and provide better services, librarians themselves must possess the relevant skills to provide library services that are aligned with national development plans. Zambia has in the recent past been advantaged in that it has received support in building the capacity of its staff in public libraries. Amongst the notable support has been from the African Library and Information Associations and Institutions (AfLIA), through the Electronic Information for Libraries (EIFL) project as well as the Worldreader project plus other programmes that AfLIA has done and is still doing. Other notable support has been from Book Aid International (BAI) and many others. The objectives of this study included: to establish the various capacity building programmes that public libraries in Zambia received; to determine the challenges that public libraries faced in building the capacity of the library staff; and to determine the impact of the librarians' capacity building programmes on national development. The study revealed that public librarians had received a variety of capacity building programmes and these had a positive impact on the quality of library services provided.

KEYWORDS: public libraries, capacity building, sustainable development goals, national development plan, public librarians.

INTRODUCTION

Public libraries in Zambia have not been left out in this quest to build the capacity of its librarians. Zambia, being a signatory to the Sustainable Development Goals (SDGs), places a lot of emphasis on bettering the lives of people in various sectors. For organizations to perform effectively, it is important that its staff are well equipped with the necessary knowledge and skills required for the job. Some services such as the provision of library services are continuously dynamic. This is mainly due to the technological changes that the world is facing, and this also has an impact on information acquisition, processing and dissemination. It is for this reason that librarians must continuously be equipped with the skills needed to keep abreast with modern trends in as far as information management is concerned.

Public libraries in Zambia have been advantaged in that various stakeholders have come on board to assist with building the capacity of public libraries. This is important if libraries are going to play a cardinal role in ensuring that access to information is supported. Access to information is a fundamental human right. Public libraries, as institutions mandated to provide equal information access to people from all walks of life, have a particularly significant role to play in advancing this right. As prime access points designed to respond to various and ever-changing information needs found in their communities, libraries are at the heart of responsive community development Koontz and Gubbin (2010).

Libraries guarantee access to information, which is a cross cutting target that supports all Sustainable Development Goals (SDGs) IFLA (2016). Library services contribute to improved outcomes across the SDGs

by promoting universal literacy, including media and information literacy, and digital literacy skills. In this way, public libraries act as instrumental development partners in meeting national development agendas. Libraries also support development through provision of relevant, accurate, and timely information. As a powerful development tool, information supports communities in different ways. In many communities, public libraries may be the only providers of critical information on health, agriculture, education, or general information that helps citizens make sound decisions. It is therefore important that librarians who are tasked to drive this agenda are well equipped with the much needed modern skills to do their work.

One of the concerns of managers in organizations is professional development. On the other hand, Keshmiri and Nezhad (2015) observe that for improving the management system and increasing the efficiency of labor force in every organization, it is required to accept innovations, application of new methods and technologies and the rational use of experts and skillful employees. Hence, every organization should prepare the ground for the growth and development of its employees' knowledge and make good preparations in this field.

OBJECTIVES

The objectives of this study were:

1. To determine the capacity building programmes for public librarians in Zambia;
2. To determine the challenges that public librarians face in building their capacity;
3. To establish how public libraries are contributing towards national development as a result of the capacity building programmes Zambia.

METHODOLOGY

This survey targeted the 23 main public libraries across Zambia. E-Surv online survey forms were used to collect information from the respondents. The study applied both quantitative and qualitative methodology. Content analysis was used to analyze the data collected. The study used purposive sampling to select the respondents for this study. This is because the study was targeting specific provincial head librarians from Zambia Library Service under the Ministry of General Education, from main council libraries and from Lubuto Library Partners.

FINDINGS AND DISCUSSION

Public libraries in Zambia

The following were the main public libraries in Zambia and all of them participated in the study.

Table 1: Public libraries in Zambia

No.	Name of main public library
	Chililabombwe Municipal Council Library
	Chingola Municipal Council Library
	Chipata Provincial Library
	Chipata Council Library
	Choma Provincial Library
	Hellen Kaunda Memorial Public Library
	Kabwe Municipal Council Library
	Kalulushi Municipal Council Library
	Kamanga Irish Community Centre Library

	Kasama Council Library
	Kasama Provincial Library
	Kitwe Public Library
	Livingstone City Council Library
	Mansa Provincial Library
	Lubuto Library Partners Model Library
	Lubuto Mthunzi American Youth Library
	Lusaka City Council Library
	Mongu Provincial Library
	Mumuni Library
	Ndola Council Public Library
	Samuel Reuben Mwewa Public Library
	Solwezi Provincial Library
	Zambia Library Service – Public Library Headquarters

The above Table 1 indicates the twenty-three main public libraries in Zambia. The study had a response of 75% from the above listed libraries that received the e-survey online forms.

Distribution and management of public libraries in Zambia

Table 2: Distribution of Public Libraries in Zambia

Province	Name of public library	Name/s of branch libraries	Ministry/ Organization responsible
Copperbelt	Chililabombwe Municipal Council Library	-	Ministry of Local Government (MLG)
	Chingola Municipal Council Library	-	MLG
	Kalulushi Municipal Council Library	Chambishi and Chibuluma Public Libraries	MLG
	Kitwe Public Library	Buchi Public Library	MLG
	Hellen Kaunda Memorial Public Library	-	MLG
	Samuel Reuben Mwewa Public Library	Kamuchanga Public Library	MLG
	Ndola City Council Library	Kabushi, Masala, Lubuto, Twapia and Chifubu	MLG
Central	Kabwe Public Library	Bwacha Public Library, Katondo Environmental Public Information Centre, Makululu Epic Library and Kasabda Epic Library	MLG
Eastern	Chipata Provincial Library	-	Ministry of General Education (MOGE)
	Chipata Council Library		MLG

Luapula	Luapula Provincial Library	Kawambwa Public Library	MOGE
Lusaka	Lusaka City Council Library	Chilenje Public Library, Matero Public Library and Mtendere Public Library	MLG
	Zambia Library Service – Public Library Headquarters	-	MOGE
	Lubuto Mthunzi American Youth Library	-	Lubuto Library Partners (LLP)
	Lubuto Library Partners Model Library	-	LLP
	*Fountain of Hope	-	Fountain of Hope Community Centre
	Kamanga Irish Community Centre Library	-	Kamanga Irish Community Centre
Northern	Kasama Provincial Library	Luwingu Public Library	MOGE
	Mbala Council Library		MLG
	Kasama Council Library		MLG
North-Western	Solwezi Provincial Library	Kabompo and Mwinilunga District libraries	MOGE
Southern	Choma Provincial Library	*Kalomo Public Library	MOGE
	Livingstone City Council Library	-	MLG
	Mumuni Library	-	Brethren in Christ Church (BICC)
Western	Mongu Provincial Library	Kalabo and Senanga Public Libraries	MOGE

Table 2 above shows the main public libraries and the branch libraries as well as where they are found in Zambia. The table also indicates which ministries and/or organizations are responsible for them. Zambia has twenty-three branch libraries as shown above. At the time of the survey, Zambia had a total of 47 public libraries, inclusive of the branch libraries. Fountain of Hope and Kalomo Council libraries were however not operational at the time of the survey. In addition, plans were underway to open a public library in Mazabuka, Southern Province and Chinsali, in Muchinga Province.

Capacity building programmes for public librarians in Zambia

Public librarians have over the recent past benefited from various capacity building programmes. Librarians that participated in this survey outlined the capacity building programmes that they benefited from and also the others that public librarians in their libraries had benefited from too. Amongst others, were the following:

EIFL's Public Librarians' Capacity Building in Zambia

Electronic Information for Libraries (EIFL) in partnership with Library and Information Association of Zambia (LIAZ) trained a total of 30 staff from 12 public libraries. The main objective of this partnership was to equip public librarians with competencies and skills that supported various components. The trainings included the following modules:

- Advanced computer literacy for librarians
- Internet resources and sharing
- New services in public libraries

- Communication, advocacy and awareness raising for public librarians
- Social learning circles for online learners

The training workshops were conducted in 2018 and 2019. The Memorandum of Understanding (MoU) between EIFL and LIAZ was extended to include a Train-the-Trainers workshop and two regional trainings where 11 of the 30 participants were trained.

The survey revealed that after the above workshops, public librarians were now more comfortable with report writing and most especially the use of Excel and PowerPoint. They were able to help users with accessing more online open resources. As will be explained under the results for impact on national development, public libraries were now able to develop new and innovative library services that were useful to their communities. The study revealed that about 82% of main public libraries in Zambia were now able to engage in some form of partnerships with other organizations or institutions.

To a larger extent most libraries (82%) working with partners had well organized programmes being conducted and well-articulated library services being provided than those that did not have some form of partnerships. This, the participants indicated were as a result of the workshops and the skills they acquired from them.

In addition, 11 of the 30 public librarians trained further attended a Train-the-Trainer's workshop which equipped them with skills on how to train other librarians in the country.

Local Content in African Libraries (LOCAL) – Worldreader

Worldreader had a partnership with LIAZ that supported ten council libraries: six on the Copperbelt Province and four in Lusaka Province. Local Content for African Libraries project in Zambia (LOCAL) aimed to generate and deliver early childhood reading materials in local languages to the ten libraries. LOCAL's ultimate goal was to create an evidence-based replicable model for librarians to play an active role in creating and supporting a culture of reading for primary school aged children through the use of digital, local language reading materials.

Through LOCAL, Worldreader had deployed a total of five hundred e-readers loaded with e-books in English and two local Zambian languages (Ichibemba and Chinyanja) in ten public libraries across two regions in Zambia. Each participating library received fifty e-readers and an extra management e-reader to facilitate sending of reports. Through this project, librarians from participating libraries received training, equipping the librarians with skills that would help them conduct reading programs with the children using e-readers. The training components included; e-reader management, community engagement, stakeholder engagement, practical sessions using e-readers and outreach. The project has been beneficial as it targeted council libraries that have had challenges with financing. The project has also helped LIAZ in supporting the Sustainable Development Goals (SDGs) and specifically the 7th National Development Plan currently in place.

Strengthening Innovative Library Leaders (SILL)

With the support of African Library Associations and Institutions (AfLIA), Zambia hosted a training workshop in 2017 for Strengthening Innovative Library Leaders (SILL). Public Librarians were drawn from Zambia, Zimbabwe and Malawi. Zambia attracted 16 public librarians who benefited from this programme. The training workshop included the following components:

- Leadership styles
- Problem-solving
- Communication
- Innovation, and
- Planning

With so much concern over limited budgets, public libraries need to be exposed to various ways of being innovative in providing library services. White (2014) argues that, the need to innovate and do things creatively and differently is a critical feature of public service delivery in the 21st century. The value and sustainability of innovation requires a mixture of creativity, practicality and a network of support. Public librarians need to be equipped with vast knowledge of library innovativeness.

Book Aid International (BAI) and Open Doors Children's Corners

The Ministry of General Education (MOGE) through Zambia Library Service (ZLS) benefited from the support from Book Aid International. The 6 provincial public libraries received support in form of training as well as funding to refurbish children's corners in all the provincial libraries under MOGE. The trainings included the following:

- Selection of children's literature
- Management of children
- Selection of local content for children
- Management of study hubs

In 2018 and 2019, BAI supported MOGE in establishing the Open Doors Children's Corners (ODCC) to five other districts in the country, these being Ndola, Kalomo, Luwingu, Kawambwa and Kabompo. This support has seen provincial libraries improve on the provision of children's literature as well as attract more children due to the beautiful children's corners. The libraries also received funding to restock the children's collections with local content.

Through the support of BAI, all librarians managing the Open Doors Children's Corners (ODCC) received training on how to organize and take care of the reading spaces for children, arrangement of materials and the kind of activities to implement. Children are among one of the most sensitive category of library users. Librarians managing children must ensure that they have the necessary skills to manage and provide the children with innovative library services. At the time of this study, eleven public libraries had ODCCs implemented; six ZLS provincial libraries and five district libraries. The trainings also looked at how to handle children with different characteristics as well as helping children to select appropriate materials. Keshmiri and Nezhad (2015) observe that training the librarians may be effective in their gaining experience and enhancing their performance. In Ndola Public Library, the LOCAL project complimented the Open Doors Children's Corner very well since both projects had similar objectives of encouraging and empowering children to read. Managing children's activities requires skills and as such the trainings conducted with the support of BAI were useful in equipping the public librarians with skills necessary to provide relevant and interesting activities for the children.

Public librarians in these libraries and district libraries are now equipped with not only resources for children but also skills on how to select resources for children as well as handle children during library sessions as well as outreach sessions.

Lubuto Library Partners and LIAZ training

In 2017, LLP and LIAZ jointly conducted a 5-day training workshop for public librarians in Zambia. A total of 20 public librarians from MOGE, LLP and MLG attended this training workshop. Lubuto Library Partners is an innovative development organization that builds the capacity of public libraries to create opportunities for equitable education and poverty reduction. LLP's mission is to empower African children and youth and help them develop the knowledge and skills to reconnect with their culture and community and participate fully in society. Lubuto constructs enduring, indigenously-styled open-access libraries stocked with comprehensive collections of well-chosen books and appropriate technology. These libraries serve as safe havens and are

the center for Lubuto's programmes, which offer education, information, psychosocial support and self-expression through reading, music, art, drama, computers, mentoring and other activities.

The training included the following:

- Digital Literacy
- Library program development for children and youth
- Library services to differently-abled children and youth
- Outreach and marketing
- Child development
- Standard reference services
- Customer care and customer service in libraries
- Early literacy
- Children's literature and collection development
- Innovation in libraries

The training, co-hosted and co-facilitated by LIAZ, LLP, and other partners (including outside experts), University of Zambia and National Institute for Public Administration lecturers, and others, was the first professionally-guided continuous professional development opportunity for Zambian public librarians on library services to children and youth.

Other programmes

Public librarians have also benefited from the following programmes, mostly with the support of AfLIA and/or the International Federation of Library Associations and Institutions:

- The Initiative 'Young African Library Innovators' (IYALI) – 5 public librarians have benefited.
- The International Network of Emerging Library Innovators in Sub-Saharan Africa (INELI-SSAf) – 6 public librarians have benefited
- AfLIA Leadership Academy (AfLAc) – 1 public librarian has benefited.

Challenges in building the capacity of public librarians

Funding

About 60% of the public librarians indicated that they were not able to attend all the trainings they had planned to due to limited funding.

Undervaluing library profession

Public librarians felt that the library profession was being undervalued by some parent organizations and hence training of librarians was not a priority in some cases.

ICT challenges and lack of other tools

Public librarians lamented the poor technology infrastructure in most public libraries. Despite having skills in ICT related areas, they were not able to fully utilize this due to limited infrastructure. Less than 50% of the public libraries in Zambia have both computers and internet. Some libraries lamented that they lack tools such as cataloguing rules, etc. making it difficult to carry out their normal duties.

Effect of capacity building for public librarians and National Development

The skills and exposure that the public librarians have received have had a positive impact in supporting national development. Through the capacity building trainings librarians were able to contribute to national

development by having a nation which is well informed and educated through impacting a reading culture to the community. In addition, public librarians were able to train community members on the use of internet search engines; internet research and finding information resources that were relevant to local needs.

Promoting education and lifelong learning

About 80% of the public libraries were conducting library activities that promoted education and/or lifelong learning (Munsanje and Hagwelele, 2018). The activities that libraries were conducting included amongst others the following:

- Information search
- ICT trainings
- Homework clinics
- Study hubs
- Open doors classroom corners
- Reading tents
- Free access to library resources for school going children

Efforts towards eliminating poverty

Another area of supporting national development involved the contributions that public libraries were making to help eliminate poverty. A well-informed nation with citizens that have ready access to information will have knowledge on how best to survive in hard economic times. Librarians were able to conduct these activities effectively because they had the skills required to do so. Examples of activities included the following:

- Library mentoring *sessions* on poverty reduction
- Use of story books to educate children on how poverty can be reduced
- Support of women empowerment and literacy programmes
- Provision of variety of resources on poverty

Gender equality / empowerment of girls, women or children

Public libraries in Zambia contributed towards the above through the following:

- Mentoring sessions on gender equality – DREAMS Project (Lubuto Libraries). LLP promotes inclusiveness and uplifts the lives of children as the libraries serve the most vulnerable children and youth. They promote early literacy education as well as impart skills (such as ICT, Mentoring, Sexual Reproduction awareness etc.) in children and this helps them to make right choices in life
- The activities of the ODCCs have been instrumental in empowering both boys and girls with reading resources and may other activities.

Health

Health was also among the areas of concern for public libraries. About 30% of the public libraries engaged health specialists in conducting talks and health activities in libraries. Some libraries also had health corners to support the health information needs of community members. Some organized and conducted sexual and reproductive health programmes as in the case of LLP libraries.

CONCLUSION

It has been emphasized that libraries must align their services with the national development agenda. Libraries in Zambia are making efforts to achieve this, and they are making steady progress. However, efforts

must be made to ensure librarians continue upgrading their skills, and adopt the use of modern information and communication technology to enhance to the provision of library and information services. Various stakeholders must be encouraged to support capacity strengthening of both the libraries and librarians.

RECOMMENDATIONS

The following recommendations were made:

1. Library services being dynamic, there is need for constant capacity building of librarians.
2. There is need to extend training to all librarians to ensure all library staff upgrade their skills.
3. There is need to take advantage of local expertise to build the capacity of more librarians in Zambia.

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BUILDING STRONG ACADEMIC LIBRARIES AND LIBRARY PROFESSIONALS IN UGANDA THROUGH THE UNIVERSITY OF PRETORIA CARNEGIE CPD PROGRAMME

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ABSTRACT: Academic libraries are encountering numerous changes due to the emerging information communication technological trends and the ever-changing information-seeking behaviour of their users. For the librarians to effectively implement these trends and remain competitive, they need to be regularly engage in continuing professional development (CPD) activities. The study aimed to find out the factors that influenced the motivation to participate in the University of Pretoria (UP) Carnegie CPD programme and the potential impact on service delivery of the selected academic libraries in Uganda as represented in the programme. The study applied a qualitative research design with an interpretive research approach. Exponential non-discriminative snowball sampling was used to recruit participants. The sample size of the study included eight Academic Librarians who attended the UP Carnegie CPD programme between 2014 and 2018. Data was collected using face to face semi-structured interviews and electronically using ZOOM (online platform). The findings of this study show that most UP Carnegie CPD participants mainly attended the programme due to its rich content; the hands-on subject coverage and new ICT trends, and the need to build their professional networks. The study also revealed the following challenges that were encountered by the participants during the implementations of the various initiatives drawn from the CPD knowledge and skills: difficulty in managing social media platform, lack of IR back-end support, limited data analysis skills required in providing research support, library users' lack of interest in IL training, limited collaboration between Faculty and Librarians, and technophobia from some library staff who frustrate implementation efforts. The study provides recommendations on how to address these challenges.

KEYWORDS: continuing professional development, academic libraries, Carnegie CPD, ICT, Uganda.

BACKGROUND

With the exponential growth in information communication technologies (ICTs), there have been emerging technological and information trends that have impacted every sphere of academic library services which in return have helped academic libraries to stay atop of their game Kadiri and Adetoro (2012, 25); Cooke (2012, 3); Holmner and Bothma (2018, 559). As a result, the library profession is changing and bringing numerous opportunities to the field. For academic librarians to proficiently utilise these opportunities and keep abreast of the ever-changing trends there is a need to continuously update their knowledge, skills and expertise about the current trends through teaching, sharing experiences, networking, collaborating and mentoring Moonasar and Underwood (2018, 47). Continuing Professional Development (CPD) programmes are helping academic librarians to gain competencies to remain relevant in this digital revolution Cooke (2012, 4).

The University of Pretoria in partnership with the Carnegie Corporation of New York started a CPD Programme with the aim of building capacity for libraries and young academic librarians to adeptly apply current and emerging ICTs to support and enable researchers in Africa. This CPD programme had 10 intakes organised

between 2014-2017 with participants drawn from Ghana, Nigeria, South Africa, Tanzania, Uganda and later Kenya.

The present study presents factors that motivated librarians to participate in the Carnegie CPD programme, from a Uganda academic libraries perspective, as well as the potential impact on service delivery of the selected Ugandan academic libraries in represented in the programme.

METHODOLOGY

The study applied the qualitative research approach with an interpretive research design. This choice was based on the fact presented by Saunders, Dietz, and Thornhill (2014, 644) that interpretive research seeks “to investigate the meanings of words or text as they are expressed within definite social contexts by various participants according to individuals’ previous experiences”. Interpretivism collects small samples, intending to conduct an in-depth qualitative investigation to answer set research objective(s). Therefore interpretive researchers underpin the perceptions of the social actors to make sense of the activities that exist within the defined contexts Hesse-Biber and Leavy (2010, 51). Four libraries representing the four regions that participated in the Carnegie CPD between 2014 and 2018 were purposively selected. These libraries included: Makerere University (Central region), Mbarara University of Science and Technology MUST (Western region), Islamic University In Uganda IUIU (Eastern region) and Muni University (Northern region).

Exponential non-discriminative snowball sampling was used to recruit participants based on Kothari, Narayanan, and Devi (2014, 78) where the first subject is recruited and then he/she provides multiple referrals. This was adopted since it was the most reliable method of identifying participants in some of the regions under study. The first respondent was from Makerere University Library who then provided more referrals for the study. Interviews were conducted until saturation was realised. The sample size included eight academic librarians who attended the UP Carnegie CPD between 2014 and 2018. Four were from Makerere University, one from IUIU, one from MUST and two from Muni University. Participation in the study was voluntary, with individual permission sought and participants given all the required details regarding the study objectives. Emphasis on the freedom to respond was highlighted as well as the assurance of protection, confidentiality and ethical use of data collected. Face-to-face semi-structured interviews were conducted for respondents in the geographical reach and online video conferencing using Zoom for those out of physical reach. These were recorded, transcribed, sorted, and tabulated using MS excel sheet, and categorised under various themes to create the research findings and basis of discussion.

FINDINGS AND DISCUSSION

The findings of the study were thematically presented as follows: information on the programme, motivational factors, CPD content, applicability of knowledge and skills, challenges encountered, recommendations, impact to service delivery and willingness to attend other CPDs

Information about the programme

Most participants learnt about the UP Carnegie CPD programme through referral by colleagues who had previously attended the programme. One participant shared that he used to receive updates as an alumnus of the UP Carnegie Masters of Information and Technology (MIT) through the alumni Facebook platform. Others learnt about the programme through their University Librarians and the Uganda Library and Information Association (ULIA) website. This finding agrees with an earlier study by Moonasar and Underwood (2018, 53) that emphasizes the need for professional associations in highlighting CPD initiatives to their members.

Motivational factors

The participants were asked to mention the factors that motivated them to attend the programme. The majority were drawn by the practicability of the ICT based course content, and the need to update and

improve service delivery. This finding agrees with Cossham and Fields (2013, 238) who reported that with the rapidly changing ICT there is need for librarians to keep abreast of the latest trends. Others wanted to enhance their knowledge and skills as noted by one participant; findings also revealed that the need to update skills was another motivational factor. As one interviewee said;

"..the content on the CPD website specified the things we do here like user education (IL), digitization, social media which had also become an important tool in libraries as marketing platforms...the content was a match with what we were doing in the library although we had limited knowledge about all this, therefore, I thought attending CPD would equip me with all that information that would improve service delivery"

This supports the findings of Aslam (2017, 1) who noted that librarians must review their skills and knowledge to meet the current requirement of the profession to work in the academic libraries of the 21st century.

Respondents also cited the opportunity to network and share experiences with other professionals from different countries. As noted by a particular respondent; *"...participating in the programme would open up my career horizon to connect with international professions"*.

This corroborates with Alawadhi (2015, 89) who asserts that during CPDs, participants build beneficial networks which in return helps them to gain an understanding of library issues that impact positively on service delivery.

Fulfilling the expectations

The study sought to find out whether the participants' expectations of the CPD programme were fulfilled. Most participants agreed that their expectations for the CPD programme were met. Emphasis was drawn to digitisation and handling of documents for longtime archiving, Information Literacy (IL), Institutional Repositories (IR), designing QR codes, social media management, building new networks of professionals from participating countries and marketing and how to use collaborative platforms as illustrated by one of the interviewees' responses below:

"From the skills and knowledge gained from the programme, I was added on the Information Literacy (IL) team... I was also put in charge of the library social media accounts (Facebook and Twitter) ...before CPD when digitizing we did not know to crop or clean documents but with the CPD skills, one can think our scanned documents were born digital and lastly we were introduced to reference management so I can transfer this knowledge".

One respondent was however dissatisfied with the little time allocated for the visit to the digitization unit, hence getting little hands-on with the UP machines. This particular respondent noted that:

"We had many practical sessions but given that I work in the digitisation unit, I thought I would get a full day in the UP digitisation unit and work with their machines..."

Participants gained knowledge and skills that enhanced service delivery in their institutions. This implies that the CPD programme was able to fulfil most of the participants' expectations.

Ability to apply the knowledge obtained from CPD

Regarding whether the participants had applied any learned skills and gained knowledge from the CPD programme, all interviewees indicated that they had been able to apply one aspect or the other. This included:

Institutional Repositories (IR); Social media for communication; Information Literacy training; Digitization and collaborative platforms for research.

Respondents have also used the acquired knowledge at their work stations as noted in the following comments:

"...by that time my institution had started exploring dSpace, therefore the training came in handy"

"...I was also put in charge of the library social media accounts (Facebook and Twitter)...with the CPD skills, one can think our scanned documents were born digital and lastly, we were introduced to reference management so I can transfer this knowledge".

This could partly be attributed to the fact that the use of social media for communication does not require a lot of funds to implement, and also the fact that the programme was for young professionals who could easily adapt to the use of technology. This new technology would help academic libraries to enhance their visibility and easily communicate with their users. The same findings were reflected in Chu and Du (2013, 66) study that social media tools helped enhance library services and interaction with students.

Additionally, the participants had taken up the role of research support to the library users. This could be attributed to the fact that library users are now appreciating the relevance of librarians; these professionals have shown that they possess enormous knowledge and skills needed in smoothing the research process. Another important revelation was on a personal basis as the participants had been able to use collaborative platforms for research and some had already published papers with colleagues from other countries in peer-reviewed journals. This was highly emphasised by Sprunger (2017) that research is more effective when researchers from different areas collaborate on a project of mutual interest. Implementation of knowledge attained can be attributed to the enthusiasm by participants to impart the knowledge and skills acquired from CPD to both the library staff and users.

However, the study revealed that one library had not implemented the IR. This could be attributed to the long development process an IR goes through from designing an IR policy to hosting it on the web.

Impact of CPD to service delivery

Respondents confirmed that the CPD programme positively influenced their service delivery. This was evident, firstly, in the confidence exhibited when providing services to the library users; secondly, several participants have been able to build and run their IR to showcase their research output which in turn has boosted their webometrics rankings; thirdly, the libraries can easily engage with their users through the numerous social media platforms created by the CPD participants; and lastly, the study revealed that the participants' mindset towards works changed,

After attending this CPD programme they had become more self-driven, and they developed an interest in research and keeping abreast of the latest trend. These findings corroborate with Bowen-Chang and Hosein (2019, 98) who noted that CPDs are a payoff because of the benefits attained liked competence, career advancement and job satisfaction.

Willingness to attend another CPD

When asked if they would be willing to attend another CPD, an overwhelming number indicated that they would mainly because of their interest in CPD especially with the content on trending ICTs in library, publishing, technical management of library systems, consultancy services, RDM and data analysis. This may

be because technology keeps changing and that librarians as information workers need to keep abreast with most of it because as noted by Jerry and Ramasesh (2011) ICT and its tools play a huge role in disseminating information services.

However, one participant was not willing to attend another CPD. This could partly be attributed to the fact that the participant had already attended too many CPD's and it felt like it was a repetition of what he already knew. This contradicts Moonasar and Underwood (2018, 49) findings, which notes that librarians should regularly engage in CPDs to maintain professional knowledge and competence in a profession that is constantly evolving.

Challenges encountered while implementing ideas and knowledge

In discussing the challenges that have burred some CPD participants from implementing ideas learnt during the programme, the majority cited a lack of management support from both the university and the library. This could be attributed to top management fronting other priorities besides the library. Additionally, some library managers are yet to appreciate technology, and this explains the difficulties in embracing and financing innovations. This is in agreement with Shehzad, Sajjad, and Ijaz (2019) who assert that at times library management may not know the value of some ideas learnt during CPDs hence hindering apportioning of relevant funds for implementation.

Another challenge encountered was the lack of other library staff's support for the new ideas. This could be because some of them have never attended any CPDs and therefore they have different mindsets. They did not appreciate the innovations and they were not willing to participate in their implementation.

Furthermore, some participants indicated difficulties in the management of social media platforms. This could be attributed to the fact that the participants were overwhelmed with the ordinary office work and managing these library social media accounts simultaneously.

Additionally, the study revealed that those participants who had implemented IR complained about lack of back-end support for their IR projects. This could be attributed to the fact that the participants lacked the necessary IT skills and knowledge to manage this new project.

The study further revealed that some library users were not interested in attending IL training regardless of its importance. This could be because some users do not know the value of IL and therefore they do not see the essence of attending. Another reason frustrating IL maybe because of minimum collaboration between Faculty and Librarians. This is in line with Yousef (2010) observation that faculty members lack collaboration in their culture.

CONCLUSION

This paper established the value of the University of Pretoria Carnegie CPD Programme towards building strong academic libraries and library professionals in Uganda. It is no doubt that many participants greatly benefited from the programme and owing to their participation, they were able to implement, transfer knowledge and recommend more librarians to attend such programmes. Learning from a local proverb attributed to the Baganda (the largest tribe in Central Uganda): *"When the white ants change the direction of flight, you must change your trap too"*, so that you can be able to harvest them. The librarian should keep evolving with and learning from the ongoing evolution.

RECOMMENDATIONS

The following recommendations are in accordance with the challenges encountered by the participants in the implementation of the knowledge and skills learnt from the UP Carnegie CPD.

- The Uganda Library and Information Association (ULIA) should formulate policies and procedures to promote the participation of all academic librarians in the CPDs. This will necessitate them to keep abreast of the new trends hence support the new library innovations.
- Institutional management should prioritize the library by increasing its budget allocation. This will help in purchasing equipment for the new library projects and recruit more human resources.
- The academic librarians need to forge a partnership with the Faculty by working together; this partnership can be in the form of teaching and research. This will improve collaboration and help in embracing new library projects or services by Faculty and students.
- Librarians should aggressively market IL to Faculty by sharing the relevance of having IL competent Students and Faculty. This will help to increase the numbers of participants.

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BUILDING THE CAPACITY OF AFRICAN HEALTH LIBRARIANS TO BECOME KNOWLEDGE BROKERS THROUGH A KNOWLEDGE BROKER LEARNING PROGRAMME

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ABSTRACT: Knowledge brokering is a knowledge translation strategy used to promote evidence-based practices amongst healthcare workers. Health librarians in the role of knowledge brokers facilitate the uptake of evidence-based practice by healthcare workers. Knowledge Broker skills enable the health librarian to contribute to the achievement of Sustainable Development Goal 3 of good health and well-being through the provision of evidence-based health information to healthcare workers to meet their knowledge needs. Aspirations to create an African network of knowledge brokers brought forth the knowledge broker learning programme. The objective of the knowledge broker learning programme was to develop African health librarians' role in knowledge brokering; thereby creating a support structure for frontline healthcare workers to access the best knowledge resources to aid them in their patient care decision making. The knowledge broker learning programme was prepared in modules that were modelled on the elements of the Promoting Action on Research Implementation in Health Services framework as it delineates the factors of knowledge translation. The first pilot knowledge broker learning programme was delivered to eight health librarians from Zambia and Zimbabwe in 2018. The second knowledge broker learning programme was set for the first quarter of 2020 and was to be delivered to six health librarians from Zambia, Malawi and Rwanda. It was hoped that more health librarians from other parts of Africa could be equipped with knowledge broker skills using this knowledge broker learning programme.

KEYWORDS: health librarian, knowledge broker, evidence-based, PARIHS framework, learning programme.

BACKGROUND

The current landscape of the field of medicine demands that health care workers have access to the best clinical evidence information regardless of which part of the world they are in. Globally the undertaking of best practice in the delivery of effective health care has necessitated the incorporation of accessible evidence into practice systems of health care workers Dogherty et al. (2013). To this effect health care workers are progressively being urged to administer treatments to their patients using evidence based practices Wilkinson et al. (2009). However, so many factors hinder the use of evidence-based information by healthcare workers in their practice, which has ramifications on patient care and inadvertently translates to poor utilisation of

insufficient health care implements Graham et al. (2006). The failure on the part of healthcare workers to use evidence-based health information generated from research suggests a fundamental gap between what is known from research and what is done with relevant knowledge use in health care practice Lomas (2000). On this basis, health librarians acting as knowledge brokers have a major role to play in bridging this gap between research and practice in the health care setting by providing relevant healthcare information from the health research base to health care workers Booth (2003). The actions to link research to health care workers by way of making evidence-based information accessible for use in their practice is a stipulated function of a knowledge broker who by doing so facilitates the transfer of knowledge Lomas (2007). These demands in the health care sector have precipitated the role of the health librarian to evolve and be comparable to that of a knowledge broker as their roles consist of supporting healthcare workers to have access to clinical practice guidelines, detailed literature searches and skills development for evidence based practice activity Robeson, Dobbins, and Decorby (2008); a role essentially played by librarians on a daily basis.

The health care systems of developing countries in Africa are not benefiting from evidence-based practice, despite the availability of evidence from health research information National Health Service (NHS) Education for Scotland (2015). In order to mitigate the inability of health care workers' uptake of evidence-based practices for effective health care delivery and to promote good health outcomes particularly for the health care workers of Chitambo, the Friends of Chitambo embarked on the implementation of the knowledge broker role in the Chitambo health care system in 2015. A study on Nurses in Zambia showed that they appreciated the use of research in their clinical practice Monde, Akakandelwa, and Kanyengo (2017). This is the more reason why the implementation of the knowledge broker role was critical so that it could effect the embedding of knowledge in the work practices of health care workers at Chitambo hospital, Zambia.

Friends of Chitambo is a Scottish funded charity organisation who among its objectives was to reduce morbidity and mortality in Chitambo district by supporting health care workers through various projects. One of the projects they were implementing, was the 'knowledge component' of the 'Emergency Care Communications Project' of the Friends of Chitambo. The visualisation of the knowledge component was to promote converting of knowledge into action for health care workers for improved health care service delivery in Zambia as well as other parts of Africa. Knowledge into action facilitates conversion of available knowledge from health care research into decision making of health care workers, thereby enabling safe and effective health care delivery through implementation of its repetitive sequential activities NHS Education for Scotland (2015). The promotion of knowledge brokering through the knowledge broker learning programme is part of the initiatives which are now a priority in national and international research agendas; and has arisen to address the inconsistencies in health care service delivery through policy and programme implementation leading to the improvement of professional conduct in the health system National Health Service (NHS) Education for Scotland (2015).

In September 2015, the United Nations Member States adopted the 2030 Agenda for Sustainable Development, which set the pace for global and national frameworks to implement actions to achieve the 17 Sustainable Development Goals (SDGs) and their 169 targets United Nations (2015). The endorsement of the 2030 agenda for sustainable development by the United Nations calls for efforts aimed at meeting the targets of the goals of this agenda. In this connection, librarians can sustain innovations meant for the achievement of the SDGs by enabling use of information resources Echezona, Momoh and Afegbua (2017). Health librarians and libraries in particular are contributing towards the 2030 agenda, by virtue of them servicing the health system through the provision of information to meet the ever-changing information needs of health care workers. This is so the health workers can meet their practice needs as well their educational and research needs Ullah and Anwar (2013). Ideally, the pursuit for sustainable development calls for accelerated commitment of sections of public and private institutions and; as such librarians are agents of development by virtue of their ability to generate evidence that can contribute to SDG implementation Pinto and Ochôa (2018). Stakeholders must also recognise that health librarians work in a contributory development role, aiding the attainment of good health and well-being for all global citizens through SDG 3.

PURPOSE

The knowledge broker learning programme targets health librarians with the aim of helping health librarians understand the importance of facilitating the translation of knowledge into practice, in a healthcare system through the use of the knowledge broker role. Therefore, implementation of the knowledge broker learning programme was aimed at advancing the formation of an African network of knowledge brokers comprising of health librarians from different African countries. Health librarians who have participated in the knowledge broker learning programme have competencies required for the knowledge broker role. Competency in the knowledge broker role helps health librarians engage in activities that can positively contribute to healthcare systems they serve, by ensuring access to current and relevant information, which they repackage to suit the specific knowledge needs of the health care workers in the health system.

METHODS

The first knowledge broker learning programme course was delivered over a three-month period, April to July 2018. A team comprising of librarians from the University of Zambia (UNZA) Medical library and the Information Training and Outreach Centre for Africa (ITOCA), with remote guidance and technical support from the Health Service - Scotland prepared the course content of the knowledge broker learning programme. The course content adopted the constructs of the Promoting Action on Research Implementation in Health Services (PARIHS) framework as contented by Helfrich et al. (2010) with the principles of the framework suggesting interrelations between its elements that stimulate effective enactment of evidence based practice by health care workers.

The knowledge broker learning programme course has four core learning modules, (Figure 1) National Health Service (NHS) Education for Scotland (2015). These modules can be adapted to whatever context thereby creating a possibility of modifications to the core modules.



Figure 1: Knowledge broker learning programme course has four learning modules

The knowledge broker learning programme course had its content compiled into a workbook with guided readings. The delivery of the course was done in two parts:

- The first part was a face to face learning session from 17 - 19 April 2018 held in Lusaka, Zambia. The session was comprised of presentations, group exercises and discussions
- The second part ran for fourteen weeks. This part had blended learning content of the four modules delivered through the Information Training and Outreach Centre for Africa Moodle virtual learning platform. This was necessary as during the blended learning participants were required to hand in short work-based reports at the end of each module to apply the lessons learnt on a particular module to which the course facilitator in Scotland gave written feedback. The learning in this part incorporated facilitated group discussion via a knowledge broker WhatsApp group.

All participants of the first knowledge broker learning programme were asked to complete three surveys:

1. Pre-workshop survey of knowledge broker learning programme,
2. Face to face learning programme survey, and
3. Knowledge Broker Blended Learning Post Workshop Survey.

Seven out of the eight participants answered the survey questions. The eighth participant did not take part in any of the surveys.

FINDINGS

Perceptions of participants before the knowledge broker learning programme

Four out of the eight participants indicated that they had an opportunity to receive some form of training on knowledge management prior to attending the course. However, all the participants gave a response when asked to describe their understanding of a knowledge broker in one sentence. Their responses are indicated in Box 1.

Box 1. Perceptions of a knowledge broker before training

- *"A knowledge broker is a person/organisation that move knowledge and create connections between researcher and their various audiences".*
- *"I think a knowledge broker is someone (a librarian) who interacts with various health workers in order to provide them information and knowledge for particular situations".*
- *"A knowledge broker is an intermediary that brings knowledge sources together through networking".*
- *"A knowledge broker is someone who acts as an intermediary between health researchers, policy makers and front line health care workers in order to promote the use of evidence-based information in frontline health care".*
- *"An individual who transforms research into policy and practice by providing various links and summaries for the purpose of transforming research into policy".*
- *"A person (informationist) or organisation who acts as an intermediary between the producers and consumers of knowledge".*
- *"Facilitates access to ethical and sound knowledge between the producers and users".*

Additionally, there was a consensus amongst the participants that they wanted to gain a better understanding of the knowledge broker role after participating in the knowledge broker learning programme.

Perceptions of the participants after the face-to-face learning session

All participants rated the face-to-face learning sessions as having met their expectations with all of them stating that they would recommend the learning programme to other health librarians. Seven of the participants rated the overall knowledge broker learning programme as being excellent whilst one participant rated it as being satisfactory. In replying to the question on what they will do differently as a result of attending the face-to-face training, participants gave responses indicating some plans to begin practicing the knowledge broker role (Box 2).

Box 2. Perceptions of knowledge broker role after face-to-face training

- *"Put knowledge into action by incorporating social media in my practice".*
- *"Conduct Systematic Reviews".*
- *"I will do a lot and encourage my supervisors".*
- *"I will be able to put across the knowledge broker role in my institution".*
- *"Do more reviews, more evidence-based support for my users. Better searching techniques... So much".*
- *"I will work more on providing usable knowledge to healthcare workers by packaging it in a format that is usable and synthesised".*
- *"I hope to practice as a knowledge broker in many aspects beyond the healthcare environments".*
- *"I will apply management skills in my workplace, so that members of staff at Chitambo Hospital can learn and understand about Knowledge management".*

Perceptions of the participants after the blended learning session

There was a consensus amongst participants that they had gained a lot in terms of new knowledge and new skills on the knowledge broker role. Most of the participants seemed to be inclined to evidence summaries when asked what knowledge products they had intentions of producing or were already working on after participating in the blended learning session. See Box 3 for perceptions of participants on the knowledge broker role after the blended training.

Box 3. Perceptions of knowledge broker role after blended training

- *"I have produced evidence summaries for some post graduate medical students and lecturers".*
- *"Evidence summaries, A Guide".*
- *"Evidence summary".*
- *"Basic evidence Summary".*

It was also apparent from the responses given by the participants on how they would apply the new skills and knowledge they had gained going forward in their work activities. They indicated that they were planning courses of action that they would take after participating in the blended learning session. The planned actions are articulated in Box 4.

Box. 4 Future application of new skills and knowledge after training

- *"Would like to practice producing evidence summary and be an active player in information provision to students and lecturers by meeting their specific needs".*
- *"To enhance our institutional repository with evidence summaries rather than populating it with research articles that are difficult to apply in practice and also offer critical appraisal sessions".*
- *"I wish to use my skills to interact with lecturers, researchers and clinicians so I can provide them with well synthesised evidence summaries. I want to use my skill by facilitating knowledge sharing among health professionals in different ways such as use of social media, face to face interaction."*
- *"By trying to formulate new ideas in different skills and knowledge acquired"*
- *"I plan to get more embedded into the activities of my faculty".*

Outcomes

The knowledge broker learning programme, which ran as a training and workshop session, brought together health librarians who encounter similar issues thereby enabling them to explore ways in which they can address any identified challenges in the provision of information. Besides, it sought to strengthen interpersonal relationships amongst the health librarians in the proposed African knowledge broker network. The learning programme also facilitated the laying of a foundation for the establishment of an African knowledge broker network of African health librarians to promote the sharing of expertise and further development of their knowledge broker roles.

In the first training, eight health librarians, five from Zambia and three from Zimbabwe were successfully trained. Six of these health librarians were from medical school libraries of Universities; one was from a nursing school library and one was a health information officer for Chitambo, based at the Chitambo district hospital, Kabwe, Zambia. All the health librarian participants completed the face-to-face learning component and all proceeded to the blended learning component except for one. The blended learning content was fully completed by four of the librarians whilst three librarians did not complete all the modules. Each course participant was given a certificate that stated the level of completion of the course. In the second training, the knowledge broker learning programme did not take place physically as planned, it was conducted in the second quarter of 2020 using online platforms (Moodle and Zoom) due to the coronavirus disease (COVID-19). The second knowledge broker training had 23 participants with 15 participants successfully completing the training. The participants were health librarians from Rwanda, Malawi, Namibia, Ghana, Ethiopia, Seychelles, Uganda, Nigeria and Zambia.

Lessons learnt

The period for the delivery of the course, especially the second part in particular was too long. Feedback from the participants indicated that they were of the view that the programme should be shortened in order to keep the momentum for the course going and have it achieve its intended purpose. The GoToMeeting mobile application was chosen as a means of communication and discussion for the course participants and course leaders. This platform was chosen in the planning phases of the course, as the course design required that there should be periodic discussions on modules during the blended learning part. This was not successful, as the utilisation of this platform requires high strength internet connectivity and most participants failed to connect to the platform owing to their weak internet connectivity. This also led to a resolution that for the next learning programme each participant will be assigned a mentor, meaning there will be one on one communication between a mentee and his or her mentor. Some participants who successfully completed the first knowledge broker learning programme have agreed to take on mentorship roles for the second course. The course administrators believe that this will work better than the group chats and help achieve the course intended aims and objectives.

DISCUSSION

Health information that is evidence based is what is deemed as suitable for healthcare workers as it enables them to deliver effective health care Lavis et al. (2003). Health care workers have a fundamental obligation to consult the health research evidence base as they deliver patient health care so as to determine the right intervention to take Institute of Medicine (US) Committee on the Health Professions Education Summit (2003). It is for this reason that attempts to bring about the uptake of evidence based health care research information are anchored in procedures and processes that will produce synthesis from health research findings to be fused into health care practice so as to guide improved service delivery Dogherty et al. (2013). The PARIHS framework, can be used as a guide by individuals embarking on knowledge translation Kitson et al. (2008), and such undertakings may lead to improved health care service delivery through the use of knowledge brokering. This is because the PARIHS framework is a combination of context, evidence and facilitation that gels to get the best outcomes for patients. The framework is comprised of three elements: evidence (E) - denoting sources of knowledge for health care stakeholders; context (C) – denoting the environmental setting in which the knowledge translation is implemented; and facilitation (F) – denoting the technique used to support healthcare workers change their attitudes in health care practice Helfrich et al. (2010). Kitson et al. (2008) postulates that successful implementation of the framework is a function of interaction between the elements of E, C, and F; the interaction of evidence, with context and facilitation of the process of that interaction.

The utilisation of the PARIHS framework for the development of the knowledge broker learning programme can be viewed as a strategy under the scope of capacity building of health librarians. The knowledge broker learning programme can serve as an advocacy tool to highlight the contribution librarians make to development. The learning programme may be used with the aim of strengthening the ability of health librarians repackage and deliver up-to-date evidence-based health research information to the health care workers that they serve.

The knowledge broker learning programme arose out of the need for the formation of an African knowledge broker network. The purpose of this network would be to promote the use of techniques identified as best suited in promoting the translation of knowledge into action by health librarians for the health care workers they work with closely. The knowledge brokering process in the health care setting is illustrated through use of the knowledge to action framework. This framework depicts the process as being one that is multifunctional as any generated health care knowledge is cultivated in order to make it suitable for use by healthcare workers in different fields of healthcare services Graham et al. (2006).

Fulfilment of this perceived African knowledge broker network required that health librarians be identified and be capacitated to perform the role of knowledge broker. Tactical approaches for capacity development can encompass the incorporation of provision of platforms for innovation or inventive application of capacity for health care delivery Bolger (2000). Bolger (2000) further asserts that meaningful capacity development must clearly outline; whose capacity is to be developed and explain why it needs developing. The health librarian's role as a Knowledge Broker is important for the health care system as it expedites the knowledge translation process by spanning boundaries that are inherent in health care contexts Kitson et al. (2008). One can therefore frame the health librarian in the bigger picture of meeting targets for the health agenda 2030 through highlighting how, in their role of knowledge broker, they have the capacity to translate knowledge into actionable formats for health care workers to use at points of patient care. However, the significance of the knowledge broker learning programme may not be visible in the short term especially given that only a few countries in Africa have taken part in the training so far. Its far-reaching benefits for the health librarians who undergo the training, as their ability to make meaningful contributions to strengthen health care service delivery, cannot be under-estimated. Overall promotion of the United Nations 2030 agenda must begin with localised efforts. The efforts of a librarian to provide access to relevant information in a particular sector are

contributory steps towards the achievement of sustainable development goals for that sector by 2030 United Nations (2015).

CONCLUSION

The health librarian in the knowledge broker role depicts one of the key roles librarians worldwide are playing in the United Nations 2030 agenda for sustainable development. The resultant collaboration between health librarians and stakeholders in the health sector have brought about important partnerships that can alleviate improved health care delivery. The partnerships are also in line with the targets of sustainable development goal 17, which call for collaborative partnerships amongst the different sectors of society to achieve the other goals, in this case the SDG 3.

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RESEARCH AND DEVELOPEMENT IN LIBRARIES



RESEARCH AND DEVELOPMENT (R&D), CREATIVITY AND INNOVATION IN ACADEMIC LIBRARIES IN MALAWI: A WAY TO RETHINK LIBRARY DEVELOPMENT IN THE TWENTY-FIRST CENTURY

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ABSTRACT: Noting the technological changes in the 21st century, academic libraries have been striving hard to remain competitive and relevant in their operations by providing transformative products, services and adopting best library practices to hype the whole process of service delivery. University libraries in the millennium age must meet the needs of a contemporary and pluralistic society with some sort of agility. In a technologically driven environment, library research and development, creativity and innovation are catchwords and they have been essential elements in restructuring library products and services for effective service delivery and best customer experience. This study explored the significance of R&D, creativity and innovation in twenty-first century librarianship at the University of Livingstonia (UNILIA). A descriptive survey was adopted for the study while a questionnaire was used as a data collection instrument. Findings revealed that at UNILIA libraries, innovative products and services mainly include Information and Communication and Technologies (ICT) based services (internet, emails, library 2.0. social media platforms); and electronic catalogues and portals. It was also discovered that with R&D, creativity and innovation, UNILIA libraries are able to adapt the rapidly technological changing environment, and improve existing products and services while at the same time exploiting new opportunities and trends in the library and information science. Major issues obstructing the pursuit of library R&D, creativity and innovation in UNILIA libraries include lack of research and innovation policies, lack of a well-established research and innovation centre, unpredictable changes in the 21st century technological landscape, and university culture that doesn't support research and innovation.

KEYWORDS: research & development, innovation, academic libraries, UNILIA, Malawi.

INTRODUCTION

In the millennial age, libraries must remain relevant to their twenty-first century users in the way they deliver information products and services. New changes in the information service industry as a result of novel information technologies have put libraries under siege, as to whether they will continue to exist or else succumb to the forces of these novel technologies, and fail to thrive and adapt. What can libraries do to remain relevant to their users in the twenty-first century environment is increasingly becoming a puzzling question to library managers of the twenty-first century. However, when one considers the evidence of advancing technology, educational reforms, societal changes, information literate users, and globalisation of 'everything' and their impact on librarianship and libraries, it is crystal clear that twenty-first century librarianship must be drastically different from all previous concepts of librarianship. It requires a professional who embraces the potential of technology, creatively finds appropriate ways to implement it into library services, and one who has more diverse, even 'unconventional', skills than ever before Matthews (2011, 3). For higher education institutions to survive and thrive in the future, libraries must change and adapt to a rapidly evolving external environment Jantz (2017). Library Research and Development (R&D) and innovation are the catchwords in modern academic librarianship. The digital environment has impacted on academic libraries and caused countless transformations in library products, services and practices Emezie (2018). According to Deiss

and Petrowski (2009), academic libraries are affected by three drivers of change: the poor economy and its negative impact on higher education; the changing needs of students; and rapidly evolving technologies.

Moreover, in the field of higher education, the library environment is experiencing a shift in the way information is disseminated to students, faculties and research scholars for the growth of universities. Academic libraries are moving from a physical place where basic traditional services of acquisition, storage, preservation, retrieval, access and display are provided to on-site library patrons; to an electronic space where these same services have been enhanced by technological innovations Muthu, Rameshbabu, and Baskarani (2015). New forms of technology have necessitated the change in approach in the way libraries deliver their services to user communities. More innovative products, services and practices are being coined in academic librarianship. Consequently, vast amounts of digital information are now available via the web in any computer with an Internet connection, anytime, and this places a huge impact on libraries. As such, more users have stopped requiring a library to get information. The development of online services and the availability of digital content is the answer to this shift Carvalho (2014).

Worth noting, in the era of digital revolution, library R&D and innovation are strategies that have allowed libraries to develop and survive in a context of changes, of which many of them are disruptive in nature. Through innovation, libraries have found a way to subsist the technological militants through the introduction of user catching library services such as online catalogues and portals, open access repositories, search engines and Web 2.0 technologies among the few Colaklar (2014). Furthermore, the development of online reference services, online databases, technological advances in library instructions, and hybrid automated system are services which should be acknowledged as innovative changes in academic libraries Ilako and Ikoja-Odongo (2011). Innovative products, services and practices in academic libraries help in effective and efficient service delivery of information services to meet users' needs and expectations in universities.

Academic libraries are facing times of unprecedented challenges and unparalleled change. Innovation has moved from a consideration to a necessity Curty (2015). And yet, libraries continue to operate in a climate of declining budgets and increasing costs. In such a resource-scarce environment, academic library leaders are under pressure to make wise decisions in regard to how innovations are adopted and implemented in their libraries. While at the same time, Jantz (2012) noted that the libraries condition in the modern university is one embedded in a state bureaucracy, complicated by union contracts, faculty norms and traditions. The academic libraries inherit many of these characteristics from their parent institutions. Most libraries have significant external controls, both administratively and financially, which can limit innovation. Budd (1998, 3) notes that each academic library is part of a larger organisation and, ultimately, authority rests outside of the library.

CONTEXT OF STUDY

The University of Livingstonia (UNILIA) was established on August 27, 2003 as a Christian private university in Malawi (UNILIA) (2019). The Synod of Livingstonia believes that the Christian University provides an exceptional education for the young people of Malawi. The mission statement of the university is "To educate and inspire learners, guided by Christian values, to become principled leaders who will transform society through excellence in teaching, research, consultancy, and learning environment for the glory of God" UNILIA-Strategic Plan (2012). To date, the University of Livingstonia has four faculties offering various certificates, diplomas and undergraduate degree programmes UNILIA (2019). The University has two libraries situated at the Laws Campus and the other one at Ekwendeni Campus and it has a collection of over 25,000 volumes of books and subscribes to more than 1000 electronic journals and databases. UNILIA libraries provides traditional lending and circulation services, reference services, current awareness services, readers' services, Inter-library loan services, internet services and e-resources services Malanga and Jorosi (2018). In addition, UNILIA libraries also provide internet-enabled services mainly in the form of digital libraries and archives to their users to align with the changes in the information explosion era UNILIA (2019).

PROBLEM STATEMENT

Noting the technological changes in the twenty-first century, academic libraries have been striving hard to remain competitive and relevant in their operations by providing transformative products, services and adopting best library practices to hype the whole process of service delivery. University libraries in the millennium age must meet the needs of a contemporary and pluralistic society with some sort of agility. As such, Library Research and Development (R&D), creativity and innovation have been essential elements in restructuring library products and services in response to the technological environment in which academic libraries are operating. While other libraries stay abreast with the latest trends with library R&D, creativity and innovation, some academic libraries still practice old librarianship due to some issues relating to organisational culture. At the University of Livingstonia (UNILIA), despite the fact that the information industry is being challenged technologically, the practice of R&D, creativity and innovation is still at its infancy stage due to some prevailing issues such as constrained financial budgets to spearhead library innovation, lack of innovation policy at the university, lack of support from the top management and lack of a well-established R&D centre. In Malawi, particularly in the higher education libraries landscape, there is no empirical study that has ever been championed on library R&D, creativity and innovation. Against this background, this study addresses this gap through the following objectives:

- To identify innovative and creative products, services and practices in UNILIA libraries;
- To find out the significance of R&D, creativity and innovation in UNILIA libraries; and
- To establish the challenges that library professionals face in pursuit of R&D, creativity and innovation in UNILIA libraries.

LITERATURE REVIEW

Research and development, creativity and innovation and academic libraries

The era of information explosion and emerging information and communication technologies has changed the higher education landscape worldwide. Academic libraries are equally affected by the information technological changes, and in order to survive this threat, higher education institutions are adopting various forms of technologies to aid libraries to deliver information services more efficiently to their user communities. Carvalho (2014) stresses that libraries are indeed at the edge of a very deep change. Until some years ago, libraries were sought to get content, to study, and to meet other people. However, due to technological transformations, modern libraries have embarked on research and development including innovation processes. Innovation and transformation are important concepts in today's libraries especially in light of the libraries' ongoing transition from acquiring serials in print to providing access electronically, thus moving towards the virtual library Carr (2009).

Concepts of R&D and innovation cut across a number of disciplines including Library and Information Science (LIS), and these concepts are closely linked to scientific discoveries of all times. Research and development is defined as "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications" Hall (2006, 5). R&D is generally thought to consist of three main activities: basic research, applied research, and development. In the library set up, R&D could entail all the activities undertaken by librarians to create new or improved products, services and processes to meet user expectations and demands.

On the other hand, innovation is generally defined as a change towards renovation or adoption of something new and useful in the practice Gunjal (2017). In other words, innovation entails the synthesis of new ideas and thoughts which will re-construct or re-combine present things, and it is an inner feature of humans Colaklar (2014). In LIS, innovation is a complex process of creation, distribution and usage of novelties in order to enable library development as a social institute and enhancement of library performance. Library

innovation is a system of new ideas proposed by creatively thinking professionals or by a team Muthu, Rameshbabu, and Baskaran (2015). There are three key reasons why libraries should innovate; the need to adapt to a changing environment; the need to improve existing products and services and the need to make use of new opportunities Elves (2015). Also, worth noting is that in academic libraries, some innovations are disruptive while others are sustaining innovations. Specifically, Calvalho (2014) echoed that the most important disruptive innovations in academic libraries identified were the open access movement and the Web 2.0, and the first was highly regarded and was considered the most important innovation with impact in academic libraries.

Innovative products, services and practices in academic libraries

The practice of R&D, creativity and innovation in academic libraries is heightened by the superfluity of information and communication technologies. Many of the revolutionised services in libraries often come as a response to the technological shakeups in the twenty-first century. Li (2006) emphasises that present and future academic libraries should continue to redefine their roles in the digital environment, and there is a growing need for academic libraries to leverage their strengths and be innovative to create responsive and convenient services to users. In general, innovative library products and services include ICT based services (use of internet, email, online information literacy trainings, Ask a librarian, virtual reference); digital archives and e-libraries Muthu, Rameshbabu, and Baskaran (2015); mobile services in libraries (Short Messages Services to users, Global Position Point (GPS) to locate remote libraries, Web OPAC on mobile phones, subscription to RSS feeds on mobile phone applications and software); and information and communication innovations (Digital resources, electronic catalogues, online electronic document delivery form, online interlibrary borrowing form, online reference form, Online resources, accessible 7/24, a different type of communication: e-mail, Skype, Facebook, virtual reference services: ask a librarian, e-publications).

Significance of research and development, creativity and innovation in academic libraries

Innovate! Or cease to exist. Academic libraries are at the crossroads, as such innovation results when librarians come up with ideas which are applied in order to further satisfy the needs and expectations of the twenty-first century users (Yeh and Walter 2016). According to Carvalho (2014), innovation is a strategy that has allowed organisations to survive in a context of changes, many of them that are disruptive in nature. In the library context, R&D, creativity and innovation breeds new library products, services and practices that can transcend both time and distance, and that can best meet the needs of tech-savvy users. Elves (2015) notes that libraries should engage in research and development, be creative and innovative, to adapt to the rapidly technological changing environment. Two areas of change directly affecting libraries are: the move to digital, which is now almost complete for journals but still has some way to go for books; and the changing way our users search for information, meaning that the traditional OPAC and even local discovery systems are becoming less relevant. Secondly, is to improve existing products and services, and thirdly to make use of new opportunities and trends in the LIS profession. Above all, research, innovation and creativity in library and information services are aimed at achieving sustainable development of the information provision and professionals because of the attributes to the intellectual, inspirational, and physical development of man which helps him to overcome challenges in his search for scholarly activities, knowledge and development Atata, Oji, and Tom (2014).

Challenges library professionals face in pursuit of library R&D, creativity and innovation

Academic libraries face the daunting challenge of innovating in the face of static and declining budgets and a shifting and unpredictable technological landscape in the twenty-first century Brundy (2015). The inability of academic libraries to innovate mostly is being perpetrated by organisational culture Jantz (2015). Library culture perpetuates some of the more restrictive aspects embedded in the norms and traditions of the profession. In these more bureaucratic organisations, “There’s little room for passion, ingenuity, and self-direction” Hamel (2000, 4) resulting in an inability to respond to a rapidly changing environment that requires flexibility and creativity. In other organisations, lack of a research and innovation policy hinders libraries to be creative and operate outside the prescribed library norms and procedures Swain (2014).

METHODOLOGY

This survey study was conducted to determine the significance of R&D, creativity and innovation in the UNILIA libraries in Malawi. The research universe consisted of the library staff at the University of Livingstonia. Basically, the survey was largely quantitative in its approach. The quantitative research approach is based on the measurement of quantity or amount Rajasekar, Philominathan, and Chinnathambi (2006). In quantitative research, a process is expressed or described in terms of one or more quantities. According to William (2011), quantitative research is characterised by its numerical, non-descriptive nature as it applies statistics or mathematics and uses numbers; follows an iterative process whereby evidence is evaluated, the results are often presented in tables and graphs; and mostly the approach uses closed ended questions to collect data. Survey questions were purposely sent via e-mail to 13 staff in UNILIA libraries. Nine library staff answered the survey questions and this translated into 69% of the total research subjects who gave feedback. The survey technique is used to collect data in research. In this regard, a survey form was created in Google Drive programme (<https://forms.gle/c8r4RkTHBzGCK1Co7>) and backed up using paper-based questionnaires. The survey consisted of 5 multiple-choice-questions. All answers were kept confidential. A programme link was sent to the e-mail addresses of all library personnel and they were asked to answer the survey questions voluntarily. Data collected via the survey was transmitted to the Google Drive survey form application, and analysed and evaluated via MS Excel for graphical, tabular and percentages presentations.

RESULTS AND DISCUSSION

This section presents the findings of the survey on the following objectives; innovative products, services and practices in academic libraries, significance of R&D, creativity and innovations in academic libraries, and challenges library professionals face in pursuit of library R&D, creativity and innovation. Data were analysed using descriptive statistics. Frequencies, tables and graphs were employed to present data.

DEMOGRAPHICS OF UNILIA LIBRARIES STAFF

This section investigated the demographics of UNILIA libraries staff in terms of gender and highest academic qualifications. Of the respondents, 5 (56%) were males and 4 (44%) were females. The University of Livingstonia adheres to a gender policy in providing equal employment opportunities between males and females, hence these results. Figure 1 summarizes the findings.

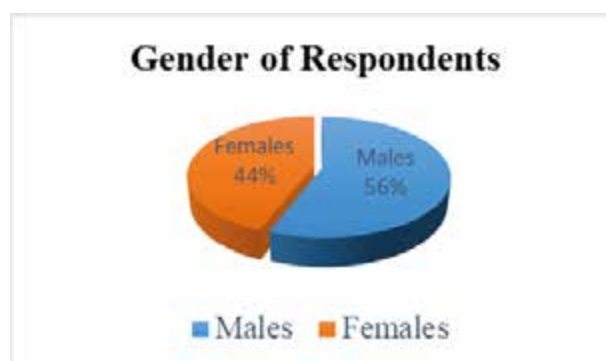


Figure 1: Gender distribution of respondents

In terms of highest academic qualifications, 4 (44%) had Malawi Library Association (MALA) certificate, 3 (33%) had a Bachelor's degree in Library and Information Science (LIS), 2 (22%) had a Diploma in LIS, one (11%) had a Master's degree and there was no respondent with a PhD. Figure 2 presents the findings.

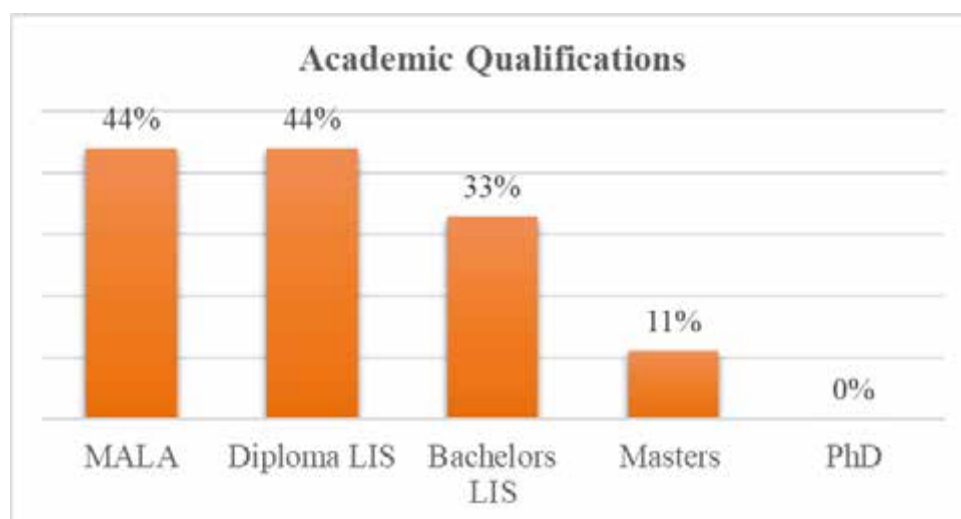


Figure 2: Qualifications of respondents

Innovative products, services and practices in academic libraries

Technological advancements have generated profound effects on how academic libraries deliver their services to the user community. In order for libraries to remain relevant to their customers, they must follow the fundamental rule of business, that is, to supply what is demanded by their market (Salve and Waghmare 2008). "You can't do today's job with yesterday's tools and still be in business tomorrow" (Anonymous). Today, those academic libraries that still enjoy massive patronage and readership have quickly responded to changes in the external environment by adopting innovative and technology assisted products and services to meet the user's demands and expectations.

The next section sought to find out innovative products, services and practices in UNILIA libraries. All the nine respondents (100%) indicated that in UNILIA libraries, innovative products, services and practices are evident in ICT based services (Internet, emails, library 2.0, Facebook, twitter) provided to their users. Generally, the superfluity of ICTs in every sector, including education is increasingly adopted to aid in service delivery. Four (44%) respondents indicated that UNILIA libraries provide electronic catalogues and portals which students use to access the contents of the libraries. These findings agree with those of Emezie (2018) that most innovations in academic libraries are driven by ICTs. In Emezie's (2018) study, it was found that ICTs

result in library innovative products and services such as internet, emails, e-books, e-catalogues and portals, e-journals, library 2.0, and social media platforms. In other studies, it has however been indicated that in libraries, technological innovations have led to the birth of more novelty services such as virtual references, e-publications, mobile library services, e-libraries, online reference forms, online interlibrary borrowing, digital marketing services Li, (2006); Salve and Waghmare (2008); Val Skelton (2011). In UNILIA libraries, it seems that the adoption of innovative products and services is at a slow pace. This is noted in these findings that some trending innovations in academic libraries such as open access repositories, mobile libraries, and online library services among others are not fully leveraged in service delivery.

Table 1: Innovative products and services are available in your library

Innovative products and services in academic libraries	f	%
ICT based services (Internet, emails, library 2.0, Facebook, Twitter)	9	100
Electronic catalogues and portals	4	44
Virtual reference services (ask a librarian)	3	33
Open access repositories i.e. Institutional Repositories (IR)	2	22
Mobile library services (Mobile OPAC app, RSS feeds on mobile phones, SMS, GPS)	2	22
E-publications	1	11
Digital Marketing Services (DMS)	0	0
Online electronic document delivery form	0	0
Online interlibrary borrowing form	0	0
Online reference form	0	0

Significance of R&D, creativity and innovation in academic libraries

Academic libraries are at the edge of a very deep change, and R&D, creativity and innovations are strategies that have allowed organisations to survive in a context of changes, many of them disruptive Carvalho (2014, 1). According to Yeh and Walter (2016), it was undebatable that traditional library users visited a library building to conduct research, locate and retrieve items from the collection, or consult a librarian at the reference desk. With the advent of the Internet, more and more library services are delivered digitally. The fact is that in the information age, the best thing that library managers can do is to constantly respond to the technological changes to meet the needs of the twenty-first century users. In this section, respondents were asked to highlight the importance of library R&D, creativity and innovation in UNILIA libraries. As presented in Table 2, it is seen that academic libraries mainly pursue library R&D, creativity and innovation for three reasons. Firstly, the majority of respondents as represented by eight (89%) respondents indicated that R&D, creativity and innovation help libraries to adapt the rapidly changing technological environment and through innovations, libraries also improve existing products, services and practices to meet twenty-first century users' needs and expectations. Seven (78%) respondents said that R&D, creativity and innovation help libraries to exploits new opportunities and trends in LIS profession. In a study conducted by Elves (2015), it was stressed libraries should engage in research and development, be creative and innovative first to adapt the rapidly technological changing environment; secondly, improve existing products and services and thirdly to make use of new opportunities and trends in the LIS profession.

Table 2: Significance of R&D, creativity and innovations in academic libraries

Significance of R&D, creativity and innovations in academic libraries	f	%
Helps libraries adapt the rapidly changing technological environment	8	89
Helps libraries improve existing products, services and practices to meet 21 st century users' needs and expectations	8	89
Helps libraries exploits on new opportunities and trends in LIS profession	7	78

The challenges library professionals face in the pursuit of R&D, creativity and innovation

The section presents the challenges UNILIA library professionals face in the pursuit of R&D, creativity and innovation in libraries. The analysis of data collected is presented in Table 3 below:

Table 3: The challenges library professionals face in the pursuit of R&D, creativity and innovation (N=9)

The challenges library professionals face in the pursuit of R&D, creativity and innovation	f	%
Lack of R&D and innovation policies in universities	9	100
Organization culture doesn't support R&D and innovation	9	100
Lack of well-established R&D and innovation centres in universities	8	89
Lack of financial resources for library innovations	6	67
Unpredictable technological landscape of 21 st century	5	56

To pursue the culture of research and innovation in academic libraries, library professionals are challenged in many ways. In this study at UNILIA libraries, all nine (100%) respondents indicated that R&D, creativity and innovation are obstructed by the lack of an R&D policy and the organisational culture that doesn't support research and innovation. Eight (89%) respondents indicated that due to lack of a well-established R&D and innovation policy at UNILIA affects the pursuit of research and innovation. In a nutshell, the pursuit of a library R&D, creativity and innovation at UNILIA libraries is obstructed by the following challenges: lack of R&D and innovation policy, unsupportive organisational culture, lack of a well-established R&D and innovation centre, lack of financial resources for library innovations and the unpredictable technological landscape of the 21st century. Generally, in the absence of research and innovation policies, library professionals lack a policy direction in pursuit of a library R&D, creativity and innovation Brandy (2014); Swain (2014). Research and innovations in libraries also flourish in the presence of monetary support by the parent institution which at the same time also advocates for the innovative culture Jantz (2012). In a study by Carvalho (2014), it was also indicated that even though library services, contents, users and the context of academic librarianship has changed deeply in response to the technological environment, the mission, culture and structure of an academic library have not changed much in universities. Worth noting is that in general, universities are very hierarchical and formal organisations and within them academic libraries are not independent, but they are mirrors of this structure and culture. Academic libraries may want to change and embrace innovative models of management and develop innovative strategies, but mostly due to lack of support from the University they fail.

CONCLUSION AND RECOMMENDATIONS

As the practice of the twenty-first century academic is increasingly becoming more complex and more of transformational service delivery approach, academic libraries will likely to continue experiencing additional pressure to come up with new products and services to keep users satisfied. Academic library managers should be upfront in embracing new and innovative products, services and practices. In reference to the findings of this study, the researchers suggest that the management of UNILIA should formalise the research

and innovation policy. In addition, it is also recommended that the University of Livingstonia should establish and operationise a research and development centre. Finally, the university management should also create a culture that will facilitate the sharing of ideas and knowledge through research, creativity and innovation.

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INFORMATION SOCIETY AND KNOWLEDGE-BASED ECONOMIES



TACIT KNOWLEDGE IN THE KNOWLEDGE ECONOMY: MAPPING STRATEGIES FOR THE AFRICAN NATIONS

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ABSTRACT: *In the present age, tacit knowledge is gaining wider publicity. Still, many economies rely only on the currently available information, ignoring the required tacit knowledge to create new economic activities. This paper, premised on the position that know-how resides in brains, argues that urbanisation and internet access are not enough to enhance national productivity, particularly in the African nation. This study asks how the African nation can motivate and tap into tacit knowledge to be fully integrated as a knowledge economy? This study sought to establish the status of the African nation as a knowledge economy, identify some pillars of selected knowledge economies, and explore the influence of tacit knowledge on the African knowledge economy's suggested pillars. The study uncovered gaps in the African nation and highlighted innovation, ICT, skilled human capital and education as pillars that the African nation can build on as a knowledge economy. A notable finding of this study is the need for African nations to explore local knowledge, popularly known as indigenous knowledge. Also highlighted is the fact that the English language is fast becoming the language of the knowledge economy. The paper closes with the presentation of tacit knowledge strategies that can be considered under each pillar that has been attested to enable a knowledge economy. It is expected that the study will contribute to existing literature on tacit knowledge management, influence the decision-making process of policy-makers and boost the productivity of African economies.*

KEYWORDS: *knowledge, tacit knowledge, Africa, knowledge economy.*

INTRODUCTION AND BACKGROUND

In an agrarian economy, the primary national resource is land, while in an industrial economy, the concentration is both labour and natural resources. However, in the knowledge-based economy, which emerged from the increase in the knowledge intensity and globalisation of economic activities, the main engine of economic growth is knowledge Dahlman, Routti, and Ylä-Anttila (2006). A knowledge economy is also described as one in which administrations and societies efficiently gain, create and disseminate knowledge for better socio-economic development Mustafa (2015). Wanat and Potkanski (2010) submit that the contemporary economy continues to depend on knowledge management. According to Dahlman, Routti, and Ylä-Anttila (2006), knowledge makes it possible for the less developed economies to find a short path to achieving development, advancement in technology, and speedily integrate into the global economy. However, it is suggested that developing countries will be most likely side-lined unless they boost the knowledge contents of their economies through learning and innovation (the United Nations Conference on Trade and Development (UNCTAD) (2007, 6). The United Nations Educational Scientific and Cultural Organization (UNESCO) (2005, 160) ascribes the emerging knowledge divide to the combo starting from the gulf in culture, education, and science.

The economics and production of knowledge require a shift from a focus on technology to knowledge from human-made brainpower Peters (2001, 1). According to Drucker (1995), the efficiency of knowledge will determine the competitive position of a country. He opines that what places a country in an advantaged position is the ability to explore knowledge. Knowledge, in this context, is taken as either explicit (codified and objective) or tacit (personal and subjective). Takeuchi (1998) as cited in Zhu (2014, 68) argues that the western world focuses on existing explicit knowledge and carries out knowledge management initiatives; rather than

focusing on tacit knowledge to create new knowledge. Nonaka and Takeuchi (1995) report that Japanese companies thrive on organisational knowledge creation, which positively reflects their innovation capability and their status in the international market. The Japanese society is rooted in collectively held tacit knowledge Ray and Little (2001, 154) and favours the idea that tacit knowledge is the best mode of creating knowledge Skovira (2012, 689); Burrows, Drummond, and Martinsons (2005, 74). The Chinese explore the socialisation process of knowledge management to their national advantage. Unlike the Japanese and the Americans, they acquire knowledge from domestic and foreign sources to create their national knowledge through R&D activities in their universities. Given the applauded influence of tacit knowledge in the knowledge economy statuses of nations, this study is interested in mapping out strategies for the African nation to tap into tacit knowledge to be positioned as knowledge economies.

Relevant studies have highlighted what constitutes the major pillars of a knowledge economy. For instance, Chen and Dahlman (2005, 4) identify economic incentive and an institutional regime that makes it easy to create, disseminate and use knowledge in good facilitating conditions; educated and skilled workers; innovation system comprising consultants, firms, research centres, universities, among others, who can adapt global knowledge to local needs; and adequate and up-to-date information infrastructure for effective communication, information and knowledge management, as defined by the World Bank Institute (n.d.). Moreover, Hooker (2010, 3) highlight education, ICTs, and innovation, and Lor and Britz (2007) report information and communication technologies and connectivity, infrastructures apart from ICTs, and human capital capability.

The pillars mentioned above can be collapsed into ICTs, education, innovation, infrastructures apart from ICTs, skilled human capital, and enabling environment/policies. Chen and Dahlman (2005, 4), building on the knowledge economy pillars as put forward by the World Bank (n.d.), recommend that fundamentals, such as investing in education, innovation competency, modernising information infrastructure, and ensuring an enabling economic atmosphere, are required to move to the knowledge economy successfully. It is expected that in the modern and competitive global economy, when a nation invests in the pillars mentioned above, knowledge creation and use in national economies will be enabled and enhanced, with attendant improvement in economic development. Therefore, this study explores how tacit knowledge can be promoted in education, ICT, innovation, and skilled human capital to enhance the functionality of these pillars in positioning the African nation in the knowledge economy environment.

To achieve this aim, the study will review extant literature to establish the status of the African nation as a knowledge economy, identify some pillars of selected knowledge economies, describe the relationship between tacit knowledge and suggested pillars of the African knowledge economy, and develop a synthesis of strategies that will promote tacit knowledge management for each of the pillars.

The study, using Google Scholar, reviewed relevant literature using the search terms: tacit knowledge, knowledge economy and the African nation, and through content analysis, identified knowledge economy pillars on which the African nation can leverage. The paper proceeds by examining the African economy's status in the knowledge economy dynamics and subsequently peeps into lessons from some global knowledge economies.

State of the African nation as a knowledge economy

Dahlman (2007 10) observes that even though developing nations, particularly sub-Saharan Africa, have made progress in their knowledge economy worldwide ranking, most of the countries still rank low. Asongu (2017) reports that Africa's global knowledge index declined between 2000 and 2009. The author opines that Africa, on the path to knowledge economy status, can learn from the miraculous transition of South Korea, mainly due to their knowledge-based approach to development.

Ten years after the submission of Dahlman (2007), Ojanperä and Graham (2017) add that internet access is insufficient to transform sub-Saharan African nations' economies as most countries in Africa are behind. Even though improved internet access can help Africa transit to the knowledge economy, the continent still has the smallest share of digital knowledge production. They conclude that a total shift into an economy dependent on technology and human capital may not be immediately feasible in sub-Saharan Africa, as long as the continent relies heavily on extractive industries and agriculture. They acknowledge that knowledge-based economic practices are emerging. However, the recommendation is that more concentrated efforts should target improved locally produced knowledge that will aid the transformation into knowledge economies. This goes beyond merely increasing internet connectivity.

In another study, Ojanperä et al. (2017) reveal that innovation and investment in education are crucial to knowledge economies. At the World Economic Forum in July 2019, Adotey (2019) adds that Africa contributed only 1.1% to scientific knowledge worldwide, being the lowest globally. Also missing is that Africa does not have synthesis centres, where groups of professionals, such as communities of practice, can collaborate and share tacit knowledge (expertise). According to Adotey (2019), synthesis centres will enable Africa to pull together its human capital to hypothesise, carry out research, and proffer solutions through interdisciplinary collaboration.

It can be implied from the above discussions that many developing countries have not tapped into the vast stock of global knowledge, which can be applied to meet their needs (World Bank Institute n.d.). The next section describes knowledge economies across cultures and closes with a tabular presentation of the knowledge economy pillars (Table 1) favourable to the countries.

PILLARS OF SELECTED KNOWLEDGE ECONOMIES

In section 1, the pillars that nations can adopt were identified and collapsed into education, ICTs, innovation and skilled human capital. Through content analysis of the reviewed literature, this section highlights the knowledge-related strategies that selected current knowledge economies have explored that aided their transition (Table 1). The review further confirmed that, among others, education, ICT, innovation, and skilled human capital are major pillars that nations, African nations inclusive, can build on.

Table 1: Reviewed pillars of selected knowledge economies

Source	Country	Pillars
Houghton and Sheehan (2000 16)	Australia	<ul style="list-style-type: none"> • benefits from its use of the English language, which is fast becoming the language of the knowledge economy • the rapid uptake of new technologies
Rodriguez, Dahlman, and Salmi, (2008)	Brazil	<ul style="list-style-type: none"> • education • innovation
Dahlman and Jean-Eric (2001)	China	<ul style="list-style-type: none"> • education and training • improving relevant economic incentives and institutions • innovations • research

Porter and Solvell (2002); Dahlman, Routti, and Ylä-Anttila (2006)	Finland	<ul style="list-style-type: none"> • access to high technology and knowledge • domestic knowledge generation, indigenous innovations • educational system • efficient technology transfer (TT) • globally-focused knowledge base • good innovation systems • highly qualified personnel • ICT • intelligent manufactures for the global market. • knowledge-intensive services • combining ICT, nano and traditional technologies • own research and development technologies and products
Dahlman and Utz (2005)	India	<ul style="list-style-type: none"> • Investment in various science and technology (S&T) infrastructure • availability of skilled human capital • global niches in IT • widespread use of English
Suh and Chen (2007)	Korea	<ul style="list-style-type: none"> • accumulating indigenous capabilities • Enhancing productivity through innovation • Education policy aligned with economic development
Raspe and Van Oort (2006)	Netherlands	<ul style="list-style-type: none"> • innovation • research and development • skills of employees (knowledge workers)
Mustafa (2016)	Singapore	<ul style="list-style-type: none"> • Technology • R&D • technical education • ICTs • subsidised multinational corporation (MNC) training to nurture the skills of the workforce • Engaging leading educational institutions of the world to enhance the accessibility of talent pools • Use of science and engineering research hubs to boost technologies

Source: Author generated from multiple sources

Synthesising the pillars illustrated in Table 1, this study classifies economic incentive and institutional regime and infrastructure apart from ICT as facilitating conditions and ICT, education, human capacity, and innovation as major pillars. Therefore, governments and political leaders need to strategise to achieve and sustain a dynamic system that integrates education, ICTs, innovation, and Science and Technology for economic growth Hooker (2010 10). This study, hereafter, explores the relationship between tacit knowledge and the suggested pillars for the African economy to leverage as a knowledge economy.

Relationship between tacit knowledge and the suggested pillars of the African knowledge economy

Tacit knowledge and education

According to Mustafa (2016), to create, share and use knowledge, there is need to have a higher proportion of the educated and skilled population. This bolsters the importance of education, corroborating the conclusion of Ojanperä and Graham (2017) that having internet connectivity is not enough. Mustafa (2016), therefore,

suggests the establishment of research centres, formation of think tanks, the inclusion of universities, community groups, and private enterprises that can access universal knowledge, integrate and streamline it to local requirements, generate new knowledge from it, and tailor it to local needs. This call of Mustafa (2016) can be likened to brainstorming sessions and the use of communities of practice, both of which are tacit knowledge management processes. Hargreaves (1999, 123) opines that traditional education is mostly about propagating current best practices and research output, which is inadequate for schools to operate in the knowledge economy. The author suggests the need to generate better professional knowledge, which is tacit knowledge, and requires that teachers share their professional knowledge. The author proposes that knowledge management models, such as the socialisation, externalisation, combination and internalisation (SECI) of Nonaka and Takeuchi (1995), which is employed by commercial institutions, can be adopted in the education sector Hargreaves (1999, 127).

It is also revealed that the knowledge-base of an experienced teacher, compared with those of other professionals, is richer in personal and tacit knowledge than in explicit, collective knowledge (Hargreaves 1999, 138). This implies that for a more productive education system, it is necessary to create an avenue where teachers can share and externalise their tacit knowledge. Tschannen-Moran and Nestor-Baker (2004, 1509) opine that there should be a platform in education through which other scholars can learn from more prolific scholars' tacit knowledge. The OECD report Olssen and Peters (2005, 334) shows that tacit knowledge, which showcases through skills, is essential, as education will play a major role in knowledge-based economies. Stiglitz (1999) links knowledge and development by implying that higher institutions of learning, being traditional knowledge centres, will lead the service sector in the near future and will need to be restructured as done in China in her transition to the knowledge economy. Burton-Jones (2001, 225) emphasise that to transit to a knowledge economy, it is necessary to consider the interaction of education, learning and work. Olssen and Peters (2005) stress that it is not enough to acquire the best available knowledge globally. The authors propose the creation of local knowledge by building on indigenous knowledge through research and development. The above submissions imply that tacit knowledge sharing will enhance the education system, which will influence the shift to a knowledge economy, where education is a major pillar.

Tacit knowledge and ICTs

According to Stajic in Al-Qdah et al. (2009, 315), ICT is any form of information and communication tool, such as personal computers, smartphones, audio and video transmission devices. These devices enable communication and the sharing of data, information and knowledge. ICTs positively influence the transfer of tacit knowledge, reduces geographical distance and cost of transmission. To Al-Qdah and Salim (2013, 4117), information technology is an enabling factor for acquiring, processing, storing, and retrieving knowledge. In other words, the use of ICTs will positively enhance tacit knowledge management and boost the knowledge economy.

Tacit knowledge and innovation

According to Dahlman (2007, 11), innovation encompasses using existing knowledge in the domestic setting. As opined by Porter (1990), successful innovations are giant steps in creating a new competitive advantage for now and in the future. As observed by Oluwatobi (2015), statistics revealed that economies that are primarily driven by innovation advance more than those that depend mainly on natural resources to sustain their economies. Koskinen and Vanharanta (2002, 63) note that innovation can be linked to effective utilisation and tacit knowledge sharing. Mascitelli (2000, 182) describes the roles of tacit knowledge on innovative abilities: the provision of whole-concept solutions, revolutionary breakthroughs, sophisticated and creative solutions to specific problems, among others. It is, therefore, safe to conclude that tacit knowledge is both an innovation and a knowledge-economy-enabling factor. Mustafa (2016), in agreement, submits that knowledge and innovation are widely recognised as strategic platforms for growth and development. The author reports that the knowledge revolution improves countries' socio-economic development, especially through higher and technical education, innovations, and ICTs.

Tacit knowledge and skilled human capital

According to Pereira, Ferreira and Alves (2012, 175) and Williams (2011, 52), the knowledge that generates innovation, the attendant competitive edge and improved performance is tacit and embedded in humans. Even in the era of the Fourth Industrial Revolution (4IR), Schröder (2017, 13) observes that smart technologies cannot take over workers' tacit knowledge that is not coded. Schröder's standpoint was in agreement with that of Frey and Osborne (2017), who submits that technologies have no intelligence in themselves, except as coded by human beings and can, as such, not be substituted for human beings, who can act flexibly and creatively to unanticipated situations. Additionally, Soliman and Spooner (2000) reveal that it will be difficult to implement new technologies without efficient human resources management. The authors add that intellectual capital and assets will be of better use if organisations (in this case, economies) apply knowledge management strategies to leverage their human resources management. Again, these submissions buttress earlier reports that internet connectivity and improved communication are not adequate to transition to the knowledge economy. In other words, tacit knowledge is embedded in the skilled workforce in any economy, and human resources are also responsible for the performance of knowledge tasks that enable innovation and productivity. In the words of Thurow (Peters 2001, 1), "Today, knowledge and skills now stand alone as the only source of comparative advantage. They have become the key ingredient in the late twentieth century's location of economic activity." Knowledge, particularly tacit knowledge, and skills are attributes of the human capital, implying that African nations that desire the knowledge economy platform should invest in their human resources, as was done by other knowledge economies: China Dahlman and Jean-Eric (2001), Finland Dahlman, Routti, and Ylä-Anttila (2006), and Singapore Mustafa (2016).

To conclude this section, it has been established that tacit knowledge is a key player in all the identified pillars of the knowledge economy. Undoubtedly, the African nation needs to promote tacit knowledge management to leap into the knowledge economy status.

TACIT KNOWLEDGE MANAGEMENT STRATEGIES FOR THE AFRICAN NATION

The Washington Consensus, a set of policies and reforms required to promote economic growth in developing countries Williamson (2009), propose that developing countries should adopt appropriate knowledge strategies and broad innovation system, which require that they increase their efforts to acquire, adapt, diffuse, and use existing knowledge, including indigenous knowledge, which is characteristically tacit. The author also stressed the need to pay more attention to using existing knowledge to create their technologies. Similarly, Lwoga and Ngulube (2007) report that indigenous knowledge is key to sub-Saharan Africa's development. Thus, this study suggests the strategies in Table 2 below for consideration by the African economy.

Table 2: Strategies for tacit knowledge management for the African knowledge economy pillars

Education	ICTs	Innovation Systems	Skilled Human Capital	Facilitating Condition
Indigenous knowledge	Indigenous knowledge management systems	Research centres	Platforms for knowledge sharing	Basic technological infrastructure other than ICTs
Knowledge creation		Research universities	Multi-stakeholder knowledge sharing	Norms and standards,
Knowledge synthesis centres	Tacit knowledge management systems	Knowledge experts and consultants that can tailor external knowledge to meet national needs	Virtual collaboration	Quality control
Collaborative learning	Knowledge dissemination mechanisms		Communities of practice	Economic policies
Technical information centres	IoT		Alumni networks	Knowledge management policies
Productivity organisations.	ICT tools		Apprenticeship	Intellectual property rights
Public research institutes			Mentoring	.
Interactive learning, processes			Storytelling	
Interactive networks of people and institutions			Expert interviews	
Research schools			Best practices	
Internship Programmes			Reviews of lessons learned	
			Brainstorming sessions	

Source: Author generated from literature (Hooker 2010; World Bank Institute, n.d.; Williamson 2009; Hargreaves 1999; Lwoga, and Ngulube 2007; Chen and Dahlman 2005)

CONCLUSION AND RECOMMENDATIONS

In this study, the importance of knowledge, particularly tacit knowledge for the leap into the knowledge economy, by the African nation, was discussed. This study purposively examined extant literature on knowledge economies and the pillars that enabled and sustained them. The study uncovered that the African nation is currently behind in the rise to being a knowledge economy. The study also highlighted that economies that succeed as knowledge economies create knowledge, which is a product of tacit knowledge management. Innovation, ICT, skilled human capital and education were identified as pillars of knowledge

economies. This author found insufficient literature that clearly defines the tacit knowledge management status of African nations. The paper, therefore, looked at the influence of tacit knowledge on these pillars and discovered that tacit knowledge is indeed central to building knowledge economic pillars that will be dynamic and sustainable. Tacit knowledge sharing makes the difference between the traditional education system and the static curricula in learning institutions; tacit knowledge spurs innovation; tacit knowledge sharing empowers and improves the skills and capabilities of human capital for better performance. Hence, the study produced a strategic structure of tacit knowledge promoters that will aid the transition to the knowledge economy status for nations in Africa. It is hoped that the African nation will provide the suggested facilitating conditions in all sectors of the economy to implement the identified factors for a successful transition into the knowledge economy.

Education appears to be at the forefront of these enabling factors. Therefore, this study recommends expanding secondary and higher education to include vocational technology education and indigenous knowledge management. Education should be made more dynamic through the tacit knowledge sharing activities of professionals in the field. This, of course, may demand curriculum review in institutions of learning across Africa. While strongly advocating the continuity of indigenous languages, it is suggested that the use of the English language should not be neglected in learning institutions, as the study revealed that it is speedily becoming the *lingua franca* of the knowledge economy. It is also recommended that African nations invest in staff training and reskilling, which will impact staff members' innovative capabilities and motive tacit knowledge sharing. The study suggests that future studies explore the contextual implementation of each pillar of the knowledge economy in each African country, with the possibility of coming up with knowledge management systems that can be adopted for effective implementation.

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BRIDGING THE GAP BETWEEN THE INFORMATION RICH AND INFORMATION POOR IN MALAWI

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ABSTRACT: *This paper presents the results of the appraisal of the gap between the information rich and information poor in Malawi by focusing on the notable legislations and technological infrastructures that contribute to the information flow in Malawi. It also explores the strides made in Malawi in terms of library development, electronic information development and human resource development. The appraisal employed a desk research approach where journal articles, internet publications, government publications, online newspapers, books and international organisations' databases like UNESCO, World Bank, UNDP, European Commission and United Nations were reviewed. The review found out that the Malawi government has notable legislations that can assist in bridging the gap between the information rich and poor and these include Access to Information Act, Copyright Act, and National Information Communication and Technology Policy. It also found out that there are initiatives from the government, and private and non-governmental organisations to reach out to the masses with ICT, technological infrastructure, library, electronic information, and human resource development. The paper concludes that although there are initiatives that have been developed, they are inadequate especially for the rural masses to close the gap between the information rich and information poor.*

KEYWORDS: *information rich, information poor, information gap, information society, Malawi.*

BACKGROUND

The United Nations 2030 Agenda for Sustainable Development aims at ending poverty, protecting the planet, and ensuring prosperity for all United Nations (2015). There are extremely huge challenges for countries on their road to sustainable development. A lot of people still live in poverty and there is an increase in differences within and among countries. In concurring with the United Nations, African countries also adopted a vision of the future towards sustainable development called "Agenda 2063 – The Africa We Want". It is aimed at repositioning Africa to becoming a dominant player in the global arena African Union Commission (2015, 1). All these are development efforts which embrace the economic, social and environmental sustainability of countries.

The United Nations progress report on Sustainable Development Goal 4 on quality education estimated that 750 million adults remained illiterate by 2016, and two thirds of them were women. Half of the global illiterate population lives in South Asia, and a quarter live in sub-Saharan Africa. Many developing countries still lack basic infrastructure and facilities to provide an effective learning environment. Sub-Saharan Africa faces the biggest challenges at the primary and lower secondary levels, less than half of schools have access to electricity, the Internet, computers and basic drinking water United Nations (2019).

According to the World Bank (2015), nearly 1.1 billion people were still living in extreme poverty compared to 1.7 billion in 1990. The population of people who lived on less US\$1.90 a day was 736 million, down from 1.85 billion in 1990. Despite the progress made in reducing poverty, the number of people living in extreme poverty remains unacceptably high and the declined rates have been uneven in all regions. More than half of the extreme poor live in Sub-Saharan Africa. In fact, the number of poor people in the region increased by 9 million, with 413 million people living on less than US\$1.90 a day.

BACKGROUND OF MALAWI

Malawi is a land locked country in south-eastern Africa with a total population of 17,563,749 million National Statistics of Malawi (2018, 15). It is 118,480 square kilometers including land and water. The country is divided into four regions and the capital city is Lilongwe. It shares borders with Zambia, Tanzania and Mozambique. It has ten major ethnic groups that is Chewa, Nyanja, Lomwe, Yao, Tumbuka, Sena, Tonga, Ngoni, Ngonde and Lambya. From 1968 to 1994, Chewa was the only national language apart from English. It was one of the languages used in print and broadcast media and it is spoken by a majority of the population. A majority of the population are Christians, and Muslims constitute about one-fifth of the population. Traditional beliefs are also adhered to by a small proportion of the population Kalinga et al. (2014).

Malawi is one of the least developed countries and it is ranked 171 out of 189 countries in terms of human development (United Nations Development Programme 2018). Despite rapid urbanisation, around 85% of the population lives in the rural areas and an overwhelming majority of the rural households are poor. According to the United Nations (2015), 75% of the population earns less than US\$1.25 a day. The poverty is derived from reliance on risk-prone activities like rain-fed agriculture where harvested quantities of crops, livestock and fish are primarily affected by weather shocks McCarthy, Brubaker, and de la Fuente (2016, 5). According to UNESCO Institute of Statistics (2016), Malawi's literacy rate stands at 73% for males and 59% for females.

Malawi became an independent country in 1964. An important change in the politics of Malawi took place in 1994 when a multiparty system of government was established after about three decades of one-party rule. On the onset of its democracy in 1994, the Government came up with long-term strategy documents to assist in developing the country further. Most important of these were the Malawi Vision 2020 (1997), the Malawi Poverty Reduction Strategy (MPRS) in 2002 and the Malawi Economic Growth Strategy (MEGS) in 2003.

INFORMATION GAP

Topping the several factors that contribute to the underdevelopment of a country are poverty and illiteracy. Literacy is critically important because being able to read and write makes a huge difference in doing many simple day-to-day activities. High illiteracy levels inhibit access to information especially in the rural poor. To effectively access and use information for sustainable development, illiteracy levels must be low. Language, religion, and cultural inclination have also an influence on how one can access and use information. As there is more information nowadays, it is more central in leading to a new type of society Webster (2014, 10).

There has been a long-standing tradition to characterise developing countries as 'underdeveloped, poor, and primitive'. These countries are viewed as if they do not possess any knowledge, information and ideas that could be transferred or copied by other countries Lundu (1989, 223). On a global scale, there is a growing gap between the rich and the poor in access to information. Information gap between the two groups in access to information can also be the lack of ability and opportunity to use the information in a way that contributes to people's cultural knowledge and economic well-being.

Information rich and information poor is related to the division of the general public into two groups depending on the way in which they use and relate to information. The information rich tend to be of a higher socioeconomic status, better educated, have better access to technology and are more technologically savvy than the information poor Chandler and Munday (2011). In most cases on a global scale, the information rich are considered to be those from the 'global north' and the information poor are from the 'global south' of the world. In countries, that is the gap between the advantaged and the disadvantaged Kagan (1999).

One of the critical aspects in the development of a country is information and it is the basis for economic growth. Access to information should be extended to embrace the society in order to develop. Therefore, the essential driving force of a developed country is the development of the deep-set structures of information to have an informed society. Considering the poverty and illiteracy levels of the Malawian population, diversity in cultures, languages, and religion, it is not clear what strides Malawi has made to close the gap between the information rich and information poor. This paper, therefore, appraises the gap between the information rich and information poor in Malawi. It explains the notable legislations and technological infrastructures that contribute to the information flow in Malawi. It also explores the strides made in Malawi in terms of library development, electronic information development and human resource development.

METHODOLOGY

In order to achieve the aim of the paper, the researcher employed a desk research methodology where extensive literature was reviewed from journal articles, internet publications, government publications, online newspapers, books and international organisations' databases like UNESCO, World Bank, UNDP, European Commission and United Nations. Desk research involves accessing data collected by key experts and information can be collected remotely Largan and Morris (2019, 30). The paper adopted mainly a qualitative approach.

GOVERNMENT POLICIES AND NOTABLE LEGISLATIONS

It is a fundamental human right to ask for, and receive information held by the public organisations and bodies. It is critically important to make sure that information held by the public, and in some cases private institutions is available and accessible to citizens. The right to seek, access and receive information is guaranteed by Article 19 of the Universal Declaration of Human Rights, Article 9 of the African Charter on Human and People's Rights, and Article 4 of the Declaration of Principles on Freedom of Expression in Africa Media Institute of Southern Africa (n.d.). It is also recognised under Section 37 of the Malawi Constitution.

ACCESS TO INFORMATION ACT

Sustainable Development Goal 16 seeks to ensure public access to information. In 2017, the Parliament of Malawi passed the Access to Information Act 2017, which gives ordinary Malawians the right of access to information which, is under the control of a public authority in order to promote transparency and accountability of public officers. Authorities are required to respond to requests within fifteen (15) days. A request for access to information is made orally or in writing. This implies that the society can request for any permissible information from the government. However, no penalty is stated on failure of public authorities to grant access to the requested information. This could deny access to information efforts by Malawians.

COPYRIGHT ACT

The Malawi Copyright Act 1989 was amended in 2016 to accommodate new developments. The Copyright Act 2016 of Malawi is a form of intellectual property protection granted under the Malawian law to the creators of original works of authorship such as literary works including sound recordings, dramatic, musical and artistic works, audio-visual works, sound recordings and broadcasts, the rights of performers, technological measures and rights management information, establishment of Copyright Society of Malawi (COSOMA) and the Creativity Promotion Fund COSOMA (2017). In addition, Malawi is a member of international treaties like the Marrakesh Treaty which helps to end the book famine faced by people who are blind, visually impaired or otherwise print disabled. According to the Marrakesh Treaty, countries which consent to the Treaty must ensure that their laws allow blind people and their organisations to make accessible format books without the need to ask permission first from the copyright holder (African Regional Intellectual Property Organization 2018, 3). The amended Malawi Copyright Act is in compliant with the Marrakesh Treaty in terms of accessible

formats. Section 49 of the Malawi Copyright Act indicates that the reproduction of copies shall be made available only to disabled people for intended purposes COSOMA (2017).

NATIONAL INFORMATION COMMUNICATIONS AND TECHNOLOGY POLICY

Information and communication technology (ICT) bring a lot of benefits and opportunities. Malawi cannot forge ahead with its development agenda without putting in place an appropriate framework for ICT to support and accelerate various initiatives and interventions at all levels of society. Malawi aspires to have a knowledge-based economy with a global role and it believes that through maximum integration of ICT in all sectors and the provision of ICT services to the rural areas, the use of ICT can help usher in sustained growth of the Malawian economy.

In 2006, Malawi developed a National ICT for Development Policy (ICT4D) in order to build a knowledge-based economy and information rich society. Malawi was convinced that its agriculture-based economy can rapidly grow and diversify through participation in the information society and this policy had eight priority areas. Later in 2013, ICT4D Policy was amended to be named National ICT Policy. The National ICT Policy focuses on ten priority areas namely: Strategic ICT Leadership, Human Capital Development, E-Government Services, Industries, Infrastructure Development, ICT in the priority Growth Sectors, Responsive ICT Legal, Regulatory and Institutional Framework, National Security, International Cooperation, Universal Access of ICT and ICT related services with aim of facilitating the creation of an enabling environment for efficient, effective and sustainable utilisation, exploitation and development of ICT in all sectors of the economy, including the rural and underserved communities in order to attain an information rich society ICT Policy (2013). Countries that have poor ICT infrastructure are faced with a threat to faster economic growth.

TECHNOLOGICAL INFRASTRUCTURE

Technological capabilities have always been a fundamental component of economic growth. New technologies are one of the most visible indicators of new times, and they are frequently taken to signal the coming of an information society Webster (2014, 11). Many African countries are trying hard to catch up with the fast changes in information and communications. Malawi, like many other countries in Africa, has a history of underdeveloped communications infrastructure. Malawi Growth and Development Strategy (MGDS) highly prioritises the development of the ICT sector MGDS (2017).

According to a survey by the Malawi Communications Regulatory Authority (MACRA) (2014, 27), revealed that 19.2% of Malawians in urban areas and 21.1% in the rural areas own or have access to a computer. This mainly could be due to the expensiveness of the machines. The Internet is a vital infrastructure for access to knowledge. Although Malawi has experienced growth in the ICT industry after the development of the ICT policy, the level of access to information technology infrastructure is still low. The survey also revealed that only 3% of the rural Malawi and 24.3% from the urban area has access to the Internet. That is a small percentage considering that 85% of the population lives in the rural areas. It further revealed that 43% of Malawians have a mobile phone. Only 30% in the rural areas have a mobile phone and only 24% own a phone that is capable of browsing the Internet.

In 2009, the government of Malawi in collaboration with the World Bank embarked on a Regional Communication Infrastructure Project which aimed at improving the quality, availability and affordability of communications services while at the same time improving Malawi's connectivity to international communications services Public Private Partnership Commission (2009). In 2015, the project came to an end when the construction of the international optic fibre network was launched which reduced the costs hampering Internet access to broadband. In addition, the Electricity Supply Cooperation of Malawi (ESCOM) laid fibre-optic cables on their

power lines throughout Malawi in order to build the networks that form part of the country's national fibre-optic backbone Mogha (2017).

The United Nations Development Programme (UNDP) pioneered the implementation of provision of Internet services in Malawi. The Sustainable Development Network Programme (SDNP) was put in place to help countries in facilitating access to information about sustainable development and also encouraging participation in decision making for sustainable development. The SDNP project enhanced the capacity of stakeholders to use computer mediated communications, including Internet and also enhanced capacity for open and participatory decision processes and strives to encourage local and community-based involvement in sustainable development IST-Africa (2017).

There were nationwide initiatives from the government, private and non-governmental organisations to reach the masses with ICT. MACRA implemented telecommunications infrastructure development through the establishment of telecentres in several rural areas of Malawi. The idea was to have at least one multipurpose community telecentre in each constituency where people have access to ICT enabled applications. Fifty-six telecentres were established from 2010 to 2013 and these telecentres are underutilised due to several challenges like slow internet connection and unreliable electricity Kapondera and Namusanya (2016, 13).

Malawi Library and Information Consortium (MALICO) pioneered the establishment of the Malawi Research and Education Network (MAREN). In 2005, MAREN was formed with the aim of establishing sustainable communication and networking among research and education institutions in Malawi. It launched its Very Small Aperture Terminal (VSAT) technology for providing satellite access by giving academic institutions connectivity from the north to south of Malawi. Through the UbuntuNet Alliance, MAREN is a beneficiary under the Africa Connect eInfrastructure projects IST-Africa (2017). The availability of national and international fibre is a catalyst for the implementation of the physical network.

LIBRARY DEVELOPMENT

Libraries are important institutions in any organisation as they are sources of information, knowledge, and experiences which are selected, acquired, organised, preserved and disseminated to those who need them. Libraries are important tools to fill the growing gap between the information rich and the information poor. They are a visible sign of commitment to the sustainable development of communities in Malawi. There are many types of libraries in Malawi ranging from public, special, school, to academic libraries existing as supporting entities of institutions such as public and private schools, research institutions, government departments, statutory organisations, non-governmental organisations, and universities Salanje (2012, 3).

In 1994, Malawi announced universal primary education and school enrolment started to rise. Universal education had put pressure on class sizes, which were often over 100 pupils. Resources such as books and learning materials were stretched and education quality had suffered from those higher enrolments. Therefore, Book Aid International came in to assist and their main aim is to create access to books across the country. It has been supporting libraries in Malawi since 1962. In partnership with Malawi National Library Service (MNLS) which oversees public library services, Book Aid International books are distributed to a network of 16 branch public libraries of MNLS. MNLS also distributes books to primary and secondary schools, higher education institutions, medical institutions and other non-governmental organisations Book Aid International (n.d.). As books are difficult to obtain in Malawi, some institutions in rural areas are partnering with the African Library Project which provides books to communities especially rural primary schools. Although public libraries are available in some parts of Malawi through partnership with international organisations like Ripple Africa, public libraries are lagging behind due to inadequate support and lack of funds from the central government. This is evident when there are 16 government funded public libraries and 4 out of 16 are in partnership with Building Malawi. This implies that a larger proportion of rural communities do not have access to public library facilities hence this is creating a hindrance to information access.

ELECTRONIC INFORMATION DEVELOPMENT

MALICO was established in 2003. It facilitates the subscription to electronic resources and the production of local and relevant content for Malawi's repositories. MALICO has been working with international organisations like the International Network for the Availability of Scientific Publications (INASP) and the Electronic Information for Libraries (EIFL). INASP's main aim is to strengthen the capacity of individuals and institutions to produce, share and use research information and knowledge for sustainable development INASP (2019). EIFL's main purpose is to negotiate, encourage, and advocate for the wide availability of scholarly electronic information by library users from the education and research sectors, professional communities, governmental organisations, and the civil society Kupryte, Segbert-Elbert and Bernal (2005, 256). EIFL has been working in Malawi since 2001. It supported the creation of MALICO and the creation of open access repositories and journals EIFL (2019). MALICO, with the support from the INASP and EIFL, developed a proposal for the establishment of a digital repository for research in Malawi. This increases the visibility and accessibility of Malawi's local content on the Internet.

HUMAN RESOURCES DEVELOPMENT

Library services have been termed as crucial in the provision of quality and relevant information to different sectors that strive to develop the nation of Malawi. A library is nothing without librarians, but just a collection of books (Ziba 2018). In 2002, Development Aid from People to People (DAPP) Malawi established a teacher training college. Apart from the teacher training programme, the teachers are also trained on how to manage a simple library as most freshly trained teachers are placed in rural primary schools. African Library Project is a partner of DAPP in the establishment of school libraries African Library Project (2018).

In order to promote libraries to be manned by professionals, Malawi Library Association (MALA) offers a certificate course and Mzuzu University offers Library and Information Science courses at diploma, bachelors and master's degree levels. As of 2019, over 1,000 students have graduated with a MALA certificate. As of 2019, over 200 students have graduated with diplomas, bachelors and masters' degrees in Library and Information Science (LIS) Mzuzu University Registry (2019). A study by Mapulanga (2014, 35), on prospects and constraints of staff development, indicated that all the libraries under the University of Malawi were headed by professional librarians with at least an undergraduate degree, while the majority of the support staff had a certificate in Library and Information Studies. Although more people are trained, challenges are still available as most libraries in rural areas are manned by people who have no professional development in librarianship. Ocholla (1999) indicates that graduates fear to work with the poor, the illiterate, and in rural areas.

CONCLUSION

On the global level, Malawi is making some strides in closing the gap between the information rich and the information poor of the communities. The extent to which Malawi is closing the gap is not encouraging, as Malawi is number 171 out of 189 countries in terms of human development. Several legislations like Access to Information Act, Copyright Act, and ICT Policy have the capacity to contribute access to information by communities in Malawi. The introduction of telecentres in the rural communities of Malawi could promote access to information. However, there are some challenges that are faced by the telecentres like slow internet which impedes the use of technology in information access. Although illiteracy level is decreasing due to free primary education and adult literacy education, still a good proportion of the population are illiterate and the effective use of technology usually requires new equipment, literacy as well as specialised training.

Although libraries, electronic information, and human resources have been developed, they are inadequate especially for the rural population. All in all, Malawi is not lagging behind in its endeavour to strive towards an information rich society, but as a country there is a need to re-examine the government's role in developing an information society, and to also train people by equipping them with 21st century skills if the country is to transform the society into a fully-fledged informed society.

RECOMMENDATIONS

- The Malawi government should invest more in public libraries, telecentres, and technological infrastructure to make them true information resource centres for the rural poor.
- MALICO should press government to come up with a deliberate policy to ensure that all public and government libraries and information centres are manned by trained librarians in order to promote the use of information.

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INNOVATIVE DIGITAL TECHNOLOGY- BASED LIBRARY AND INFORMATION SERVICES IN AFRICA



THE IMPACT OF LIBRARY 2.0 IN THE TRANSFORMATION OF ACADEMIC LIBRARY SERVICES IN AFRICA

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ABSTRACT: Academic libraries the world over are now embracing Library 2.0 to improve the operations of their library services. It therefore follows that there is need for academic librarians in Africa to embrace Library 2.0 applications to meet the twenty-first century library user's needs. Library 2.0 has major impacts on how librarians and library users alike access information. Library 2.0 is there to support social, human, participatory and interactive experience that will result in the end user's academic achievement. This paper therefore explores the impact library 2.0 technologies are having on academic library services. The author considers some of the services that are now being offered in most university libraries in Africa like the provision of information literacy skills, institutional repositories, and electronic resources as well as community engagement which entails reaching out to the community to introduce and embrace these vital technologies. The paper offers recommendations on the best way forward regarding merging twenty-first century academic library services with Library 2.0 technologies to promote effective use of library services in Africa. The researcher used a mixed research methodology and employed survey research design to investigate Library 2.0 applications. The researcher went further to establish the Library 2.0 applications currently used in numerous Zimbabwe State University Libraries. Data was collected using questionnaires and interviews. The research findings revealed that Library 2.0 helps academic librarians to reach out and interact with library users and their communities, quenching their information needs as well as increasing user interests in the library resources.

KEYWORDS: Africa, academic libraries, Library 2.0, ICT technologies, Web 2.0.

INTRODUCTION

The innovation of technology, in the norm of Web 2.0, with its emphasis on user involvement and collaboration has altered the process of information services and resource sharing in academic libraries. Kwanya, Stilwell, and Underwood (2009) note that there is, in reality, been a shift from formal scholarly publishing, to unpublished materials, and to self-publishing, which poses unlimited tests to information management in academic libraries. The existence of a website is not surety for the effective use of library services. Research indicates an increase in the use of search engines, e-mail, and blogs and that the use of library websites has declined. Propositions are that library users may not be conscious of the library services and, hence, libraries need to find ways and means to involve users in their services. Identifying the need to involve users and to harness user-generated content, most libraries are now integrating Web 2.0, or Library 2.0, technologies into their services.

Numerous schools of thought, including Chua and Goh (2010) and Harinarayana and Raju (2010), validated that the integration of Web 2.0 tools into the library setting can improve the value of library services. Web 2.0 technologies can enhance library services by improving communication with customers, promoting and marketing services, and imparting information literacy skills Chua and Goh (2010) Harinarayana and Raju (2010). Library 2.0 technologies inspire users to partake in the design and implementation of library services through their feedback. Library services are continuously updated and re-evaluated according to user needs based on their feedback Pienaar and Smith (2008). Studies in Sub-Sahara Africa have revealed that most

libraries provide information about their services and content on their websites, while their counterparts in the developed world are already offering online resources and services by integrating Web 2.0 technologies Muswazi (2000); Lwoga (2012); Makori (2012a). Academic libraries need to make available their traditional services more resourcefully and to offer supplementary services through Library 2.0 tools to those users who are more at ease with the new environments of accessing and using information.

WEB 2.0 AND LIBRARY 2.0

The catchphrase “Web 2.0” was coined by Tim O’Reilly of O’Reilly Media in 2004. It is also frequently referred to as “Library 2.0” because it has become a standard technology that is used in the provision of library services. O’Reilly (2004) states that Web 2.0 is the network as platform, spanning all connected devices. Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an “architecture of participation,” and going beyond the page metaphor of Web 1.0 to deliver rich user experience O’Reilly (2005).

The Web 2.0 capabilities connect the library to its users in a two-way communication and enable knowledge exchange. Coombs (2007) defines Web 2.0 as a space that allows anyone to create and share information online, a space for collaboration, conversation and interaction in a highly dynamic and flexible platform. On the other hand, Anderson (2007) defines Web 2.0 as a group of technologies such as blogs, Facebook, wikis, RSS feeds and others that promote sharing, editing and creating contents in a socially networked web environment.

Web 2.0 embraces a number of tools and technologies, stretching from wikis, blogs, and syndication feeds to social and virtual networking. Library 2.0 is a “change in interaction between users and libraries in a new culture of participation catalysed by social web technologies” Holmberg, Huvila, Kronqvist-Berg, and Widen-Wulff (2009, 667). Library 2.0 facilitates libraries to change and deliver demand-led services by concentrating on the needs of users already using the library and non-users who the library may reach out to bring into the library.

ADOPTION OF WEB 2.0 TECHNOLOGIES IN LIBRARIES IN DEVELOPING COUNTRIES

There has been considerable growth of literature on the implementation of Web 2.0 technologies in a library setting Kwanya et al. (2012). The University of Pretoria Library developed Library 2.0 services effectively because it formulated an e-information strategy and technology committee in 2006, identified users’ needs, and developed strategic alliances with other departments at the university that promote the development of Web 2.0 with the aim of making optimum use of the new Web 2.0 technologies Pienaar and Smith (2008); Penzhorn and Pienaar (2009), collaboration with ICT professionals,; and revision of the library and information studies curriculum to incorporate social media Banda (2011).

In the developing world, particularly in Africa, studies show that few university libraries have embraced the application of Web 2.0 systems, such as in South Africa Wood (2009), Tanzania Muneja and Abungu (2012), and Zambia Banda (2011). Some African libraries have just recognised the potential of Web 2.0 tools and they are beginning to adopt this technology. It is thus important for African libraries to engage in social media, since many librarians are already using these tools for social networking rather than for improving library service delivery. This is supported by Chisenga and Chande-Mallya (2012) who indicated that librarians in Southern, Central and Eastern Africa regions are engaged in social media applications and utilise these tools more for social than professional networking purposes than for library and information work activities.

Research further shows that not all Web 2.0 tools and services are used to the same extent and that some services are more popular than others. Kwanya et al. (2012) revealed that Facebook was the most popular Web 2.0 tool in Kenya's libraries, followed by Twitter, RSS, SlideShare, YouTube, Flickr, and blogs. In Tanzania, Facebook was also the main tool adopted by libraries, followed by Twitter, blogs, and Google docs Muneja and Abungu(2012). Collins and Quan-haase (2008) posit that the interests, demands, needs, and practices of an institution largely influence the adoption and use of a certain type of social media within that setting.

There are various barriers that constrain libraries in their efforts to adopt Web 2.0. These barriers may be associated with such factors as limited infrastructure and other information-based technologies, lack of library-centred social media policies, lack of funding for training and resources Collins and Quan-haase (2008), inadequate knowledge and skills among information professionals, inadequate support from the management Makori, (2012b), lack of time by librarians to use social media, and lack of interest among librarians who prefer to do things the way they have always been done Banda (2011). Other barriers include moral and ethical issues in Web 2.0 environments which are related to privacy, confidentiality, safety, harassment, pornography, fraud, and security Mutula (2012). It is imperative to consider all these obstacles when implementing Web 2.0 technologies in a library setting.

LIBRARY 2.0 TECHNOLOGIES AT MIDLANDS STATE UNIVERSITY LIBRARY

Midlands State University (MSU) Library (<http://www.msu.ac.zw>) is part of the University network wide campus. The library currently houses over 50,000 volumes of materials, subscribes to over 40 academic databases, has automated its services, established a digital repository, and provides a wide range of other information and reference services.

The library adopted Web 2.0 services for the purpose of providing access to information, getting feedback from users, stimulating interactive and collaborative learning, and promoting library services. The library, therefore, developed the following tools: information organisation (social bookmarking and tagging system, downloadable library toolbar, and a search tool embedded in blogs); information acquisition (blogs, wikis); information dissemination (RSS); and information sharing.

Additionally, the university has integrated Web 2.0 aspects into the first year undergraduate curricula. The aim of the course is to impart knowledge and skills to students with regards to the use of the e-learning system and Web 2.0 for collaborative learning, as well as for information searching purposes. The library also provides online tutorials on IL aspects and annotated links to online tutorials via its wiki. The integration of Web 2.0 into the IL programme has enabled the library to be effective in creating and managing course materials.

The library adopted Web 2.0 services for the purpose of providing access to information, getting feedback from users, stimulating interactive and collaborative learning, and promoting library services. The library, therefore, developed the following tools: information organisation (social bookmarking and tagging system, downloadable library toolbar, and a search tool embedded in blogs); information acquisition (blogs, wikis); information dissemination (RSS); and information sharing (social networks).

- Social bookmarking and tagging system
- Single-click downloadable library toolbar
- Blogs and mashups
- RSS feeds
- Social networks
- Wiki
- Information literacy

Other libraries also use Web 2.0 to further demonstrate difficult IL concepts. A study by Luo (2010) showed that Web 2.0 technology was used in three levels in IL programmes, which were to organise and manage course-related material for librarians' own purposes. It was envisaged that it would help to facilitate the delivery of content to students so as to illustrate IL concepts. However, the second level of Web 2.0 use was the most popular among librarians Luo (2010). The Web 2.0 technologies are changing at a rapid rate and, consequently, it is important for librarians to keep up with these developments.

CHALLENGES OF IMPLEMENTING WEB 2.0 TECHNOLOGIES AT THE MSU LIBRARY

Despite the fact that Midlands State University has implemented Library 2.0 for over a year, the university still faces a number of difficulties which include: an inadequate number of computers, unstable internet connectivity, and insufficient electricity; inadequate awareness and internet skills; inadequate financial resources; a shortage of trained ICT and library staff; and lack of supportive policy/guidelines, authentication, security, and ownership of intellectual property of Web 2.0 services.

To improve the situation, the Midlands State University Library has undertaken the following measures: the University is soliciting funds to increase bandwidth to enhance the use of Library 2.0 and other ICT services; the library developed a curriculum on information and learning technologies, which includes Web 2.0 aspects – the course is taught to all first year undergraduate students; the library organises faculty development programmes regularly to enhance faculty's IL skills including the use of Library 2.0; the university regularly increases the number of technical staff and librarians, and provides them with adequate training to ensure the smooth running of ICTs, including Web 2.0 services; the librarians manually monitor the content on Facebook and blog comments on a daily basis to ensure that unsuitable content is not published on the sites.

CONCLUSION AND RECOMMENDATIONS

Web 2.0 technologies provide potential benefits to academic libraries, and the role of librarians as facilitators of knowledge sharing, collaboration, and communication is becoming significant in the Web 2.0 environment. For patrons to communicate and interact with librarians more conveniently and efficiently, the academic library must embrace the medium that patrons are already using, such as social networks and blogs. The adoption of Library 2.0 tools improved the quality of library services by providing more interactive and user-oriented reference services; increased access to print and digital resources through a search facility on the library's blog; enhanced delivery of online and physical IL instructions to suit user learning styles; shared news and promoted library services in relatively less time; and increased user participation and feedback in the delivery of library services. Most academic libraries in Africa have not yet adopted Web 2.0 technologies to improve their services. The following recommendations may help other libraries to plan and integrate their Library 2.0 technologies in their services:

- libraries should conduct regular studies on user information needs and seeking behaviours for effective adoption and use of Web 2.0 technology;
- libraries should develop standards and policies for managing Library 2.0 tools and its content, as well as guidelines for managing inappropriate user-generated content;
- libraries should select tools that are user friendly and require relatively less time to set up and maintain to ensure effective management of the tools;
- libraries should create or redesign job descriptions and organisational structure to effectively run Library 2.0 services;
- librarians should redesign librarianship training curricula to build skills in such areas as marketing, public relations, and ICTs;
- librarians should communicate the benefits of Web 2.0 tools to the institutional management for the effective deployment of these technologies;

- libraries should consistently re-evaluate library 2.0 services for the effective management of these tools;
- governmental supply of stable electrical power and release of funds for improving bandwidth would be helpful; and
- universities should also seek alternative power sources, increased bandwidth, and additional computers.

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WHATSAPP AS A PLATFORM FOR THE DELIVERY OF LIBRARY AND INFORMATION SERVICES

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ABSTRACT: *This study investigated the use of WhatsApp as the platform for the delivery of library services at Mzuzu University Library in Malawi. The researchers conducted interviews with librarians and did content analysis of WhatsApp posts. Data was analysed thematically. Findings revealed that WhatsApp has successfully been used to deliver a number of user and reference services to students and staff. Notwithstanding this, a number of technical, human resource and service-related factors were discovered to be affecting the delivery of services hence these need to be addressed. It is therefore recommended that Library Management should take steps to address these challenges to ensure efficient and effective service delivery.*

KEYWORDS: *WhatsApp, library and information services, library reference services.*

BACKGROUND TO THE STUDY

WhatsApp is a cross-platform encrypted instant messaging application developed by Brian Acton and Jan Koum in 2009 Anderson (2016, 11) but owned by Facebook since 2014 Ansari and Tripathi (2017, 58). It is available for both PC and smartphones, and uses the Internet to send text messages, images, audio messages, videos, documents, user location, and contacts to other users. WhatsApp is free from adverts that inconvenience users in other social media technologies Aharony (2015, 137), and had over 1.5 billion users by August 2019 Lee (2019).

The popularity of WhatsApp, more especially amongst the younger generation Nyasulu and Chawinga (2019, 413), makes it an ideal platform for the delivery of library and information services. Moreover, Ansari and Tripathi (2017, 363) discovered that users' attitudes towards the use of WhatsApp in the delivery of library services are favourable as they view it as a vehicle for the provision of better services. There is also evidence that WhatsApp is increasingly being deployed in libraries. In India, for instance, WhatsApp has been used successfully by a number of academic libraries to promote library services and new acquisitions, to connect with potential users, to provide customer services and as a communication tool amongst librarians Sahu, (2016, 304-305). In the context of Malawi, the Lilongwe University of Agriculture and Natural Resources (LUANAR), Kamuzu College of Nursing (KCN), The Polytechnic and Mzuzu University (MZUNI) libraries, all indicated that they were planning to offer their services through WhatsApp Chaputula and Mutula (2018, 58-59). The use of WhatsApp in the delivery of library services has several benefits. These include increasing the engagement and interaction among library staff and their users, helping in gathering feedback to enhance user services, increasing the utilisation of library content, maximising the utilisation of documents, and facilitating collaboration and promoting effective communication between library staff and their patrons Ansari and Tripathi (2017, 361).

CONTEXT OF THE STUDY

Mzuzu University Library was established in 1998 to serve the information needs of staff and students of its parent institution. The Library serves close to 6,000 undergraduate and postgraduate students pursuing their programmes through face to face and Open, Distance and eLearning (ODEL) modes plus over 200 academic members of staff Mzuzu University Enrolment Statistics August (2019, 1); Mzuzu University Staff List (2018, 2).

Mzuzu University Library introduced the Reference Desk in 2013 to assist in facilitating access to information and adequately serve the blossoming student population. The Reference Desk embraced the use of social media to better serve the needs of its clients. WhatsApp is one of the social media applications that was introduced in 2017 when the Library received a donation of 12 tablets from a US-based donor.

STATEMENT OF THE PROBLEM

Several studies conducted in Malawi have reported on the use of social media and mobile instant messaging tools such as WhatsApp in academic activities and libraries. A study conducted by Chawinga (2016, 107-116) reported the general uses of social media in academic institutions. Another study conducted by Nyasulu and Chawinga (2019, 413-429) reported on the use of WhatsApp for academic activities. However, no study has reported on the use of WhatsApp in academic libraries in Malawi let alone the service which was recently introduced at the Mzuzu University Library. This means that very little is known about the service offering and its effectiveness. The use of WhatsApp in libraries has the potential to reach out to under-served distant clients 27/7. This study was therefore undertaken to address the existing knowledge gap and the following objectives:

- To identify services that are offered using WhatsApp at the Mzuzu University Library Reference Desk;
- To assess the effectiveness of the services offered through WhatsApp; and
- To determine factors that affect the delivery of services offered through WhatsApp at the Mzuzu University Library Reference Desk.

THEORETICAL FRAMEWORK

The study used the Diffusion of Innovation (DOI) theory as an anchoring model. DOI theory describes the process through which new ideas, practices, or technologies are spread into a social system Rogers (2003, 11). DOI posits that there are four key elements that explain the diffusion of innovations within a particular context. These elements are: (1) innovation (2) communication channels (3) time and (4) social system. DOI has become such a popular theory that the book that introduced the theory is now in its 5th edition.

The DOI theory was chosen to be used in this study because it is well established and widely used in information technology (IT) diffusion-related research. The popularity of the model is reflected in that it has been used and revised several times, and it is the basis of most of the models that attempt to explain the factors affecting whether an innovation will be shared and adopted by other individuals and organisations Aizstrauta, Ginters, and Eroles (2015, 73).

METHODOLOGY

The study adopted the case-study research design that incorporated a convergent mixed methodological approach. Multiple data collection methods were used. Firstly, the researchers conducted in-depth semi-structured interviews with five librarians that were either working or had worked at the Reference Desk for a period of not less than 6 months. Secondly, the researchers conducted a detailed content analysis of WhatsApp posts for one of the two tablets deployed to the Reference Desk. The qualitative data realised from the interviews and document analysis were content analysed, and findings reported based on themes.

LITERATURE REVIEW

Studies focussing on the use of WhatsApp abound in the literature, signalling a growing interest of researchers on the topic. Besides detailing how the application is used, the studies further discuss the benefits accrued through its usage but also tackle challenges associated with the usage of the mobile application. Abok and Kwanya (2016, 147-155) investigated how academic libraries in Kenya can maximise the potential of social media to deliver their services by using the Technical University of Kenya Library as a case study. Data was collected from students and librarians through interviews. Findings indicated that academic libraries in Kenya use a number of social media applications, WhatsApp included, to among others, facilitate the sharing of information resources, provide reference services, form professional networks, and promote library services. Some of the benefits associated with the use of WhatsApp in academic libraries in Kenya include saving of time for searching, accessing and using information, reduction in costs associated with space, and enhanced promotion of library services and products. However, lack of adequate ICT infrastructure, human resources and appropriate policies were discovered to be hampering the delivery of services through WhatsApp.

Chaputula and Mutula (2018, 52-69) carried out a mixed methods study that investigated the provision of library services through mobile phones in three Malawian universities. Findings revealed that only one library had fully implemented the provision of library services through the use of mobile phones while the rest were planning to introduce the same focusing on WhatsApp. Findings further revealed the existence of some factors that could impact the offering of library services through mobile phones. The major ones being network quality, high mobile telecommunications service costs, and availability of skilled staff. These challenges are similar to those that came up in an earlier study conducted by Abok and Kwanya (2016) in Kenya.

In yet another study, Sahu (2016, 302-308) employed a social survey approach to examine how librarians are adopting social media tools to promote a number of library activities. An online questionnaire was administered to a sample of 45 engineering college librarians, attracting a response rate was 88.9%. The study findings revealed that WhatsApp was one of the heavily used social media tools in the libraries studied. The application was used as a way of attracting new acquisitions in terms of library collections and enrolment of new users, provision of customer services, and for communication among librarians. The study concluded that while the use of social media tools was blossoming in libraries, it had not yet reached maturity.

RESULTS AND DISCUSSION

Services offered using WhatsApp at the Mzuzu University Library Reference Desk

The study found that Mzuzu University Library launched the WhatsApp service in 2018 although the “exact date is not known”. According to one of the librarians interviewed, the service was started “when Mzuzu University Library received tablets from a donor based in the United States [of America]” as part of the recovery effort of the fire disaster the Library experienced in the night of 18 December 2015.

An analysis of the interviews conducted shows that there were many reasons that were behind the establishment of the WhatsApp reference service. One librarian indicated that “a lot of people don’t like coming to the library and hence the library wanted to reach out to them.” Another stated that “the library is aware that each and every person has a mobile phone which they can use to access information from the library while they are in their homes.” Yet another librarian said that the aim was “to assist people who feel shy when requesting information physically [inside the library].” One more librarian indicated that “ODEL [Open, Distance and eLearning] users only access information through WhatsApp since they do not have libraries where they can get information when they are at their homes.”

Although a number of reasons were given as the reason behind the establishment of the WhatsApp service, all of them seem to be converging on one main theme: the library's desire to serve people from a distance. This is in line with current global trends in library service provision whereby libraries are deploying various information and communication technology gadgets with the aim of reaching out to distant users and also to provide around the clock accessibility to library services. This finding reflects other findings obtained in a study conducted by Abok and Kwanya (2016) where it was discovered that academic libraries in Kenya use WhatsApp in service provision. Some of the benefits accrued through the use of WhatsApp include the saving on time for searching, reduction in costs associated with space, and enhanced promotion of library services. It is hoped that the effective use of the WhatsApp service in the Mzuzu University Library can lead to the realisation of similar benefits.

The study has established that there is a large number of services that are offered through the WhatsApp service. One librarian commented that WhatsApp is used for "downloading information especially past papers, books and other research works from the institutional repository". What happens is that students make requests for past papers and e-books which are downloaded from the Mzuzu University Institutional Repository and open source websites respectively. After downloading, the items are sent to the students through WhatsApp. Another librarian stated that the service is used for "screen shooting pdf documents for sharing with users" and "to find information from electronic journals." Yet another librarian commented that "the services offered include answering users' queries and inquiries using WhatsApp at the Reference Desk." This could be termed general research advice. Other services offered through the WhatsApp service include "citation and many other things", "providing information services such as pdf documents", "answering clients queries", "teaching users how to search information", and "downloading information for research for 3rd and 4th level students."

With regards to the main users of the services provided through WhatsApp, one librarian indicated that the "main users are students especially ODeL students who are far away from campus." However, responses given by two other librarians show that the range of patrons is broader as one librarian said that "ODeL, face to face students, and lecturers" patronise the service whilst another stated that "staff members including ODeL students and face-to-face students" patronise the service. One other librarian stated that "generic students especially level ones" patronise the service and another librarian was of the opinion that "ODeL students outnumber face to face students." These findings show that the WhatsApp service has a large number of patrons that include students (face to face and ODeL) and academic staff. Much as this is the case, ODeL students seem to be the main users of the service.

The researcher conducted content analysis of one of the tablets deployed to the Reference Desk to determine the kind of queries that are received. Findings are presented in Table 1.

Table 1: Analysis of the queries received through WhatsApp at the Reference Desk

Programme of study	Level of study	Types of queries received	Total queries received
BAE	1	28 e-books + 58 Exam past papers.	86
	2	12 e-books + 35 Exam past papers.	47
	3	31 Exam past papers.	31
	Level of Study Unknown	7 e-books	7
BScE	1	6 e-books + 3 Exam past papers.	9
	2	1 Exam past paper.	1
	3	3 Exam past papers.	3
BICT	2	8 Exam past papers.	8

BLIS	3	1 e-book	1
Forestry	2	5 Exam past papers.	5
Nursing	2	4 e-books + 2 Exam past papers.	6
Security Studies	4	1 e-book	1
MLIS	Masters	9 e-books	9
MSWRM	Masters	2 e-books	2
Total		66 e-books + 150 past exam papers	216

An analysis of the data captured in Table 1 shows that most of the queries received through WhatsApp at the Reference Desk were in the form of examination past papers (150) and e-books (66). These findings correspond with those obtained through interviews that identified past examination papers and e-books as the main services accessed through WhatsApp. Further analysis of the data revealed that a vast number of the queries (171; 79.2%) originated from BAE (Bachelor of Arts Education) students with those in Level 1 (86; 39.8%) and Level 2 (47; 21.8%) making the most requests. BScE (Bachelor of Science Education) students made the second highest number of queries 13 (6%). Although the study did not establish how students accessing services through WhatsApp were pursuing their studies, data shows that the BAE and BScE programmes have more students pursuing their studies through the Open, Distance and eLearning mode Mzuzu University Enrolment Statistics September (2018, 1). It is therefore possible that most of these queries were filed by ODeL students who have been found to be the main users of the service.

Effectiveness of the services offered through WhatsApp

The researchers posed a number of questions to the librarians that were aimed at gauging the effectiveness of the WhatsApp service. As the study had already established that ODeL students were the main users of the WhatsApp service, the researchers sought to find out why and when students do not use the service. In this regard, one respondent stated that “generic students rarely use WhatsApp because they come to the library on their own to ask questions, they may have at the Reference Desk or download [materials they need] themselves.” It was also indicated that ODeL students do not use the WhatsApp service much “when they are on campus because they think it is not necessary.” This implies that perception about the effectiveness of the WhatsApp service is determined by programme of study, time and location.

The researchers further sought to find out the type of feedback librarians managing the Reference Desk get pertaining to the effectiveness of the WhatsApp service. It was found that mixed reactions are expressed by users of the service, and this is determined by one's experience, with others exhibiting positive views whilst others displayed negative sentiments. On the positive side, one librarian remarked that “students give positive feedback congratulating Mzuzu University Management for starting the WhatsApp Service.” Another librarian commented that “students appreciate due to lower cost of accessing information from the library through the use of WhatsApp.” Yet another librarian stated that “students’ express thankfulness when they are assisted.” On mixed feedback was noted that “users are appreciative of the service but they complain that they receive feedback very late.” Another librarian remarked that: “In most of the cases if they are satisfied, they appreciate, but in most of the cases they do not give feedback.” On the negative side, the following findings were made: “We receive negative comments when you [librarian] take days to respond to the queries.” Another librarian said that “not many students give feedback when assisted.” Although the feedback received on the operation of the WhatsApp service is mixed, much of it leans on the positive side. It can therefore be said that the service is largely effective.

Librarians were further asked to rate the performance of the WhatsApp service. Again, findings show mixed views pertaining to the performance of the service. One librarian indicated that the service is “timely and helpful”. Another librarian commented that the service “is good.” Yet another librarian indicated that the service is “not quite good since only a small percentage [of users] were beneficiaries.” Still another librarian

commented that the service is “still in the developing stage.” The feedback received shows that the service has lots of potential but still needs some perfecting. Just as it has been noted in other mobile library services Chaputula and Mutula (2018, 58-59), the WhatsApp service may be facing some of these challenges probably because it may not have reached maturity stage.

The researcher did a content analysis of the interactions between librarians and users using WhatsApp. Results revealed that 177 queries of the 216 received representing 81.9% were responded to. Only 39 (18.06%) queries were not responded to. Further analysis shows that 129 (72.9%) users expressed satisfaction with the assistance they received. On the contrary, 48 (27.1%) users expressed dissatisfaction. These findings signify that the service was better managed hence effective.

Factors affecting the delivery of services offered through WhatsApp at the Mzuzu University Library Reference Desk

The researcher asked respondents to indicate the factors that are affecting the delivery of services through WhatsApp. An analysis of the responses shows that the factors fall into three main categories: Technical, human resource and service-related factors. However, the technical-related factors were many, and were frequently cited by almost all the librarians interviewed.

Some of the technical-related factors raised were that the “computer does not have enough space to enable us to download information.” [Here reference was made to the desktop computer stationed at the Reference Desk which librarians use to download some of the content requested by users before transferring it to the tablet for onward delivery to users through WhatsApp]. Still on the same, another librarian stated that “it seems like the space of the computer is running out so it gives us problems to download.” Other technical-related comments received focussed on the tablet and network connectivity. With regards to the tablets, one librarian indicated that “one tablet had challenges in connecting to the network” whilst another librarian observed that “one tablet has developed a fault and users who used to access library services [through that line] cannot reach library staff.” Yet another librarian emphatically stated that “gadgets [tablets] are not enough.” A number of other comments were raised in relation to the network. One librarian complained that “in most cases the network drags and this makes us to take more time to respond to users’ queries.” Another librarian said, “Internet connectivity becomes very slow when providing responses to user queries.”

Similarly, a number of service-related factors were raised by the respondents that affected the operations of the WhatsApp service. One librarian bemoaned the nature of requests received indicating that they are repetitive, thus saying: “Students ask for the same service each and every day instead of doing it on their own i.e. downloading past papers today and they come tomorrow to ask for the same information.” Findings displayed in Table 1 have shown this to be true. A probable explanation to this scenario is what was expressed by another librarian who indicated that “some people do not understand what we provide at the Reference Desk.” Considering that a number of other services such as “general research advice” and “proper citation styles” are offered, if this explanation does not hold then it is possible that users do not find the other services to be of value to them. Another service-related factor that came up in the study is failure to receive and respond to user queries on time due to network challenges. It was also noted that some students do not share their numbers because they are shy. On the human resource factors, it was noted that staff is inadequate which makes it difficult for them to serve clients at the Reference Desk in addition to those who post their requests through WhatsApp. It was further noted that the staff have challenges in search techniques which needs to be addressed. Similarly, a study by Chaputula and Mutula (2018, 58-59) that investigated the provision of library services through mobile phones in public universities in Malawi noted that technical, human resource and service-related factors need to be overcome to ensure smooth delivery of services through mobile phones.

CONCLUSION AND RECOMMENDATIONS

This study investigated the use of WhatsApp as the platform for the delivery of library services in the Mzuzu University Library in Malawi. The researcher conducted interviews with librarians and also did content analysis of WhatsApp posts. Data was analysed thematically. Findings revealed that WhatsApp has successfully been used to deliver a number of user and reference services to students and staff. Notwithstanding this, a number of technical, human resource and service-related factors were discovered to be affecting the delivery of services hence need to be addressed. It is therefore recommended that Library Management should take steps to address these challenges to ensure efficient and effective service delivery.

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GEO-SPATIAL MAPPING OF LIBRARIES TO ENHANCE OPTIMAL ACCESS TO LIBRARIES AND GLOBAL VISIBILITY

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ABSTRACT: *This paper reflects on a project by the National Library of South Africa to utilise digital technology in the form of geo-spatial mapping to improve the exchange and dissemination of knowledge regarding public libraries in South Africa. The objectives of the project are aligned with the United Nations Sustainable Development Goals and aim to promote optimal accessibility and global visibility of libraries, enable and empower library users and potential users as well as researchers and related stakeholders to locate public libraries. The project entails a collaborative partnership between the National Library of South Africa and the Provincial Library Services in South Africa and emphasise the need and value of institutional partnerships in the library and information services sector to facilitate access and availability to library collections.*

KEYWORDS: *National Library of South Africa, geo-spatial mapping, public libraries, digital technology.*

INTRODUCTION

The application of geographic information systems (GIS) within the context of library and information services (LIS) falls primarily within two categories according to Mandel, Bishop and Orehek (2020). These two categories are an analysis of:

- (a) “library service populations and related adjustments to facilities and services based on user-demographics and other variables; and
- (b) an analysis of collections, in-library and other facilities-based use.”

The National Library of South Africa (NLSA), by virtue of its legislative mandate as the “custodian and provider of South Africa’s key knowledge resources”, has identified the use of geo-spatial mapping as a mechanism to exchange knowledge regarding the accessibility of provincial library services within the country National Library of South Africa (2019). Geo-spatial mapping technology facilitates the function of the NLSA which relates to “promoting optimal access to published documents nationally and internationally”. Additionally, geo-spatial mapping technology also promotes and provide impetus to several more functions of the NLSA. These includes:

- Promoting awareness and appreciation of the national, published documentary heritage; and promoting information awareness an information literacy;
- Providing leadership, guidance and advice to South African libraries and information services;
- Undertaking research and development; and
- Liaising with libraries and other institutions in and outside South Africa. National Library of South Africa (2019).

The National Library of South Africa Act, Act No. 92 of 1998, Section 3 states: “The NLSA is mandated to contribute to socio-economic, cultural, educational, scientific, and innovative development by collecting, recording, preserving and making available the national documentary heritage and promoting an awareness

and appreciation thereof, by fostering information literacy, and by facilitating access to the world's information resources" National Library of South Africa (2019).

The use of GIS in the form of geo-spatial mapping to provide access to public and community libraries by the NLSA therefore facilitated an extension of the two categories of GIS applications within LIS as indicated by Mandel, Bishop and Orehek (2020). The use of geo-spatial mapping technology by the NLSA served to promote the use of geo-spatial mapping by to support literacy and the strengthening of the reading ecosystem in South Africa. It is therefore evident that although the adoption and utilisation of geo-spatial mapping primarily facilitated knowledge sharing in respect of provincial libraries it also had secondary benefits for the NLSA since it contributed towards the realisation of various sustainable development goals (SDGs) aimed at literacy as a basic human right.

Siddiqi (2017) states that "Geospatial technology, commonly known as geomatics, refers to technology used for visualization, measurement, monitoring, and analysis of features or phenomena that occur on the earth. Siddiqi (2017) continues by confirming the relevancy of geospatial technology including mapping in respect of the realisation of SDGs and state that interconnected technologies [such as geospatial technology] leverages vital information and communication technologies to positively impact the community, preserve the environment, and improve health. Investments in human and social capital and infrastructure through the adoption of technology play a critical role in creating sustainability.

BACKGROUND AND PURPOSE

The purpose of this paper is to reflect on a collaboration between the NLSA and the Provincial Library Services to use geo-spatial mapping technology to provide access to public and community libraries. Although, the primary objective of the project was to utilise geo-spatial mapping technology in an effort to facilitate improved and enhanced access to provincial libraries it soon became evident that the project also has a substantial impact in terms of three adjacent yet related areas. These three areas are:

- Promoting literacy;
- Realisation of SDGs;
- Incorporating digital technologies.

The project contributed towards promoting a culture of reading and additionally enabled a more informed understanding of the reading ecosystem in South Africa. The NLSA together with institutional LIS stakeholders such as the Provincial Library Services are responsible for inculcating a culture of reading amongst South Africans. Mandla (2020) states that "Over the years, several role players have been working in the reading space, driving programmes and projects that are meant to convert South Africa into a reading nation, especially with regard to leisure reading. Whereas anecdotal evidence suggests that some of these programmes are beginning to bear fruits, a study by the South African Book Development Council published in 2016 has found that very small strides have been made over the last few years, and that a lot more needs to be done if South Africa is to achieve significant levels in terms of leisure reading. Some of the criticisms levelled against these initiatives are that they are not sustainable and continuous in nature and hence fail to achieve the necessary impact and value. Literacy is a human right. It is implicit in the right to education. It is recognized as a right, explicitly to both children and adult. Literacy should be understood within a rights-based approach and among principles of inclusion for human development. The rationale for recognising literacy as a right is the set of benefits it confers on individuals, families, communities and nations. It is included in key international declarations:

- 1948: Universal Declaration of Human Rights;
- 1966: International Covenant on Civil and Political Rights;

- 1966: International Covenant on Economic, Social and Cultural Rights;
- 1960: Convention Against Discrimination Education;
- 1975: Persepolis Declaration – ‘Literacy is not an end in itself. It is a fundamental human right’;
- 1979: Convention on the Elimination of All Forms of Discrimination Against Women;
- 1989: Convention on the Rights of the Child explicitly recognises literacy not just education;
- 1990: The World Declaration on Education for All;
- 1993: Vienna Declaration and Programme of Action emphasises the use of human rights – informed education as a means of combating illiteracy;
- 1997: Hamburg Declaration: ‘Literacy, broadly conceived as the basic knowledge and skills needed by all in a rapidly changing world, is a fundamental human right’ (Resolution 11, UNESCO);
- 2003: UNESCO round-table report Literacy as Freedom: literacy must be understood within a rights-based approach and among principles of inclusion for human development;
- 2005: UNESCO B@bel Initiative.

Mandla (2021) explains that “Literacy has been recognised not only as a right in itself but also as a mechanism for the pursuit of other human rights, just as human rights education is a tool for combating illiteracy. Literacy, besides being a fundamental human right, is a foundation not only for achieving Education for All but, more broadly, for achieving the overarching goal of reducing human poverty. And yet, 140 million adults in sub-Saharan Africa lack the basic learning tools to make informed decisions and participate fully in the development of their societies. In addition to being a right in itself, literacy allows the pursuit of other human rights. It confers a wide set of benefits and strengthens the capabilities of individuals, families and communities to access health, educational, economic, political and cultural opportunities. Yet, on average, less than sixty per cent of the total adult population in sub-Saharan Africa can read and write with understanding – one of the lowest adult literacy rates in the world Mandla (2021).

Although the project largely contributed towards improving access to libraries and supported a better and more informed understanding of the reading ecosystem in South Africa it also facilitated the achievement of several SDGs. Evidently and according to the United Nations (2015), access to information and knowledge is a “cross-cutting” responsibility and have an impact on all the SDGs. The United Nations (2015) further articulates the way in which libraries should contribute toward the realisation of by:

- Promoting universal literacy, including media and information literacy, and digital literacy skills;
- Closing gaps in access to information and helping government, civil society and business to better understand local information needs;
- Providing a network of delivery sites for government programmes and services;
- Advancing digital inclusion through access to Information and Communication Technology (ICT) and dedicated staff to help people develop new digital skills;
- Serving as the heart of the research and academic community;
- Preserving and providing access to the world’s culture and heritage.

The United Nations (2015) concludes by stating that “libraries can support the implementation of the SDGs by providing access to information, support for literacy and ICT skills, and access to community space.”

As early as in 2000 the United Nations (2000) indicated that the use of digital media in the LIS sector will improve the exchange of knowledge, optimal accessibility to libraries and global visibility. The NLSA therefore responded to the 2000 call for action by the United Nations and developed an interactive web portal that features the geo-mapping and contact details of the public and community libraries in South Africa. The project supported the SDGs through the effective collection, use and sharing of data within the library sector and promoted optimal accessibility and global visibility, enable users, potential users, researchers, and government officials to locate public libraries with ease.

METHODOLOGY

The geo-spatial mapping project was a collaboration between the NLSA and the South African Provincial Library Services as well as related stakeholders to obtain detailed data regarding the location of provincial and community libraries. The portal was developed on a web based Joomla platform that is linked to Google maps. The portal which consists of a visually enabled view of the location of libraries also highlights the library activities, and provides the contact details of public and community libraries in South Africa. Furthermore, the portal serves as the initial platform to share SDG success stories through a strong commitment to global partnership and cooperation. The portal will be enhanced by including and facilitating links to include social media platforms and multimedia blogs to upload video clips of library activities, membership of the libraries, opening and closing times, e-learning resources and library flagship collections. The afore is a critical outcome of the library portal project as it has been proven that younger readers often prefer to include social media as a mechanism to obtain information and knowledge. It is therefore critical that information about libraries are made accessible and available to younger generations by means of the inclusion of social media approaches.

Some of the challenges which have been associated with the project and which serve as critical determinants of the success and hence the sustainable and adoption of geospatial mapping projects in LIS are listed below:

- **Monitoring and evaluation:** The need to ensure that the contact details of libraries are accurate and updated when they change as well as the importance of regular communication with libraries to be informed of changes;
- **Training:** The library web portal needs to be user-friendly and content creators responsible for uploading content to the portal needs to be adequately skilled;
- **Marketing and advocacy:** The portal should be marketed for greater impact as well as to gauge the adoption and usage of the initiative and to identify areas for continuous adjustment and improvement;
- **Planning and coordination:** The complex nature of a geospatial mapping project necessitates the incorporation of a project plan and sound project management principles to ensure that the critical components relating to the project such as content management, coordination, control, monitoring and evaluation as well as continuous learning and improvement occur in a coordinated and facilitated yet measurable manner.

The implementation of the project facilitated the immediate identification of areas for consideration to enhance the library web portal. These areas for consideration and further development are listed below:

- **Research and innovation:** Ongoing research regarding the use and application of geo-spatial mapping technology to ensure that the library web portal remains aligned to best practices information and communication technology practices including mobile devices;
- **Centralisation:** The need for enhanced coordination and control through establishing a project management office to facilitate the various components of the project including the portal, the content management system, marketing and advocacy as well as research and development;
- **Stakeholder inclusion and management:** The inclusion of information regarding the entire reading ecosystem and in particular stakeholders such as the LIS sector and government by means of social media applications. The afore enhances collaboration and partnerships between stakeholders and facilitate an increase in participation in the project;
- **Sustainability:** The project can be replicated and extended to various locations in neighbouring African countries through collaboration and in liaison with LIS institutional partners such as the African Library and Information Associations and Institutions (AfLIA) and the Standing Conference of Eastern, Central and Southern African Library and Information Associations (SCECSAL).

CONCLUSION

The NLSA anticipates the utilisation of geo-spatial mapping technology by the Eastern, Central and Southern African states as a key initiative to strengthen collaboration between institutional partners in the LIS sector. The afore would contribute to the realisation of SDGs but also serve as a mechanism to ensure that literacy and the reading ecosystem is bolstered and enhanced in and across the African continent. The incorporation and adoption of digital technologies in the form of geo-spatial mapping provide evidence of the commitment of the LIS sector towards embracing cognitive technologies associated with the Fourth Industrial Revolution in an effort to exchange knowledge and experiences. The NLSA's library web portal project is part of harnessing the capacity of ICT to ensure inclusion, raising the visibility of libraries in the African continent and institutional partnership for the achievement of SDGs. Furthermore, the initiative endorsed the principles adopted at the declaration and treaty of the Southern African Development Community (SADC) in August 1992 which stated that the one of the key founding objectives of the SADC was the "forging of links to create a genuine and equitable regional integration" in and across the African continent. The sustainability of the NLSA's library web portal initiative can only be ensured through ongoing research and close collaboration between stakeholders in the LIS sector (SADC countries, Library and Information Association of South Africa (LIASA), SCECSAL), such as the continuous improvement of the library web portal with new developments and adjustments in respect of geo-spatial mapping technology.

The NLSA will pursue and embrace partnerships with the SADC countries, LIASA, AfLIA, SCECSAL, Standing Conference on African national and university librarians – Eastern, Central and Southern) to enhance access to public and community libraries by means of incorporating data created by means of geo-spatial mapping technology.

RECOMMENDATIONS

The empirical nature of the collaborative project that the NLSA has embarked on together with the Provincial Library Services resulted in the identification of several thematic areas that necessitate further research relating to the adoption and utilisation of geo-spatial mapping technology. These thematic areas are:

- The incorporation of data relating to the location and services of public and community libraries into smart city strategies in Africa;
- The incorporation of radio frequency identifier technology to facilitate geo-spatial mapping of collections in public and community libraries;
- The development of an ICT strategy to facilitate the introduction and adoption of Fourth Industrial Revolution technology in public and community libraries in Africa.

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TECHNOLOGY-BASED LIBRARY ORIENTATION AND USER EDUCATION PROGRAMME: STRIDES MADE BY MZUZU UNIVERSITY LIBRARY

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ABSTRACT: *The aim of this study was to explore strides made by Mzuzu University Library and Learning resources in the implementation of a technology-based library orientation and user education programme. The study used the qualitative approach whereby data was collected through interviews conducted with 5 librarians and one focus group discussion conducted with 16 students. Data was analysed through content analysis, and findings presented using themes. Findings of the study revealed that implementation of technologically based library orientation has resulted in the commencement of informational and instructional programmes packaged in a way that makes their delivery to students on campus and remote places easier. Desktop and laptop computers, LCD projectors and library websites are all used in the delivery of the programme by the library while students use laptop and desktop computers, smartphones and tablets to access the services offered by the library. Inadequate computers and bandwidth, lack of digital skills and administrative inefficiencies are the factors militating against the effective delivery of the programme. This study, therefore, recommends that Management of Mzuzu University Library should take necessary steps to address the administrative and technical hitches that have marred the implementation of the technologically-based library orientation and user education programme to ensure that it becomes a success.*

KEYWORDS: *Library orientation, library technologies, information access, technology-based library orientation.*

CONCEPTUAL SETTING

Students in academic institutions need to be independent, self-directed learners Kift, Nelson, and Clarke (2010, 5) in order to improve their writing, research and critical thinking skills Bovill, Bulley, and Morss (2011, 3). This is facilitated by a well-equipped and stocked library. However, libraries are also places where students face various challenges and anxiety due to unfamiliarity with the host library's services and spaces, as well as the prevailing academic and information use conventions Hughes (2010, 4); Hughes (2013, 2); Liu (2013, 39). To overcome this problem, libraries offer orientation and user education programmes to enable users identify, access, retrieve and use information they need Donald, Harmon, and Schweikhard (2012, 594). Library orientation has traditionally been offered using the face-to-face mode. However, the pervasiveness of portable technological devices such as smartphones and laptops, coupled with increased access to the Internet, implies that library orientation programmes can now be easily offered through electronic means. The use of technological tools in library orientation programmes has assisted to overcome geographical and language barriers Madhusudhan and Verma (2008, 1), and also proven to be an effective way of offering information in a short span of time, convenient and flexible in scheduling time Madhusudhan (2010, n.p.).

LITERATURE REVIEW

Strides made by university libraries

In order to get some basic information about the online tutorials practiced by libraries, Haahr (2008, n.p) used a random number generator to get a random selection of 100 colleges and universities from Peterson's list of Four-Year-Colleges 2008. A total of 372 online information literacy tutorials from the library website of the academic institutions were examined. The findings indicate that 33% of the surveyed libraries have developed their own online tutorials. About 11% have links to online tutorials created by other libraries or database vendors. To describe the teaching programmes or online tutorials, about 17% of the libraries used the term "information literacy" rather than "library instruction".

A study by Mikkelsen and Davidson (2011, 67) at Mason Library reveals that its library orientation was delivered using a dynamic multimodal presentation. First segment of the library's orientation session comprised a short video tour of the library. The purpose of the video was to introduce new students to the library space and show how the library is used by peers.

Another study by Schrecker (2017, 10) at Ashland University in Ohio United States of America reveals that the library introduced a student orientation module in Blackboard which was envisioned as a point-of-need resource, a place for students' access and review of library information at any time. Library tours and tutorials were designed to support the content, and instructional videos that were developed for teaching and learning.

Technology used by university libraries

EDUCAUSE tracked digital technologies that undergraduate students own and use in their academic work. The most popular devices owned by students were smart phones and laptops Galanek, Gierdowski, and Brooks (2018, 7). All of these have the capability of allowing access to information without imposing any restrictions on time or place. Mobile devices have become the main way in which users connect, communicate and discover. Libraries use mobile devices in the delivery of library services. For example, the services offered on mobile library websites include: user account, library catalogue, mobile-adaptive databases, Instant Messaging (IM), Short Messaging Service (SMS) reference services, working times, personnel, links to the Twitter/Flickr/YouTube/Facebook pages of the library, room and locker reservations, and links to the libraries main internet sites Tay (2014, n.p.). Temasek Polytechnic Library in Singapore indicated that its mobile application includes a time saving feature such as ISBN barcode scanner to check for item availability and a fun game called 'Spin Me', which recommends good reads when a user shakes his/her mobile device Sabaratnam and Ong (2013, 113).

Roth et al. (2016, 36) used the case study design to investigate the possibility of using the Edventure Builder platform to create a scalable, interactive, online library orientation activity. Findings revealed that the Edventure Builder software is intuitive, scalable and provides a variety of options to users, including flexibility in question format, and branching logic.

Sabaratnam and Ong (2013, 103) indicated that the Singapore University of Technology and Design library adopted new technologies such as surface computing, writable tables and interactive tools to promote collaborative research and learning where groups can share the same surface to discuss, search, save and go.

Challenges faced by university libraries

Making information and information communication technologies available to the world is not enough. Our education systems need to ensure that today's learners are empowered to learn and to take their place in the learning society. Marzilli et al. (2014, 10-11) observed that the lack of digital literacy skills among faculty and students, lack of competencies to adopt and implement technology, and unreliable hardware and software platforms are key barriers in teaching learning and research which are key goals of academic institutions.

CONTEXTUAL SETTING

Mzuzu University Library started operating in 1998 upon the established of Mzuzu University by an Act of Parliament in 1997 as a second public university in Malawi. The Library currently serves over 6000 students and 200 academic staff from six faculties namely: Faculty of Education, Faculty of Environmental Sciences, Faculty of Tourism, Hospitality and Management, Faculty of Science Technology and Innovation, Faculty of Humanities and Social Sciences, and Faculty of Health Sciences Mzuzu University Staff List (2018, 2); Mzuzu University Student Information Handbook, (2018, 6). Currently, Mzuzu University Library has 23000 volumes of print books, 42 electronic databases and a well-stocked institutional repository hosting theses and dissertations other resources.

The Library has a sitting capacity of 400, and the service range provided include reader and reference services including lending services. Reference services are provided from the Reference Desk whilst lending services are accessed from the Short Loan/Course Reserves Counter, Long Loan Counter and Malawiana and Special Collections. The Library also registers students' tablets, laptop computers and smartphones to enable owners' access electronic journals and books through its WIFI. Students who do not own any of these gadgets access e-resources in the E-Library section of the Library.

The Library plays an important role of providing information resources to support information needs of the university. To ensure that staff and students are acquainted to the resources and services offered in the library, an orientation programme is given to new students and academic staff. To successfully reach out to the huge numbers of students that get enrolled into the University, some of whom do not physically attend the orientation sessions conducted at the beginning of the semester, Mzuzu University Library introduced a technologically-based orientation programme a few years ago.

PROBLEM AND PURPOSE OF THE STUDY

One of the notoriously busy time for most library staff is at the start of the new academic year. This is such the case because librarians are busy with orientation and user education programmes, and consequently library tours are conducted in a hurried manner. Introductory classes only focus on generic information skills and referencing conventions, disconnected from the students' course requirements. This can be confusing, even alienating, for new students Hughes (2016, 126). Ideally, orientation sessions should be conducted frequently with students and faculty in academic libraries to develop and sharpen their skills on how they can conduct research in the library and also update them on new resources the library has acquired. Mzuzu University launched the technology-based library orientation in 2017. However, to-date no evaluative study has been conducted to assess the impact this service has had on its users. The purpose of this study, therefore, is to evaluate strides Mzuzu University Library has made in implementing the technology-based library orientation and user education programme.

QUESTIONS

This study was guided by the following research questions:

- What strides has Mzuzu University Library made in the implementation of technology-based library orientation and user education programme?
- What technologies are used in the implementation of orientation and user education programme at Mzuzu University Library?
- What are the challenges that Mzuzu University Library is facing in the implementation of technology-based library orientation and user education programme?

THEORETICAL FRAMEWORK

This study was guided by the Technology Organisation and Environment (TOE) framework introduced by Tornatzky and Fleischer in 1990. TOE framework is an organisational level theory that states that three different elements of a firm's context influence technological adoption decisions. These three elements are the technological context, the organisational context, and the environmental context. All the three are posited to influence technological innovation in an organisation Angeles (2014, 96-97). The TOE Framework has also been used in related studies. Gutierrez, Boukrami, and Lumsden (2015, 788-807), for instance, used the TOE framework in the study of factors influencing managers' decision to adopt cloud computing in the UK.

METHODOLOGY

This study adopted a case study design that made use of qualitative research method. Data was collected through in-depth semi-structured interviews with a purposively selected sample of 5 librarians, and one focus group comprising 16 Level 5 Bachelor of Education Students, making a total sample of 21 participants. Librarians were included in the study because they plan and manage the orientation and user education programme. Conversely, selection of Bachelor of Education students was based on ease of accessibility and their having spent more time on campus hence able to provide rich sources of data for the study. Data collected from interviews were transcribed in MS Word, analysed through content analysis, and reported using themes.

FINDINGS AND DISCUSSION

Strides made by Mzuzu University Library in the implementation of technology-based library orientation and user education

Results from the interview and focus group discussion revealed that a number of strides have been registered in the implementation of technology-based library orientation and user education programme. Firstly, academic staff and students are able to access orientation content whenever they want it and from wherever. This has been achieved because the Library has uploaded informational content on its user and reference service offering, and instructional content on e-journal access, use of the catalogue and access to print resources on to its website. The content is in a form of videos, audio clips and brochures on to its website. This content can be downloaded at the user's convenient time using personal ICT gadgets and Library computers and is used to supplement library tours and instructional sessions librarians organise for new students. These initiatives have improved the delivery of the library orientation programme.

In the focus group discussion, a student participant commented:

"The library orientation has enabled us acquire skills on how to locate books using the OPAC, exposed us to Library Sections, and also enabled us to access resources even outside the library by using our personal gadgets, accorded us skills on how to borrow books using the automated system from various sections of the library, how to access electronic library resources using either the computers in the library or our own personal gadgets like laptops, smart phones and tablets."

These findings concur with those made in a survey done by Haahr (2008, n.p.) from Peterson's Four-Year-Colleges 2008 who examined 372 online information literacy tutorials from the library websites academic institutions. The findings indicated that 33% of the surveyed libraries have developed their own online tutorials. The results are also supported by findings from a study conducted by Schrecker (2017, 10) at Ashland University in Ohio, United States of America that revealed that the Library introduced a Library Student Orientation module in Blackboard which was envisioned as a point-of-need resource, a place for students' access and review of library information at any time. Just as it was found in the present study,

findings of the study by Schrecker (2017, 10) indicated that instructional videos were developed to support library tours and tutorials that were conducted to new users.

Technologies used in the implementation of library orientation and user education programme at Mzuzu University Library

The second question of the study sought to establish technologies that are used in the implementation of technology-based library orientation and user education programme at Mzuzu University Library. Results from both the interviews with librarians revealed that Mzuzu University Library uses desktop and laptop computers, pre-recorded videos embedded on the library website, social media (WhatsApp and Facebook), and LCD projectors in the implementation of its library orientation and user education programmes. On the contrary, the focus group indicated that students mainly use smart phones, desktop and laptop computers to access user education programmes offered by the library. Tablets are slightly used.

One of the librarians commented saying:

“One thing that you need to know is that orientation should be based on user needs. For first-year students, the best technology to showcase what the library has are the LCD projectors because you can demonstrate for them to see while listening. When orienting continuing students who are conversant with some processes of searching, videos might be the best because videos demonstrate processes. And when you want to demonstrate routine activities that happen in the library and you do not want to waste time, process videos are the best.”

These findings are consistent with those made in the EDUCAUSE (2018) survey of undergraduate students' use of digital technologies in the USA that revealed that the most popular devices owned by students were smart phones and laptops Galanek, Gierdowski, and Brooks (2018, 7). This signifies that Mzuzu University Library was offering its orientation programmes using technologies that were widely used by the students raising the prospect of the services being used by many users. Likewise, Tay (2014) pointed out that mobile devices have become the main way through which users connect, communicate and discover hence libraries use mobile devices in the delivery of services something that was taking place in this study.

CHALLENGES MZUZU UNIVERSITY LIBRARY IS FACING IN USING TECHNOLOGIES IN LIBRARY ORIENTATION AND USER EDUCATION PROGRAMME

The study also sought to find out challenges Mzuzu University Library is facing in the implementation of the technology-based library orientation programme. Results of interviews conducted with librarians and a focus group discussion conducted with students revealed challenges that are besetting the implementation of the technology-based library orientation and user education programme. Some of them include lack of adequate skills and time. In this regard, it was noted that ODeL students are not offered a course in End-user computing. The study also found that there is limited WIFI coverage on campus. This aspect limits users' ability to access tutorials and resources uploaded to the website. The study further discovered that the number of computers is limited. Consequently, students who do not have their own laptops, smart phones or tablets face challenges in accessing e-resources. Other challenges affecting the delivery of the orientation programme are lack of space in the Library, power outages, and slow internet connectivity.

In a focus group discussion with students, one of the participants made the following comments:

“The Library does not have adequate computers. Some of us lack skills on how to operate a computer, and ODeL students are not offered a course in End-user computing.”

Another student added:

"The network connection on campus is poor. This affects us when we want to access some content. The orientation is only offered in first and last years. Sometimes it happens that you only get to understand things in the fourth year after struggling all these years."

Yet another student said:

"Nowadays students are required to register their gadgets every now and then to access the campus-wide WIFI. Sometimes you go where the registration of gadgets takes place two or three times and still can't register because there are many people. You just give up, and you cannot access Internet because the data bundles are very expensive."

These findings agree with those made by Marzilli et al. (2014, 1-20) who observed that the lack of digital literacy skills among faculty and students, lack of competencies to adopt and implement technology, and unreliable hardware and software platforms are key barriers in teaching learning and research which are key goals of academic institutions.

CONCLUSION AND RECOMMENDATIONS

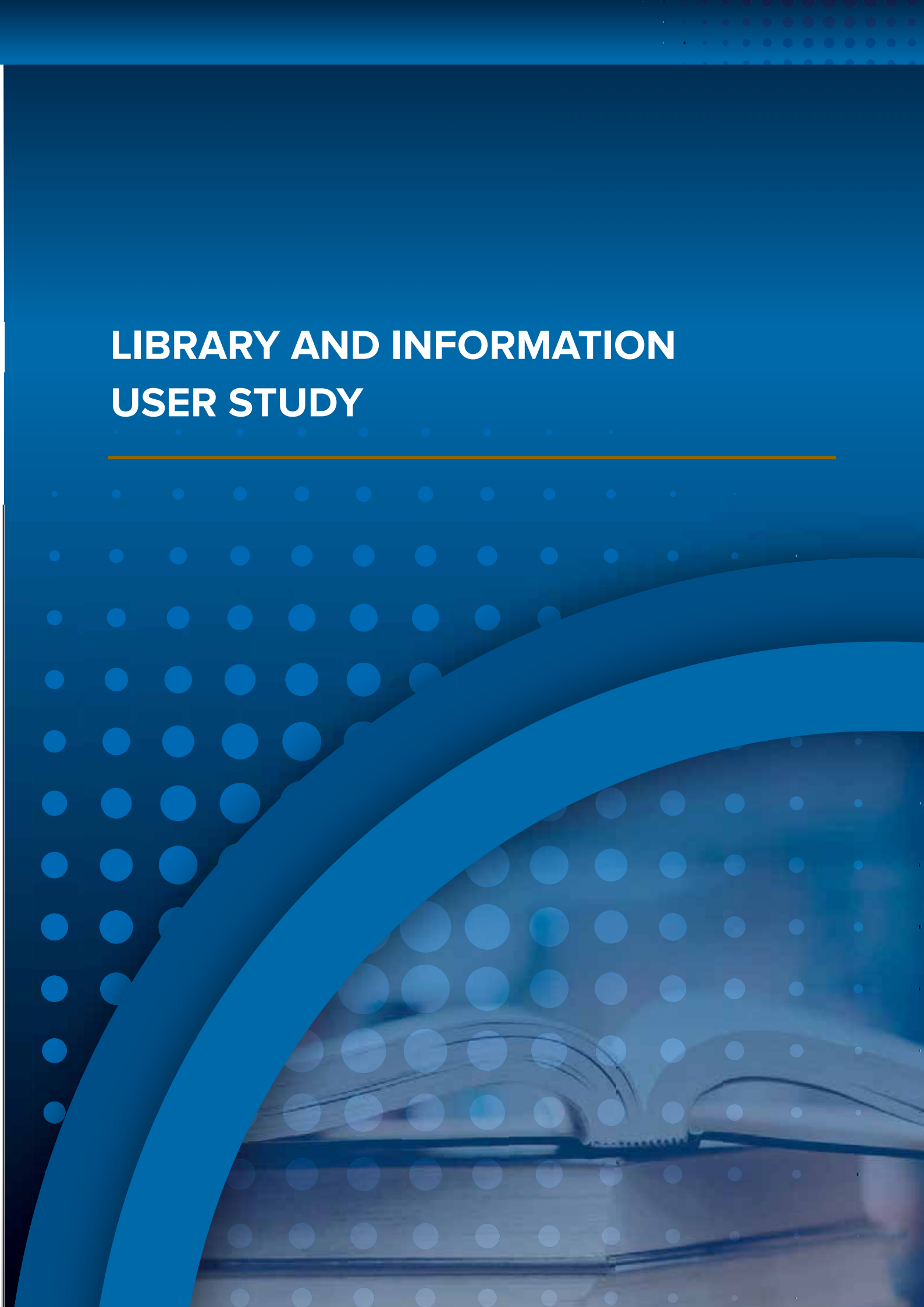
The purpose of this study was to explore strides Mzuzu University Library has made in implementing the technology-based library orientation and user education programme. Findings revealed that implementation of technologically based library orientation has resulted in the commencement of informational and instructional programmes packaged in a way that makes their delivery to students on campus and remote places easier. Desktop and laptop computers, LCD projectors and library website are used in the delivery of the programme by the library while students use laptop and desktop computers, smartphones and tablets to access the services offered by the library. Inadequate computers and bandwidth, lack of digital skills and administrative inefficiencies have been identified as some of the factors militating against the effective delivery of the programme. This study, therefore, recommends that Management of Mzuzu University Library should purchase more computers and work with ICT Directorate in procurement of bigger bandwidth to improve Internet connectivity. These interventions will ensure that the technology-based library orientation programme becomes a success.

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LIBRARY AND INFORMATION USER STUDY



PERCEPTIONS OF MZUZU UNIVERSITY FINAL YEAR NURSING STUDENTS ON THE HEALTH INFORMATION SYSTEMS IN MALAWIAN HOSPITALS

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ABSTRACT: *This study explored perceptions of Mzuzu University final year nursing students on the health information systems in Malawian hospitals. The study used a qualitative approach in which a focus group discussion was conducted with 15 student nurses. Data was analysed thematically according to objectives of the study. Findings revealed that student nurses had pre-requisite knowledge to enable them to use Health Information System (HIS) in Malawian hospitals, however not all hospitals allowed student nurses to use HIS. For those that used HIS, the study found that HIS improved communication; finding of remedies to clinical problems; bringing treatment on time, and there is continuity in delivering healthcare to patients; enables collaboration among hospital departments; minimizes errors in medication administration; and leads to better clinical diagnosis of patients. The study also revealed some challenges with HIS in hospitals that included network problems which affects the efficiency of patients' care; inadequate and/or non-functioning computers (hardware); lack of training on how to use computers; high costs of maintaining the technologies; poor network infrastructure; poor Internet connectivity; and financial constraints. The study recommends that all hospitals should allow student nurses to use HIS since it is the tool they will use after graduation; all hospital departments should be linked through HIS to ensure that healthcare providers communicate efficiently for problem solving and finally all hospitals should have alternative power supply to enable HIS to function even when there are power outages.*

KEYWORDS: *health information system, student nurses, Malawian hospitals.*

INTRODUCTION

A Health Information System (HIS) is the intersection between the healthcare's business process and information systems to deliver better healthcare services Almunawar and Anshari (2012, 1). HIS provides the foundation for decision making in the health sector and comprises four key functions namely data generation, compilation, analysis and synthesis, and communication and use WHO (2008, 2). HIS gathers data from the health sector and other allied sectors, analyses the data and ensures their overall quality, relevance and timeliness, and converts data into information for health-related decision-making WHO (2008, 2) HIS plays a key role in hospitals in reducing medical errors, supplying health personnel increased patient care, and enhancing patient care quality Almunawar and Anshari (2012, 4). Hospitals with HIS can improve on the quality of care and cost by improving communication, making knowledge more readily accessible and improving hospital operations and services.

It is noteworthy that in today's world, the success of HIS relies on user satisfaction. Amongst these end-users of HIS in hospitals are nurses and midwives. These are probably the largest group of personnel who use HIS and among the nurses are student nurses and midwives. Student nurses form a part of this group of health care personnel who utilise HIS in the hospitals on a daily basis.

According to Hansen (2006, 2), students in nursing schools are requested to demonstrate technological skills and associated knowledge and elementary computer skills which include: Microsoft Word, presentation application (e.g. PowerPoint), Web-based search techniques (e.g. Medline), spreadsheets (e.g. Excel), databases (e.g. Access), and statistical programmes (e.g. SPSS). Nevertheless, some students still lack computer skills and Information Technology (IT) skills due to inadequate training in Information and Communication Technology (ICT). An action research study by Gonen, Sharin and Lev-Ari (2016, 5-6) that explored the integration of information technology competences into academic nursing education in Israel examined nursing students' knowledge in computer-based programmes such as Word, Power Point, Excel, Outlook, email, Facebook, Moodle, surfing the Web, using computerized information bases, and different software. Results showed that students had most knowledge in Word, Moodle (which was the college's information platform) and general surfing of the Web. These skills are pre-requisite knowledge for one to use technology like HIS. A national survey study by Hansen (2006, 2) which examined nursing students' attitudes towards technology in the United States of America indicated that student nurses had a positive attitude towards technology; however, there was no formal education that was provided to them on the use of technological applications. Therefore, the study recommended that this problem could be addressed through adding technological courses in the nursing core curriculum.

A qualitative exploratory study by Ndifoni, Edwards, and Halawi (2016, 193) examined the impact of Electronic Health Records (EHR) on patients in the United States (US) and reported that by deploying electronic health record keeping at Mount Sinai Medical Centre in New York, the centre got a range of positive results. Initially, there was continuity of care, improved communication among care givers, patients' access to prescriptions, appointment and test results. The study further observed that EHR simplified the work of nursing and led to more suitable referrals to subsidiary departments, and that using EHR led to more than 25 per cent of patients' information being imported from a previous encounter thereby eliminating duplicate documentation. With the EHR, the Clinical Decision Support (CDS) system in place at the hospital was able to document 100 per cent of all medications, and as a result, many preventable medication errors were avoided. A study that adopted a mixed method approach by D'Agostino et al. (2013, 331-332) conducted using a focus group discussion with 38 nurses; they expressed predominantly negative experiences to the Clinical Nursing Information System (CNIS) since it was not able to capture "real nursing". It was found to be difficult to use and did not improve neither their clinical practice nor patient care, however, when the same study was replicated using in-depth interviews with 39 nurses, it was discovered that the CNIS improved their knowledge, experience and judgment with respect to patient care. The results of the first study could have been due to the negative attitude at first encounter with the system. A negative attitude can influence results in the opposite direction but later after change of attitude and having understood the system, positive results were found. In Kenya, Waithera, Muhia and Songole (2017, 6) conducted a cross-sectional qualitative study that investigated the impact of electronic medical records on healthcare delivery in Kisii. The study revealed that EMR systems have led to increased productivity in the healthcare delivery, bringing about patient and provider satisfaction, better clinical decision making and better collaboration between healthcare providers.

The implementation of HIS in hospitals has not been smooth. Several authors Nyella (2011, 2-5); Heavin (2017, 2-4); Ahamadian et al. (2017, 4627) report some challenges that were faced in the implementation of this technology. Amongst these challenges include: cost, negative attitude of society towards using HIS, lack of hardware (e.g. computers) and network failure, no incentives to use the system, lower speed, personnel's unawareness, data privacy and security concerns, lack of interoperability between solutions, lack of professional guidelines for technology use, lack of integration, scarcity of resources, poor analysis of data, fragmentation at the higher levels, poor feedback and lack of motivation and limited information use. For example, Nyella (2011, 2-5) conducted a case study on the 'challenges in health information systems integration: Zanzibar Experience'. The study revealed that the implementation of the system experienced problems of integration which was attributed to donor policies that tended to support the implementation of disease specific HIS. Apart from this, a literature review study conducted by Heavin (2017, 2-4) in Ireland which sought to identify opportunities and challenges of HIS in global health revealed that there are a wide

range of health information systems applications that are available which makes choice difficult. Unlike the afore-mentioned studies, a quantitative study by Ahmadian et al. (2017, 4627) which looked at “Challenges of using HIS by nurses: comparing academic and non-academic hospitals in Iran” revealed mostly human and technological factors. In this study it was found that the “negative attitude of society toward using HIS” and “no incentive to use system” were among the human factors that hindered the implementation of HIS, and lastly lack of hardware and network failure were some of the technological factors that impeded the implementation of HIS in Kerman, Iran.

BACKGROUND INFORMATION

The study was conducted at Mzuzu University, Malawi. Mzuzu University is the second biggest public university which is located in the northern region of Malawi. Mzuzu University offers Nursing and Midwives training in the faculty of Health Sciences. Student nurses at Mzuzu University as all student nurses in Malawi spend approximately a better part of their education programme in a practical setting community which is referred to as the clinical area. The current curriculum requires that student nurses do clinical practice in the hospital settings. It is in these hospital settings that the students interact and use the HIS Management Systems during their practical attachments.

PROBLEM STATEMENT AND AIM OF THE STUDY

The use of ICTs in the healthcare system is the new paradigm shift that is sweeping across the globe. ICT applications in hospitals across the world all aim at improving efficiency and the effectiveness of healthcare delivery services. Health information systems that can record and locate important information quickly have become a standard practice in many healthcare organisations Almunawar and Anshari (2012, 2). Therefore, understanding and adopting HIS technologies are critical for health care services delivery, and for HIS implementation success. In Malawi, Central Hospitals are among the places where health information systems have been adopted and are being used to increase efficiency. However, studies to explore the perceptions and experiences of the health systems remain unexplored in Malawi, hence this study. This study aimed at exploring the final year Bachelor of Nursing and Midwifery students’ perceptions and experiences on the effectiveness of the HIS in Malawian Hospitals.

OBJECTIVES

The study was guided by the following objectives, namely to:

- Explore knowledge and understanding of HIS by student nurses,
- Ascertain the impact of the system on the health care delivery; and
- Establish challenges faced in using the health information system.

METHODOLOGY

The study used a case study design and adopted a qualitative research method approach in which fifteen (15) final year nursing students at Mzuzu University were targeted. Semi-structured interviews and focus group discussions were used to collect data and the data were analysed thematically in accordance with the objectives of the study.

RESULTS AND DISCUSSION OF FINDINGS

This section presents the findings of this study from a focus group discussion that was conducted with 15 final year (Level 4) students pursuing the Bachelor of Nursing and Midwifery at Mzuzu University.

Knowledge and understanding of HIS by student nurses

Results from a focus group discussion with student nurses established that the majority of the student nurses had prior knowledge in the use of ICT applications like WhatsApp, Facebook, Email, Microsoft Word and PowerPoint. This shows that the students had prerequisite knowledge in computers to enable them use HIS effectively. These findings concur with an action research that was conducted by Gonen, Sharin and Lev-Ari (2016, 5-6) that explored the integration of information technology competences into academic nursing education in Israel. Results revealed that students had ample knowledge in Word, Moodle (which was the college's information platform) and general surfing of the Web. These skills are pre-requisite knowledge for one to use technology.

The student nurses were asked to mention the hospitals they were attached for clinical practice and which one of those hospitals used HIS. The statements below depict the situation:

"I have been attached to Queen Elisabeth Central Hospital, Mzuzu Central Hospital, Zomba Central Hospital, Mzimba District Hospital and all these use HIS."

"I was attached to Nkhotakota District Hospital, Mzimba District Hospital, Mzuzu Central Hospital, Zomba Mental Central Hospital, and all the hospitals mentioned above use HIS."

"I was attached to Queen Elisabeth Central Hospital, Mzimba District Hospital, Rumphi District Hospital, Kasungu District Hospital, Zomba Mental Hospital, and Zomba Central Hospital for my clinical practice. All these have and use HIS."

To summarise the findings above, the central hospitals in Malawi and the majority of the district hospitals have, and are using HIS for managing patients' information. No government health centres or clinics were ever mentioned as having or using HIS. Furthermore, this study revealed that the majority of students used HIS in the hospitals they were attached to while a few students were not allowed to use HIS.

Impact of HIS on the health care delivery

During the focus group discussion, respondents were also asked about the noticeable impact that the HIS brings in Malawian hospitals. The following were comments that the majority of the students provided:

"HIS has brought a positive impact to both patient and ward management since the patient is able to be treated on time as care is being continued from where it stopped previously and the mortality rate has decreased"

"Positively, HIS improves communication and finding solutions to clinical problems thus as a source of information for clinical diagnoses and management"

"Minimises error, brought continuity of care and improved patient care since patient care is well documented, and it is easy to plan new interventions if the others fail"

In summary with regards to the impact of HIS on patient care and ward management, this study has found that HIS has improved communication and finding remedies to clinical problems, it brings treatment on time and there is a sense of continuity, it enables collaboration among hospital departments, minimizes errors in medication administration, enables better clinical diagnosis of patients, no missing of patient results from x-rays and laboratories, and defaulters from ARVs are traced easily and others. These findings are supported by Ndifoni, Edwards and Halawi (2016, 193) who conducted a study on the impact of electronic health records on patients in the United States (US). The study revealed that with the use of electronic records system, there was an enhancement in the continuity of care, improved communication among care givers, and patient access to prescriptions, appointments and test results. Additionally, the study observed that the

EHR simplified the work of nursing and led to more suitable referrals to subsidiary departments, and as such, medication errors were avoided. The findings are consistent with Waithera, Muhia and Songole (2017, 6) who investigated the impact of electronic medical records on healthcare delivery in Kisii. The study revealed that EMR systems have led to increased productivity in the healthcare delivery, bringing about patient and provider satisfaction, better clinical decision making and better collaboration between healthcare providers.

Challenges with HIS in Malawian hospitals

Student nurses were also asked about the challenges that Malawian hospitals are facing with HIS. This is what most participants of the focus group discussions said:

"Although HIS has improved efficiency in hospitals that have implemented it, they still face challenges of poor infrastructure (inadequate computers, poor network and Internet), healthcare workers lack knowledge and skills on how to use HIS, lack of training opportunities and insufficient financial support to maintain the system"

"Inadequate staff to do the collection and recording of all data generated in hospitals and gaps in the data make it difficult for the clerks to compile the required data hence they end up having incomplete data."

"When there is no electricity or power, there are no alternatives, staff and patients have to wait until power is on which delays healthcare service delivery leading to customer dissatisfaction"

In summary, the majority of the student nurses in the focus group were of the view that Malawian hospitals are challenged in their bid to use HIS because of network problems which affect the efficiency to provide patient care, inadequate or non-functioning computers (hardware), lack of training on how to use computers and as a result staff just abandon them, lack of knowledge on how to use HIS and its importance, maintenance of technologies is expensive, poor network infrastructure, poor Internet connectivity, financial constraints, lack of technical skills on operating the equipment, some of the machines need to be improved and maintained, and power outages.

A study by Ahmadian et al. (2017, 4627) on the challenges of using HIS by nurses in Iran revealed that factors that hindered the implementation of HIS included hardware and network failure. In the same vein, Kim, Coiera, and Magrabi (2017, 256) in a study that examined problems with health information technology and their effects on care delivery and patient outcomes in Australia established that health information technology faced a number of problems that included hardware (device) being down or slow, network/server down or slow, software not accessible, power failures, computer viruses, lack of staff training and delays in information transmission when there is a network/server problem. A study by Menachemi and Collum (2011, 51-52) on the benefits and drawbacks of electronic health record systems (HER) also supports the notion of implementation and maintenance costs. The study revealed that financial issues, including adoption and implementation costs, and ongoing maintenance costs affect the implementation and management of the EHR system since hardware must be replaced and software must be upgraded on a regular basis apart from the need to provide ongoing training and support for the end-users of an EHR.

CONCLUSION AND RECOMMENDATIONS

This study explored the final year Bachelor of Nursing and Midwifery students' perceptions and experiences of the effectiveness of the HIS in Malawian hospitals. It was a qualitative study that used focus group discussions and in-depth interviews to collect data. The study revealed that student nurses had pre-requisite knowledge to enable them to properly use Health Information System (HIS); however different hospitals gave different opportunities to the students to interact with HIS. For those that interacted with HIS, the study found that

HIS improved communication and finding of solutions to clinical problems, brings treatment on time, and that there is a sense of continuity, that it enables collaboration among hospital departments, minimizes errors in medication administration, provides better clinical diagnosis of patients, results in avoidance of missing of patients results from x-rays and laboratories, and defaulters from ARVs can be traced easily. The study also revealed some challenges with HIS in hospitals that include network problems, which affects the efficiency patient care; inadequate or non-functioning computers (hardware), lack of training on how to use computers which results in staff abandoning them, lack of knowledge on how to use HIS and its importance, the fact that the maintenance of technologies is expensive, poor network infrastructure, poor Internet connectivity, financial constraints, lack of technical skills on operating the equipment and some of the machines need to be improved and maintained, and power outages.

The study therefore recommends that all hospitals should allow student nurses to operate HIS since it is a tool they will use after graduation; all hospital departments should be linked through HIS to ensure that healthcare providers can communicate efficiently for problem solving, and finally all hospitals should have alternative power supplies in order to enable HIS accessibility even when there are power outages.

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INFORMATION SEARCHING SKILLS BY DISTANCE NURSING STUDENTS AT THE UNIVERSITY OF ZAMBIA SCHOOL OF NURSING SCIENCES

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ABSTRACT: *The importance of access to adequate library services for the attainment of higher academic skills in nursing education, regardless of where students, faculty, and programmes are located cannot be overemphasised. This is in view of attaining vision 2030, of ensuring a healthy population in which the incidence of major diseases and conditions such as tuberculosis, malaria and HIV/AIDS is reduced and brought under control. Supportive structures and services, like the provision of quality information to distance nursing students by librarians are required. The aim of this paper was to investigate information searching skills that distance nursing students use to access information from the University of Zambia Medical Library during and after residential school. A survey method with a simple random sample of 42 students was adopted. Thirty seven students responded to the questionnaire which was sent via email. Data was analysed using SPSS version 23. 32 (86.5%) felt it was very important to supplement provided course material with information from the library. However, 35 (94.6%) indicated that they do not get help from the Medical Library when not in residential school. The majority, 35 (94.6%) of the respondents said that they had never attended any training on how to access library materials, hence did not know how to search databases that the university subscribes to. 91.1% respondents said they used Google for research, study using phones, personal computers and laptops. In conclusion, the medical library needs to facilitate access to information for distance nursing students through training and find ways to support them remotely.*

KEYWORDS: *distance nurse education, nurse students, information support, information, library services.*

INTRODUCTION

The nursing profession is challenged to meet continuing community health care needs, while maintaining the standards and integrity of the profession. This challenge can only be attained through lifelong learning provided by Universities and Colleges, as well as access to timely and relevant information provided by medical libraries and other health information providers to support learning and research. Deprived of this sustenance, this goal may be difficult to attain. Limited resources in health care and nursing education; especially inadequate staffing in hospitals and clinics has compelled the nursing profession to embrace distance education as a way of upgrading the much needed qualifications and skills of large numbers of nurses without disrupting service delivery in the hospitals and clinics. In order to achieve the much-needed higher skills and additional educational qualifications for nurses already in-service, alternative learning methods apart from full-time and class-room based learning has to be considered. As the School of Nursing Sciences at the University of Zambia (UNZA) increases the enrolments of nursing students, space limitations at the institution has dictated that the increase be done through distance education. This is with a view to meeting the needs of the nurses, the hospitals and clinics where they work as well as the needs of the School of Nursing Sciences at the

University, which does not have adequate learning facilities for all the nurses that would require enrolment at the institution. The onset of Coronavirus disease (COVID-19) has made the need for digital access to information for academic learning more prominent as more and more universities are expanding access to learning through e-learning. Firstly, this means that information delivery by libraries are going to increasingly be offered electronically. Secondly, libraries will need to respond to the delivery of information in a safer and healthy environment, entailing the use of digital tools to offer information services to students

LITERATURE REVIEW

Distance education has led to the development of specialised information services that can be termed distance librarianship, catering specifically to the information needs of distance learning students. In this context, it has been argued that health professionals studying on distance basis are entitled to library services and resources equivalent to those provided for students and faculty in regular campus settings especially when distance learning is one of the fastest growing modes of education Holly (2009). A number of countries the world over are embracing distance education as a means of upgrading the skills and qualifications of nurses in a timely manner without disrupting their jobs and service delivery Oosthuizen and Van Rensburg (2012). It has been argued time and again, that removing nurses from the clinical field, as well as potential nurse leaders and nurse educators from an already limited labour force for the purpose of further education is almost impossible and perhaps immoral Institute of Medicine (US) Committee on the Health Professions Education Summit (2003). This is due to the influence it has in disrupting health care delivery and therefore impact on patient care. The provision of distance education has significant implications for library services, and academic libraries that are used to only service students who are on campus must adapt their services to accommodate distance learners Joseph and Huber (2015). Furthermore, irrespective of the physical distances involved, every user "is entitled to the library services and resources of that institution regardless of where enrolled or where located in affiliation with the institution" Almquist (2011). This assertion fits very well with the *Five Laws of Librarianship* as proposed by S. R. Ranganathan in 1931 that:

*"Books are for use.
Every person his or her book.
Every book its reader.
Save the time of the reader.
Library is a growing organism"*
(Koehler et al. 2000; Ranganathan 1931)

These five laws of librarianship as proposed by S. R. Ranganathan in 1931 are as relevant today as they were years ago. In this regard, various versions of the rules have been proposed to fit the requirements of the modern library and information user Simpson (2008); Noruzi (2004). However, at the core of these variations is Ranganathan major theme that the library or rather information must be accessible to a user in the most easy, comfortable and efficient manner. In this context, some of the roles that librarians and libraries play in serving with distance education students may include: helping with searching and locating resources for assignments; teaching them learn how to use these resources; learning digital skills and supporting their educational needs Gandhi (2003); Latham, Gross, and Witte (2013). A few disadvantages related to distance learning in relation to information needs are noted: "lack of time; limited access to crucial support networks such as peers, tutors and librarians; delayed feedback; and technology which can fail, is often expensive to implement and often requires specialised skills to be used effectively" Tury, Robinson, and Bawden (2015, 4). Naturally, it was assumed that librarians were trained professionals who find and assess information, and the libraries where they work often hold valuable resources, and therefore nurse educators and librarians can work together to educate nurses, no matter their location, on finding credible health information Hallyburton and John (2010). This belief has been supported with a view that the most common library services offered to distance learners included: "remote access to online library catalogue; electronic databases; electronic books and journals; online information literacy tutorials; electronic research guides on academic and special

interest topics; electronic general library guides; Ask-A-Librarian (chat, e-mail, or telephone); interlibrary loan; electronic reserves; and document delivery services" Raraigh-Hopper (2009). Additionally, it has been argued that to bridge the gaps that disadvantage distance learning in relation to information literacy and lifelong learning, nurse educators, their students, and their librarians must work together and use as many communication formats as needed to accomplish their goals Hallyburton (2010).

According to Dew (2001) as cited by Ritterbush (2013) in his assessment of Academic Library Services to Distance Learners literature review, he highlights that in most of the preceding University of Iowa surveys which were designed to monitor and assess both the appropriateness of students use of services and resources and the degree to which needs are met, it was discovered that 65% of the distance students had used library resources for class projects and online reference ranked top, access to full-text databases, and home delivery of books and articles were the most important services in that order. On the other hand, Moyo and Cahoy (2003) in their survey of Penn State University distance students to learn whether they knew about and utilised various library services, and if these services were satisfactory they reported that 76% were using the library catalog and 64% used full-text databases. Most distance students (65%) felt that the library offered adequate help and support. Furthermore, it was concluded by Moyo and Cahoy (2006, 339) that academic libraries needed "to be proactive in engaging and serving the e-learning community, including active promotion and marketing of services". In most of the literature surveyed, the outstanding point that comes out is that distance students were not utilising library resources to the optimum hence, Liu and Yang (2004) sought to better understand how students made decisions in selecting and using information resources at Texas A & M University and they discovered that Internet was the primary source of information for distance students coursework and academic activities, while only 28.8% used university libraries. Online databases and e-journals were reported as the most frequently used resources, but 49% of respondents reported rarely or never using the libraries. A study by Monde et al. (2020) found that (36, 97.3%) of the surveyed distance learning students in the School of Nursing at the University of Zambia used the library and 32 (86.5%) felt it was important to supplement prescribed course texts with materials from the library. They further noted that they used the library for different purposes as indicated in Table 1.

Table 1. Purpose of using the library

Purpose of using the library	Responses		Percentage of cases
	No.	%	
To access prescribed/recommended materials	21	36.2	36.2
To use computers	4	6.9	12.9
To read	21	36.2	67.7
To photocopy	3	5.2	9.7
To print	1	1.7	3.2
To access research materials	8	13	25.8
Total	58	100	187

Monde et al. (2020, 27)

Generally, nursing students tend to face barriers to information searching and seeking, identified as lack of equipment, inability to access equipment, lack of time, and inability to utilise technology as some of the key challenges; more so for those on student learning via the distance mode Bertulis (2008); Catherine (2015). Additionally, lack of competency in searching, inadequate computer technology skills and lack of interest are individual challenges. Lack of time, combined with lack of library access and database or computer access, are also a great obstacle to distance nursing students Bertulis (2008). A lack of access to appropriate and recommended materials were one of the challenges highlighted in a study done at the University of Zambia Nursing School Monde et al. (2020). As a result of these challenges, the Association of College and Research Libraries stipulates that librarians/distance librarians must ensure that students enrolled in distance education

programmes are “provided effective and appropriate library services and resources, which may differ from, but must be equivalent to those provided for students and faculty in traditional campus settings” American Library Association (2008, 563).

PURPOSE OF THE STUDY

The aim of this paper was to investigate information searching skills of distance nursing students at the University Of Zambia School Of Nursing Sciences.

METHODOLOGY

The study employed a survey method. A mailing list was sought from the School of Nursing Sciences at the University of Zambia and a questionnaire was built and administered via email. First year students were excluded from the random sampling, as the researchers felt they would not give enough information due to lack of experience and knowledge of the institution. A total of 37 (88.1%) of students responded to the emailed questionnaire out of a sample of 42. Quantitative data was analysed using SPSS version 20 while closed ended questions were analysed by content analysis.

FINDINGS AND DISCUSSION

Background characteristics of the respondents

Out of the 37 respondents, 28 (76%) were female, while 9 (24%) were male indicating that most of the respondents were female. Most of the respondents, 13 (35%) were aged 30 – 40 years while the majority 16 (43%) of the respondents were in fourth year of their study. The data further shows that most student nurses 14 (39%) were from Lusaka province, while each of the remaining provinces were represented as shown in Figure 1.

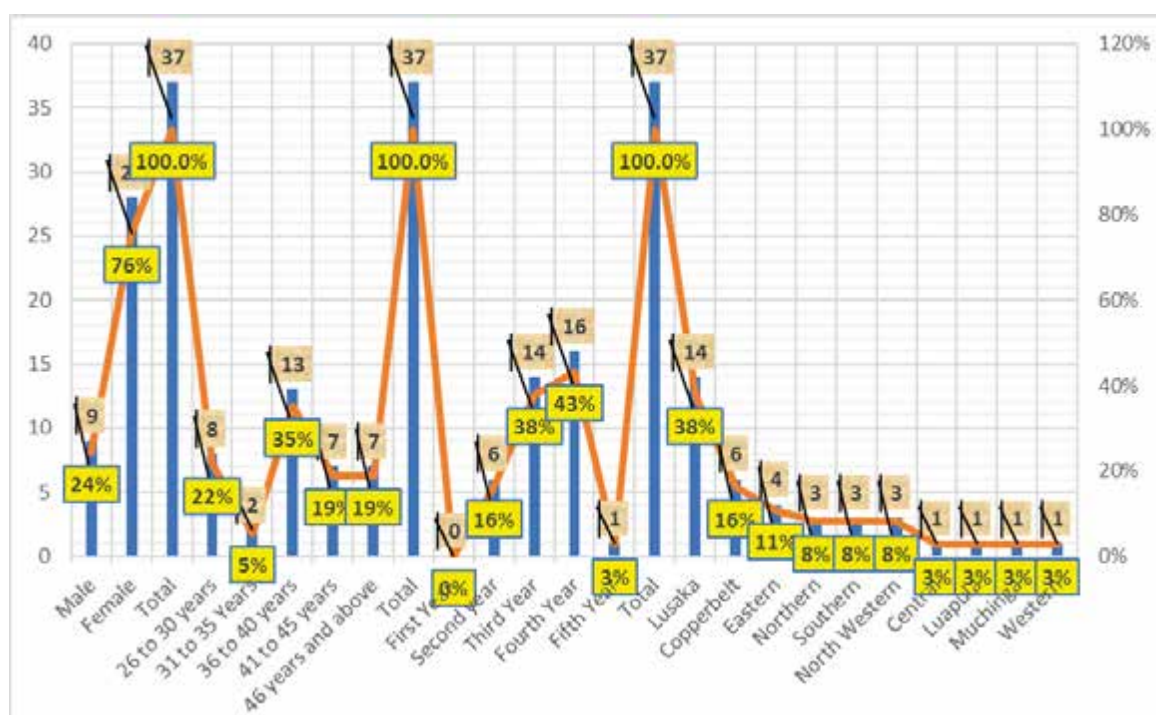


Figure 1: Demographic information

Importance of using the library

When asked if it was important for distance nursing students to make use of the library, 36 (97.3%) of the respondents indicated that it was necessary while 32 (86.5%) felt it was very important to supplement the

provided course material with reading materials from the library this is in line with the belief that, irrespective of the physical distances involved, every user should have access to library services offered by the institution Almquist (2011); Ritterbush (2013); Cordell (2013). It also reaffirms the importance of access to information resources endorsed by the student nurses at the University of Zambia. With regard to why student nurses visited the library, the majority indicated that they visited the library to access prescribed/recommended materials, 21 (36.2%) and to study, 21 (36.2%) Monde et al.(2020, 27) and in another study at UNZA library it was established that 41.7% used the library to access course materials Makondo, Kanyengo, and Kakana (2018). These findings are in contrast to the findings of Liu and Yang (2004) whose findings indicated that the Internet was the primary source of information for distance student's coursework and academic activities at Texas A & M.

Training on how to access information

The distance nursing students were asked if they had attended any training on how to access information in the library, the majority 35 (94.6%) of the respondents indicated that they have never attended any training. These results demand for immediate action by the University of Zambia Medical Library to train the distance nursing students on how to access library materials. Because of this, the authors noted a need to quickly raise awareness of library services among all distance students at the University of Zambia. These responsive action can only be achieved by librarians whose roles include helping and teaching students the skills to search and locate and or access resources for study and assignments Cassner and Adams (2012); Schulte and Sherwill-Navarro (2009); Makondo, Kanyengo, and Kakana (2018).

Special arrangement of Library usage

The respondents were asked if they had access to any library in their locality. Only 8 (21.6%) respondents indicated that they had made special arrangements for library services while 35 (94.6%) indicated that they did not get help from the Medical Library or any other library when not in residential school. Similarly Tury, Robinson and Bawden (2015) highlighted the disadvantages relating to distance learning in relation to information needs that included lack of time; limited access to crucial support tutors and librarians. Since Librarians are trained professionals with special skills in locating and assessing information, nurse educators and librarians can work together to educate nurse students, no matter their location, on finding credible health information resources Hallyburton and John (2010). In this regard, the authors suggest a strong working relationship between health science librarians and nurse educators to further the cause of distance learning nurses access the relevant and required information for their studies.

Knowledge of searching for information on UNZA website

Respondents were further asked if they knew how to search for information available through the University of Zambia (UNZA) website. Results show that 35 (94.6) did not know how to search for information on the UNZA website as presented in Figure 2 below. The results are contrary to other researchers who have concluded that 90% of distance students at the Pepperdine libraries in the United States of America used research databases of the library to find material for their literature reviews. Furthermore, most of these students usually started their search from the Library Brahme (2010). In most studies, findings show that students prefer to use Google, yahoo and other search engines because they believe these are easier and better than the databases that are paid for by the Institution; and Google is most often ranked the first Dee and Stanley (2005); Makondo, Kanyengo, and Kakana (2018). However Liu and Yang (2004) also report unique results indicating that only 28.8% used university libraries and found out that online databases and e-journals were reported as the most frequently used resources.

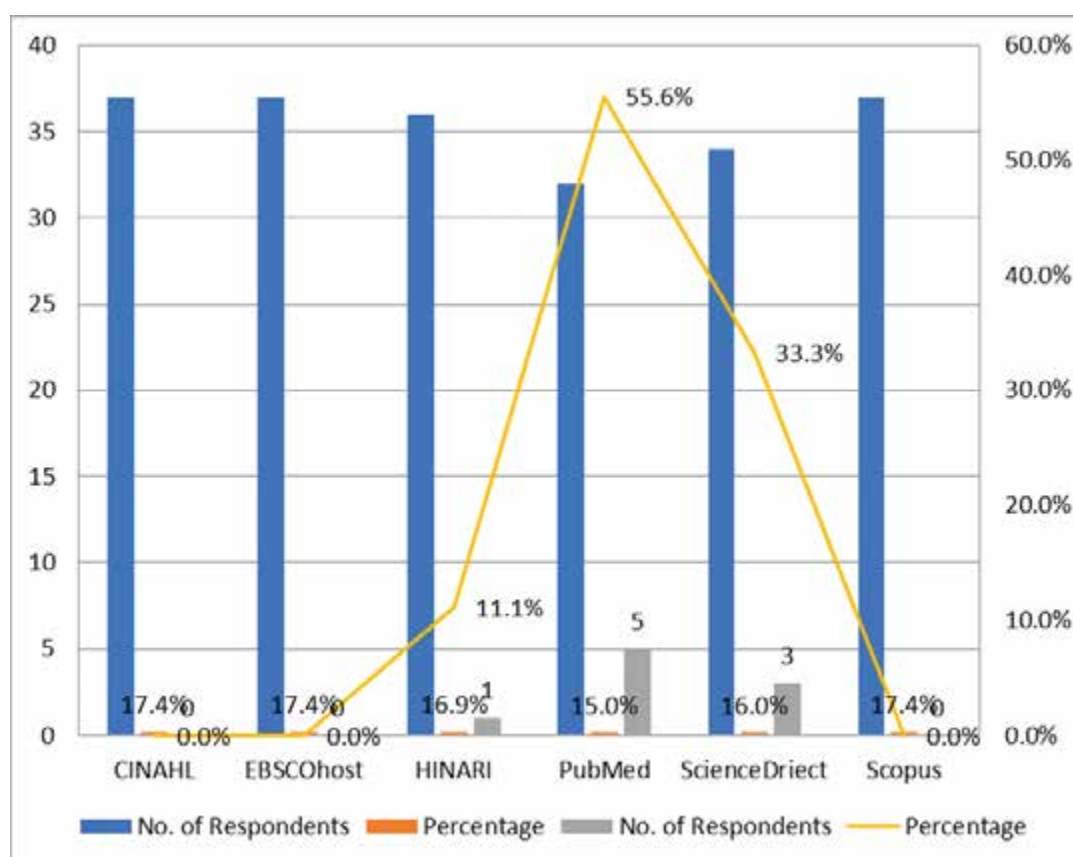


Fig. 2. Databases Used

Use of Google for research and study

This study revealed that the majority (91.1%) used Google for research and studying. These findings are similar to Dee and Stanley (2005); Brahme (2010); Makondo, Kanyengo, and Kakana (2018) who confirmed that students feel much more comfortable when searching Google than library catalogues or academic databases. In a study at the University, it was found that 64.6% of the surveyed students preferred to use Google as opposed to library database Makondo, Kanyengo, and Kakana (2018). This could be due to the fact that Google offers access to information resources without requiring one to log in with a password and additionally it's easy to search especially using a free search approach. This worries librarians, however, who feel that a large search may have a low precision return rate and may frustrate the user as opposed to a more structured search. And that is why medical librarians are there to offer training to these users on how they can have focused searches even when they are using Google search engine or other internet based search engines.

CONCLUSION AND RECOMMENDATIONS

This study provides the University of Zambia Medical Library with great feedback that can be used to improve library services to distance nursing students as well as other distance students at the University of Zambia who may be facing similar challenges of accessing information for their studies. What clearly came out of the survey was the lack of knowledge on the library services that are available as well as the lack of the information skills necessary to efficiently access the resources. The students need digital skills to enable them navigate the digital world that enable them survive and meet their study requirements. However, in order to achieve this, the library must organise itself to be ready to provide information in various formats with a diversity of delivery methods, both traditional and digitally. Additionally, they should endeavour to identify ways in which to assist distance students according to their information needs; programme, time, and learning environment. This is an era that offers tremendous opportunities for librarians and libraries

to change roles and/or add on the existing roles. This study recommends that, The University of Zambia management must work on modalities to incorporate information literacy courses in the curriculum which amongst others will equip students with ideal skills for identifying accurate, reliable and credible information from different sources.

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PROVISION OF RELEVANT INFORMATION BY THE PARLIAMENT LIBRARY OF NAMIBIA TO MEET THE INFORMATION NEEDS OF MEMBERS OF NAMIBIAN PARLIAMENT

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ABSTRACT: *The Parliament of Namibia library is a legislative and a legal deposit library of the Namibian Parliament (National Assembly and National Council). The purpose of the study was to investigate the roles of the Parliament Library of Namibia in the provision of relevant information to the Namibian Parliamentarians. The main research question of this study was, "To what extent does the Parliament of Namibia library effectively provide relevant and accurate information to the Namibian Members of Parliament to make laws and informed policies?". The study took place from the data was collected through questionnaires from the Members of Parliament and interviews from the two librarians. The total sampled population comprised of 23 Members of Parliament, 10 respondents from the National Assembly and 13 participants from the National Council. The Descriptive Statistical Analysis was used to analyse quantitative data from the questionnaires and SPSS was used for data entry. Content analysis was used to analyse qualitative data from the interviews. The findings show that Members of Parliament of the National Council are not aware that the Parliament library exists, and they mostly depend on the general public from their constituencies to provide them with information. National Assembly Members of Parliament are aware of the library's existence but due to time constraints, they are unable to visit the library to access the services. The study came up with recommendation on how to improve the library services.*

KEYWORDS: *relevance in information retrieval; information need; e-Resources; legislative library, Namibia.*

INTRODUCTION

Relevant information refers to effective information, which can solve specific information problems. Relevance of information is defined as a concept that depends on the user's judgements of the quality of the relationship between information retrieved and information needed at a point in time Borlund (2003). The purpose of this research was to study the roles of the Parliament Library of Namibia in the provision of relevant information to the Members of the Namibian Parliament, which assists to enlighten them to make informed laws and policies in order to fight poverty and promote gender equality. The provision of relevant information to parliamentarians has proven to be an important key issue in law-making and the decision-making process. A similar study on the provision of relevant information by Osman and Ayei (2014) stress that parliamentarians are not information professionals and as such they need relevant information sources which may assist them in their work during parliamentary sessions. This is supported by Mostert (2013) who studied the services provided by the national parliament library of South Africa to parliamentarians and established that the library provides in-depth information services which assist the parliamentarians in tackling daily issues in parliament.

INFORMATION NEED

Information need refers to the urge for information to meet a certain information problem. Wilson (2006) refers to this as a cognitive need for information, and Allen (1997) proffers that information need can happen individually or as per a group. Information need is a recognition that knowledge is inadequate to accomplish a task. Parliamentarians need information to be able to successfully carry out their parliamentary work.

Information need is the lack of information. That is the reason why a library needs a qualified librarian to manage the information in order to be able to provide the relevant information that will solve the specific information need or information problem of the user Safra and Aquilar-Cauz (2007).

SOURCES OF INFORMATION IN SPECIAL LIBRARIES

Special libraries provide different information sources such as e-books, e-journals, books, ancient materials (historical materials), photographs, audio-visual materials and magnetic materials including the machine-readable magnetic tape and disc to their clients Safra and Aquilar-Cauz (2007). Heriot (2014) further informs that the Australian parliamentary library presents its information resources from blog posts on emerging and hot issues to detailed published research papers on more enduring topics, from oral briefings and seminars to quick advice over the phone and from hard copies of dictionaries and encyclopaedias to the online provision of e-books and serials.

PROVISION OF RELEVANT INFORMATION IN THE LEGISLATIVE LIBRARIES

Legislative libraries are defined as special libraries with a target to serve a particular clientele, such as the members of the legislature and staff members. Safra and Aquilar-Cauz (2007) stress that special libraries take pride in special collections which are built around a special subject of interest in response to or preferably in anticipation of their specific needs. Relevancy in information services provided by legislative libraries supports the institution as a whole and manages the archival curatory and legal deposit materials. Relevance of information is a concept that is defined by the user's judgements of quality of the relationship between information and information need at a point of time Borlund (2003).

In addition, Cuninghame (2009) informs that most parliaments have both a library and a research service. Therefore, the Parliament of Namibia library is a special library serving the two Houses of Parliament, the National Assembly and the National Council of Namibia. The Parliament library exists under the budget allocation and support of the National Assembly. According to Hoberman and Hoberman (2002), in 1913, the Parliament of Namibia was built by the Germans and it has been in existence for more than 100 years. Therefore, the Namibian Parliament library has been in existence before Namibian independence (March 21, 1990) and after 1990, the library started growing its collection, including the legal deposit (the Namibiana collection). The Parliament library uses the Anglo-American Cataloguing Rules (AACR2) and INMAGIC DB/textbase software for cataloguing its library materials, searching and loaning of books as well as barcoding and stocktaking. Moreover, the library uses Dewey Decimal Classification System (DDC) to classify its materials.

The Legal Assistance Centre (2004) states that the National Assembly has the power to make any laws that are in the best interest of the people of Namibia as long as the laws are not in conflict with the constitution. While Article 44 of the Constitution of the Republic of Namibia Ombudsman Namibia (2016) stipulates that the legislative power of Namibia shall be assigned in the National Assembly with the power to pass laws with the assent of the President as provided in the Namibian constitution, and where applicable, to the powers and functions of the National Council. The National Council assists the National Assembly with its task of making laws Legal Assistance Centre (2004) by investigating and reporting to the National Assembly on any

subordinate legislation, reports and documents which under the law must be tabled in the National Assembly and which are referred to it by the National Assembly for advice Ombudsman Namibia (2016).

INFORMATION COMMUNICATION AND TECHNOLOGY (ICT)

ICT is crucial especially in the fourth industrial revolution 4IR Schmitz (2019), which requires legislative libraries to provide digital as well as quality relevant information at the right time and to the right legislator. Heriot (2004) argues that improvements in technology and training can assist staff to access a wider range of information, including e-resources, faster and efficiently. It is vital for legislative libraries to invest in various technology to provide easy access to information storage and retrieval for the purpose of meeting its user's information needs.

CHALLENGES FACING LEGISLATIVE LIBRARIES

Libraries in general, face various challenges from material and financial constraints to lack of professional trained librarians Mandl, Lukileni, and Niskala (2015). This is supported by Nwokocha (1998) who points out that, the majority of libraries do not have staff members who have received training in serving different needs of patrons. Anwar, Ansari, and Abdullah (2004) further inform that lack of support from library staff is a constraint towards the provision of a better service to library users. Mostert (2004) informs that parliamentary libraries such as that of South Africa lack support for library services since the parliamentarians obtain their information from other sources other than the library. Similar to the Parliamentary library of Zimbabwe, also the Kenya National Assembly Library, the Ghana Parliament library and the parliament library of South Africa also experience budgetary constraints since librarians have got no power to approve financial matters beside the accounting officers or the clerk Mchombu and Chisenga (2000). This is contrary to the Parliament library of Finland, which is an independent organisation that has a separate and stable budget and has been mentioned in the [Finnish] Constitution separately Mchombu and Chisenga (2000), which assist the librarian to manage the budget of the library well.

CHALLENGES FACING PARLIAMENTARIANS

Parliamentarians are busy people who spend most of their time debating and drafting bills Osman and Ayei (2014). These limits them in visiting the library and accessing relevant, accurate and up-to-date information to enable them to make the laws. Mostert (2004) stresses that parliamentarians without ready access to information sources are at a serious disadvantage in keeping up with the latest developments and in making informed decisions. Although most modern parliaments make proper provision in their budgets for parliamentary information and research services, some parliaments neglect to do so. Inadequate funds can result in failure to attract qualified librarians and researchers who are able to fulfil the information needs of the parliamentary library users. Higher salaries as well as opportunity for further development might be needed to attract the best qualified staff. Moreover, Heriot (2014) also studied the services offered by the Australian parliament library to the senators and members of parliament which shows a wide range of matters before the parliament and the personal preferences of individual clients on how they can access the library services.

PROVISION OF EXCEPTIONAL LIBRARY SERVICES

In order for a legislative library to provide services that meet the information needs of legislators and its library users at large, Rugambwa and Kintu (2013) stress that there is a need to develop good communication with the Members of Parliament by organising capacity building workshops in order to increase the policy makers' capacity to demand, read, understand and use the library and research evidence appropriately. Librarians need to acquire and make available easily and accessible relevant information resources in the library. Librarians need to also market and promote the library services to make potential clients aware of the library services as well as inform library users at large on the relevancy and effectiveness of library services

towards solving users' information needs. On the other hand, Brenya (2011) suggests that to market and provide exceptional library services that meet the targeted user's information needs, such librarians must begin with the marketing process by defining crucial issues pertaining to the library such as the library's mission and purpose, find out what services the users need, select strategies to promote your strategies and evaluate how well the library has succeeded.

CONCEPTUAL MODEL FOR INFORMATION RETRIEVAL IN IDENTIFYING RELEVANT INFORMATION

This study was guided by Lalmas' (2011) conceptual model for information retrieval (IR). Lalmas (2011) stresses that the information retrieval system aims to identify relevant information to solve the information need of the user. The model is important for this study as it informs the methodology such as the setting of the research questions to be asked in interviews and questionnaires. The parliamentarians should access relevant information using the right keywords or queries depending on the user friendliness of the library system and retrieve relevant information from the relevant information source(s) in order to assist in making informed laws to fight poverty and promote gender equality. Therefore, the study sought to establish if this was what really was happening to the Namibian Members of parliament in retrieving relevant information from relevant information source(s) in the Parliament library that satisfy a specific information need.

SIGNIFICANCE OF THE STUDY AND DELIMITATION OF THE STUDY

Mostert (2004) laments lack of reading materials on the information needs of parliamentarians. This study was significant in the sense that it sought to establish the roles of the Parliament Library of Namibia in the provision of relevant information to satisfy the information needs of the Namibian parliamentarians. The study also further sought to come up with recommendations to inform on policies relating to the Parliament library of Namibia on the provision of relevant information to the Namibian parliamentarians. This research was limited to the study of the Members of Parliament's use of the Parliament Library of Namibia; therefore the findings cannot be generalised to library users in different Namibian libraries.

STATEMENT OF PROBLEM

The study by Osman and Ayei (2014) found out that parliamentarians are busy people who spend most of their time debating and drafting bills, therefore they need relevant, accurate and up-to-date information to enable them to make the laws however they are not information professionals. The present study sought to find out if problems identified by Osman and Ayei (2014) as well as Mchombu and Chisenga (2000) affect also the Parliament Library of Namibia, especially regarding budgetary constraints and failure to deliver a better service to the parliamentarians to fight poverty and promote gender equality through informed law and policies. The main research question of this study was: "To what extent does the Parliament of Namibia library effectively provide relevant and accurate information to the Namibian Members of Parliament to make laws and informed policies?".

SUB-QUESTIONS OF THE STUDY

The main research question of the study above was achieved through the following research sub-questions:

1. What are the information needs of the Namibian parliamentarians?
2. What are the information sources used by parliamentarians?
3. What information sources does Parliament Library of Namibia provide to the parliamentarians?
4. Which are the electronic services and e-resources that the Parliament of Namibia provide to the Members of Parliament?

5. What are the challenges facing the Parliament library of Namibia in the provision of relevant information to parliamentarians?

What are the challenges faced by the parliamentarians in using the parliament library?

6. What suggestions do parliamentarians have to parliament library to improve the services provided?

RESEARCH METHODOLOGY

This study employed the survey research method and used the mixed method research design. Mixed method research refers to combining qualitative and quantitative research approaches Vogt, Gardener, and Haeffele (2012). A structured questionnaire with open ended and closed ended questions was used to collect data from the Members of Parliament. A semi-structured interview guide was used to interview the two librarians. Validity and reliability were addressed through a pilot study that was done in another similar specialised library of the Ministry of International Relations and Cooperation. Piloting ensured that the questions and language used to gather data were clear and understandable. Sarantakos (1998) and Mertens (1998) point out that qualitative research involves an interpretive approach to its subject matter. The qualitative research approach was used to explore the meaning in the provision of relevant information by the Parliament library to the law makers. The quantitative research approach was used for this study to quantify and generalise results for a larger sample population of the Members of Parliament for the National Assembly and the National Council in the context of the provision of relevant information by the Parliament library to meet the information needs of the Parliamentarians.

Population is the set of units that the sample is meant to represent (Simon and Burstein 2003). In this study, population refers to the well- defined collection of individuals who share a set of common characteristics for the research from which the sample is drawn. Namibian Members of Parliament were the population of the study. The population consists of approximately 104 Members of Parliament including 2 librarians. The purposive method was employed, which lies within the non-probability category in the qualitative research approach. Bui (2009) points out that purposive sampling samples individuals who are considered representative because they meet certain criteria for the study. The criteria could be the participants' willingness and experience to contribute to the understanding of the research problem, issue or phenomenon being explored.

A sample of 34 Namibian parliamentarians and 2 librarians was aimed at. In essence, from the National Council, parliamentarians were purposively selected, 1 each from the 14 regions of Namibia. The National Assembly was purposively sampled according to gender (putting the 50/50 men and women representation) as well as 10 parliamentarians from the rural areas and 10 parliamentarians from the urban areas. Altogether this amounts to a total of 34 Namibian parliamentarians that had to participate in this study. Only a total of 23 Members of Parliament participated in this study, specifically 10 respondents from the National Assembly and 13 from the National Council.

Permission was sought from the Secretary of the National Assembly who informed the Honourable Speaker of the National Assembly. The Director of Library and Computer Services and the Chief Librarian were informed of the study. Questionnaires were self-administered, which means that they were distributed to every participant who wished to provide answers and to be studied for this research. No participant was forced to participate. Questionnaires were distributed within two weeks and only when the Members of Parliament were sitting. The study took place from May 15, 2018 until May 24, 2018, at the National Council, from 09:00 to 13:00, from Mondays to Thursdays only, and at the National Assembly from June 12, 2018 until June 28, 2018, from Tuesdays to Thursdays only as from 15:00 to 17:00. Participants were also informed via the questionnaire about the importance and purpose of the research. This study addressed ethical rules of social research as it ensured that the data collection techniques which were used by the study would not cause harm to research subjects through honoured voluntary participation. Confidentiality and the issue of informed consent were addressed by informing the participants about the study and their role in participating.

EVALUATION OF RESEARCH PROCESS

Evaluation of the study's research process used a survey and mixed methods triangulation techniques (qualitative and quantitative research approaches) for ascertaining the validity of the data and reliability in the consistency of the study's results. Vogt, Gardener, and Haeffele (2012) define reliability as the stability of an observation, measurement or test.

DATA ANALYSIS

The descriptive statistical analysis was used to analyse quantitative data from the questionnaires. SPSS software was used for data entry. Cross check was ensured through assigned codes (Q1 to Q23) for all questionnaires in the SPSS. Moreover, column and row percentages were used to present the data categorically. Content analysis was also used to analyse open ended questions and interview data. The analysed data was then used to present the findings upon which conclusions and recommendations were based.

FINDINGS AND RESULTS

This section presents the findings of the study and the results that were gathered through questionnaires from the Namibian Members of Parliament. The data is presented in tables and figures. The data of the interview results gathered from the librarians is presented in the form of direct quotes. The section is divided into the various thematic areas which guided the research questions, namely, demographic information of the Namibian Members of Parliament (National Assembly and the National Council), information needs and the provision of relevant information, information sources utilised by the Namibian Members of Parliament, information sources provided by the Parliament Library of Namibia to the Namibian Members of Parliament, information communication technology in the Parliament Library, challenges facing the Parliament Library of Namibia in the provision of relevant information to the parliamentarians, challenges facing the Members of Parliament using the Parliament Library, Namibian parliamentarians' suggestions to the Parliament Library for the improvement of the service, recommendations for the Parliament Library and its services to other customers with similar needs.

Demographic data

Table 1: Gender information (N=23)

House of Parliament			Frequency	Percent	Valid Percent
National Assembly	Valid	Male	7	70.0	87.5
		Female	1	10.0	12.5
		Total	8	80.0	100.0
	Missing	Did not state anything	2	20.0	
	Total		10	100.0	
National Council	Valid	Male	7	53.8	63.6
		Female	4	30.8	36.4
		Total	11	84.6	100.0
	Missing	Did not state anything	2	15.4	
	Total		13	100.0	

Table 1 presents the gender percentages of the research respondents from the two Houses of Parliament, namely the National Assembly and the National Council of Namibia. Males from the National Assembly formed the highest percentages (87.5%) and the females from the National Assembly formed the lowest

with 12.5%. Moreover, males from the National Council formed the highest percentages which was 63.6% compared to the females from the National Council with the lowest of 36.4% participation in this study. There were more males who were available and willing to participate in this study compared to the females. The total participation in the whole study's highest research respondents was 84.6% from the National Council and 80% from the National Assembly. In the both houses, the National Assembly and National Council, Male are more dominant, and this explain the results

The comparison of various age groups of the research participants of this study found out that the highest was for the respondents from the National Assembly who ranges between the ages of 51 to 60 years old with 62.5% representation and the lowest from the National Assembly were for those ones between the ages of 41 to 50 years old with 12.5%. While, the National Council respondents had the highest age group which participated having ranges between the ages of 41 to 50 years old with 44.4%. The lowest research respondents from the National Council were those ones between the ages of 31 to 40 years old with 11.1% and also 60 years old and above with 11.1 %.

The majority (90%) of the Members of Parliament from the National Assembly who participated in the study held university qualifications, and the remaining 10% had secondary school educational level. Among the participants from the National Council, 46.2% had both secondary and university qualifications, while 7.7% had vocational educational qualification

Information need and the provision of relevant information

The research participants responded to the question on the sources where they get information to tackle matters during the debates in Parliament. The 40% of the Namibian Members of Parliament from the National Assembly get information from the internet and other online services. The least respondents of the National Assembly were 10% which get information from the general public, other libraries and other African Parliaments. While the majority (53.8%) of the National Council get information from the general public, and this shows that the National Council Members deals directly with the people at their various constituencies. The least was 7.7% which shows that the source of the relevancy of information is retrieved from other libraries as well as using common sense and intuition.

The respondents' frequency of visits to the Parliament Library indicates that the 40% of the research respondents from the National Assembly visit only once a month and the least is 10% of the respondents who visit twice a month. Another 10% indicate that the library is unknown to them and other 10% never visited the library. The majority of respondents 61.5% from the National Council indicate that they have never visited the library and the reason given is that they do not know where the library is located. The least is 7.7% of the respondents who visit the library once a month.

The research participants were asked to state their intentions on why they visit the Parliament library. The highest percentage at 30% for the Members of Parliament from the National Assembly visit the library to borrow books and the least 10% visit the library to make copies, binding and scanning, while the remaining respondent did not respond to the question. Regarding the Members of Parliament from the National Council, the majority at 53.8% gave no reason for their intentions and this could be because, the majority never visited the library nor knew the library's existence. Moreover, it could be that, the Members of Parliament were not aware that there is an existence of the library in Parliament. The least of research respondents is 7.7% who visit the Parliament library for reading the newspapers, relaxation, loan books and to access Hansards. Around 38.5% of respondents did not respond to the question.

The subject areas of interest for the Members of Parliament from the two houses indicates that the majority at 30% of the research respondents from the National Assembly are interested in economic and political issues and the least is at 10% of those who are interested in social and economic issues altogether. The remaining 60% respondents never responded to the question.

While, the National Council respondents' majority at 15.4% were interested in political and economic issues. The least at 7.7% were interested in gender equality, poverty information, political, economic and social issues. More the 76.9% never responded to the question

Responses regarding the usefulness of information retrieved in assisting in debate participation in the House show that the majority (80%) of the research respondents from the National Assembly found the information useful and the least (10%) were not sure. While the majority at 46.2% of the research respondents from the National Council indicates that the information, they retrieve is useful and the least is 23.1% were not sure.

Information sources utilised by the Namibian Members of Parliament for debate preparation and draft writing

The responses on information sources used for debate preparation and bills drafting, show that 30% of the National Assembly respondents used newspapers as a very important source of information and 10% used journal articles, electronic journals as well as other African countries' Parliament Bills and Acts, while 20% of the National Council research respondents' used electronic journals, other World Parliament Bills and Acts, newspapers and listening to the radio. The least (10%) used television news and constituency meetings at the regions as sources of information.

Information sources provided by the Parliament Library of Namibia to the Namibian Members of Parliament

Table 2 Information sources provided by Parliament library (N=23)

House of Parliament			Frequency	Percent	Valid Percent
National Assembly	Valid	Books	2	20.0	28.6
		Journals/Serials	2	20.0	28.6
		Electronic Journals	2	20.0	28.6
		Newspaper	1	10.0	14.3
		Total	7	70.0	100.0
	Missing	Did not state anything	3	30.0	
	Total		10	100.0	
National Council	Valid	Books	3	23.1	42.9
		Newspaper	2	15.4	28.6
		Not sure	2	15.4	28.6
		Total	7	53.8	100.0
	Missing	Did not state anything	6	46.2	
	Total		13	100.0	

Table 2 lists the different sources of information provided by the Parliament Library to the Members of Parliament. The highest percentage (28.6%) of the information sources which the National Assembly Members of Parliament responded to be available for them were books, serials including journals and e-journals and the least was 14.3% for newspapers. While the highest percentage (42.9%) of the information source which the National Council Members of Parliament responded to be available for them at the Parliament library were books and the least was 28.6% for newspapers. The fact that Members mostly use books and rely on print materials compared to digital information sources, has an impact on the library. With the Covid-19 pandemic, consideration should be given to providing access to digital information resources to cater for the users who are not able to access the library physically.

Furthermore, the librarian in an interview informed that the information sources provided by the Parliament library to the Members of Parliament are:

- Hansards verbatim of the National Assembly and the National Council;
- Records of all forms such as books as well as papers laid upon the tables in both two houses.
- Past and current records that were passed in the House such as Treaties, Conventions,
- Protocols etc, daily newspapers, legal deposit materials as well as internet services.

The librarian informed that the “MPs that use the library services are satisfied however they are few compared to those that are not coming to the library”.

Section E: Information communication and technology in Parliament Library

Electronic services and the e-resources that Parliament library provide

Electronic services and e-resources which the Parliament Library of Namibia provides to the Members of Parliament of the National Assembly indicate the highest percentage at 40% of the respondents who responded that the library provides e-newspaper and the least percentage (10%) is internet. The highest percentage (30.8%) from the National Council respondents did not state anything and the least percentage (23.1%) is internet of the electronic services provided by the Parliament library. The reason for the 30.8% could be because for the National Council members of Parliament, most of them responded that they do not know where the Parliament library is located.

Ranking of information services provided by the Parliament library of Namibia

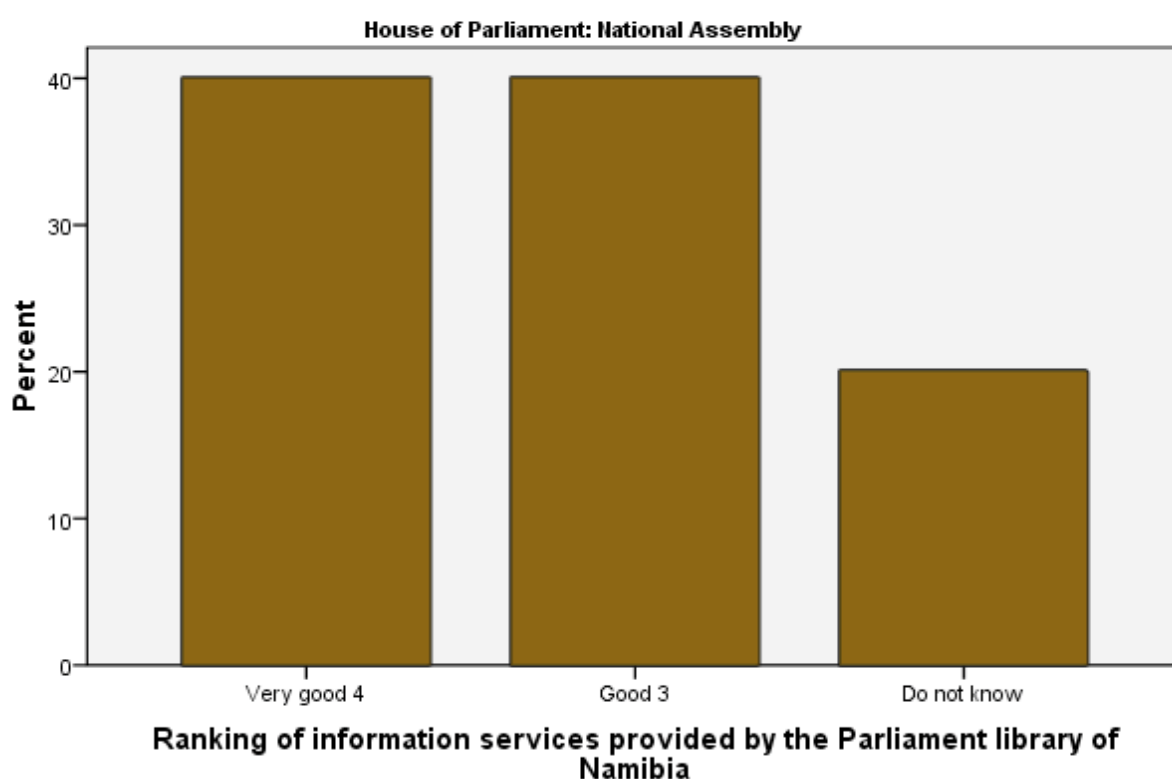


Figure 1 Ranking of information services by the respondents from the National Assembly Members of Parliament (N=23)

Ranking of information services provided by the Parliament library of Namibia

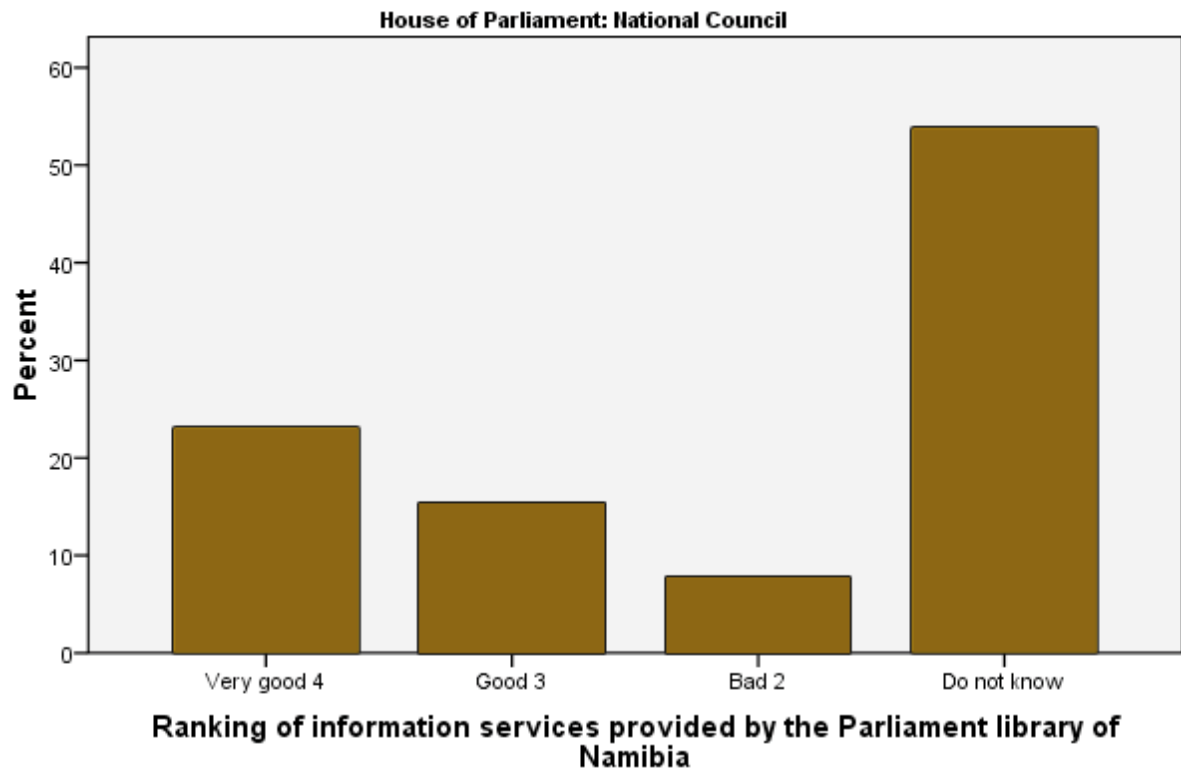


Figure 2 Ranking of information services by the respondents from the National Council Members of Parliament (N=23)

Figure 1 and 2 present the ranking of information services provided by the Parliament library of Namibia which shows that the majority (40%) from the National Assembly research respondents ranked the services to be very good and good to their usage in debates preparation and bills draft and the least is 20% which do not know and this could be that some Members are not regular users of the Parliament library. While a majority (53.8%) from the National Council responded that they actually do not know and the reason could be that National Council Members are not aware of the Parliament library's existence nor are they aware of its services.

Challenges facing the Parliament Library of Namibia in the provision of relevant information to the parliamentarians

The librarian through the interview informed that:

"The space is a challenge as it limits the library's potential to make it of good appeal, for instance the lack of space for the space of the speaker's corner, lack of space for displaying all new arrival materials, lack of space to [bring all the materials and] records from the basement into the library shelves. [The librarian indicated that] not available platform to market the library to the public and inform on the library services. The Parliament library lack heavy duty scanners to convert to digital all the hard copies records, for example all Treaties, Conventions, Statements from the house, Acts and Protocols".

Challenges facing the members of parliament using the Parliament Library of Namibia

Challenges facing the members of Parliament using the Parliament library (N=23)

The majority (70.0%) of research respondents from the National Assembly indicated that they are not facing any problem and the least (10%) are facing a problem with lack of space in the library especially where they could sit and do research, poor library services and outdated library books. While the majority (69.2%) of research respondents from the National Council responded that they are not facing any problem and the reason could be that, they do not make use of Parliament Library services, nor are they aware of the Parliament Library's existence and location. The least (7.7%) of the National Council research respondents were not familiar with the Parliament Library. Moreover, other research respondents (15.4%) indicated that they have "limited time to access the library since they spend most of their times at their constituencies and when they come for the sessions at the House, they are busy reviewing bills from the National Assembly".

Namibian parliamentarians' suggestions to the Parliament library for the improvement of the service

Research respondents gave suggestions to improve the services of Parliament Library in order to provide a satisfying and a service that would meet the information needs of the Members of Parliament. The majority (60%) of the National Assembly respondents did not suggest anything and the least (10%) MPs need to be trained on how to access information using ICT; expand the library space; update the old books with the new books as well as that the library should acquire indexes and abstracts. While the majority (53.8%) of the National Council respondents did not suggest anything and the least (7.7%) suggested that Parliament library need modern equipment and networks; suggested for library tours for MPs; the librarians should get private email addresses of MPs to update them while at their respective constituencies; MPs suggested for a library workshop which will encourage MPs to read. Moreover, 15.4% suggested that MPs need to be given enough time in order to be able to access the library. Furthermore, the librarian through the interview suggested that the institutional leadership must make time every year for the librarians to give overview of its operations to the MPs for both two houses.

The findings of the study show that a majority (90%) of the National Assembly research respondents recommended the Parliament library and its services to other customers with similar needs. Regarding respondents from the National Council, 61.5% of the research respondents recommended the Parliament library and its services to other customers with similar needs.

Conceptual model for information retrieval in identifying relevant information and findings of the study

This study was guided by Lalmas' 2011 conceptual model for information retrieval (IR). Lalmas (2011) which stressed that information retrieval system aims to identify relevant information to solve the information need of the user. The respondents at 53.8% from the National Council were not aware of services provided by the Parliament library and the research respondents at 15.4% from the National Assembly could not retrieve relevant information from the Parliament library because of time constraints to visit the library and indicated that they get their information from the Internet, other parliaments, radio, television, online services and the general public. Parliament library may have the relevant information for the Members of Parliament, however due to time constraints and lack of awareness of the library existence by the majority of the Members of Parliament, it is difficult for them to access the services,

DISCUSSION

The provision of relevant information to parliamentarians has proved to be an important key issue in law-making and decision-making process as well as in tackling daily issues in parliament. The study's findings

revealed that the majority of the Namibian Members of Parliament from the National Assembly have university as the highest educational qualification, while the National Council Members of Parliament have both university and secondary school qualifications and few with vocational training. The majority of males participated in this study than the females because they were available and willing to participate.

The study revealed that the majority of the National Assembly Members of Parliament's information need is not met by the Parliament Library because of time constraints, they cannot visit the library to access the services. Osman and Ayei (2014) findings inform that parliamentarians are busy people who spend most of their time debating and drafting bills and therefore may not have that available time to access the libraries as they may need to. The majority of the Members of Parliament from the National Council informed that Parliament Library is unknown to them and they do not know where the library is located, which is why they do not visit the library.

Moreover, the study's findings revealed that the majority of the Members of Parliament utilise the newspapers as a source of information for debate preparation and bills drafting and the least utilise journal articles, electronic journals as well as African countries' Parliament Bills and Acts. Moreover, the members of the National Council rely mostly on information received from people in their constituencies. Additionally, the study's findings from the interview with the librarians revealed that the Parliament Library provides sources of information to the Members of Parliament such as Hansards verbatim of the National Assembly and the National Council; records of all forms such as books as well as newspapers laid upon the tables in both two Houses, Treaties, Conventions, Protocols etc, daily newspapers, legal deposit materials as well as internet services. The study's findings inform that the Members of Parliament that use the library services are satisfied with the services provided, however the users are few compared to those that are not coming to the library. The study, moreover, revealed that Parliament Library provides electronic services and e-resources such as e-newspapers and internet e-resources. Furthermore, the study's findings revealed several challenges which were indicated by research respondents such as lack of space in the library especially where the Members of Parliament sit and do research, poor library services, and out-dated library books.

RECOMMENDATIONS

Below are the recommendations from the study by adhering to the advice by Osman and Ayei (2014) who stress that "parliamentarians are not information professionals and therefore requires relevant information sources which may help them in their work during parliamentary sessions:

- Members of Parliaments should be trained on how to access relevant information using ICT. Instead of acquiring hard copies of volumes of materials,
- The Parliament library should consider migrating to electronic resources such as e-journals, e-books, e-newspapers, etc.
- Library tours and training workshops should be organised for Members of Parliament to encourage them to read and give enough time to be able to access the library. Rugambwa and Kintu (2013) stress that there is a need to develop a good communication with the Members of Parliament by organising capacity building workshops in order to increase the policy makers' capacity to demand, read, understand and use the library and research evidence appropriately.
- Librarians should attend customer care services training courses.
- Institutional leadership should make time every year for the librarians to present an overview of the Parliament library operations to the MPs for both Houses of Parliament.

CONCLUSION

The provision of relevant information to parliamentarians is key to satisfying their information needs in law and decision-making process as well as in tackling daily issues in parliament. The study's findings indicate that the National Council Members of Parliament highest educational qualification is secondary and university education, while the National Assembly is topped by the Members of Parliament with university as the highest educational qualification. However, regardless of the Members of Parliament's educational qualifications, they need training on how to access relevant information in Parliament library and in using ICT to prepare for debates and bills drafting. Librarians need customer care service training as well as capacity building workshops on the us. The majority (90%) of the Members of Parliament from the National Assembly who participated in the study held university qualifications, and the remaining 10% had secondary school educational level. Among the participants from the National Council, 46.2% had both secondary and university qualifications, while 7.7% had vocational educational qualification of e-resources. The library needs to start acquiring e-resources to address limited space and limited resources.

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INFORMATION LITERACY: PROGRAMMES AND STRATEGIES



CELEBRATING THE POWER OF LITERATURE AND LITERACY: THE CHIKUMBUSO WOMEN AND ORPHANS PROJECT SCHOOL LIBRARY

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ABSTRACT: *How do you launch a library literacy programme to inspire and empower a community of HIV/AIDS survivors in an inner-city slum in sub-Saharan Africa? This is exactly what the founder and citizens of the Chikumbuso Women and Orphans project in Ng'ombe compound, Lusaka, Zambia have achieved and continue to refine and grow. This paper focusses on the continuing development of the Chikumbuso library programme. In addition to providing resources for the school faculty and classroom curriculum, the Chikumbuso library has developed extracurricular programmes including a young adult book club, cultural awareness events, and technology trainings. The evolution of the library book discussion programme is the main topic of this paper. It also provides ideas and suggestions for other libraries wishing to implement a similar programme.*

KEYWORDS: *information literacy, sub-Saharan Africa, school libraries, book discussions.*

INTRODUCTION

The focus of this paper is on a school library programme in Ng'ombe compound, Lusaka, Zambia. The authors demonstrate how this programme has benefitted its users by teaching and reinforcing literacy skills for not only the students at the school, but also the teachers and other members of the project. This paper highlights the development and literacy benefits of the library, including its young adult book club.

The benefits of access to literature and libraries are undisputed. UNESCO (United Nations Educational, Scientific and Cultural Organization) recommended developing rich literate environments in its 2006 Global Monitoring Report on Education for All: *Literacy for Life* UNESCO (2006). According to Easton (2009, 311-312), a literate environment is one that provides access to reading materials, and availability of formal or non-formal continuing education. Shrestha and Krolak (2014) argue that once literacy skills are obtained, they must be supported by a literature-rich environment or they are in danger of being lost (p. 402). Providing a community with a well-stocked and staffed library helps to reinforce the reading and critical thinking skills that students learn from an early age (IFLA n.d.). Access to reading materials and literacy instruction provide students who have limited resources the ability to learn about other cultures and places, giving them a global perspective and the tools to be a more productive member of their own society Anderson and Matthews (2006, 577-578); Dent (2010, 7-8).

This paper is a case study of a successful school library in Zambia, located within a women's and orphans' project. Special attention is focussed on the secondary student book club and its impact on the participating students. The creation and evolution of the book club serves as a model for other public and school libraries wishing to reinforce the literacy skills of their young adults and nurture a life-long love of reading. This paper provides an overview of the community project, the development of the school and library, and the creation of activities for the book club. The authors also look ahead to the future of the project and the library.

CONTEXTUALISATION

The Chikumbuso Women and Orphans Project is a grassroots project that was launched in 2005 in Lusaka, Zambia, initially as a micro-enterprise to give widows in the Ng'ombe compound community training and a means to support themselves. The project grew, eventually incorporating a free K-7 school, meals for students, an after-school programme, support for students from grade 8 through college, a gap-year programme, an emergency safe haven for girls, job placements, healthy life skills training, and a school library, which is the subject of this paper. Chikumbuso also provides food and supplies for families, including the elderly in the community.

THE DEVELOPMENT OF THE CHIKUMBUSO LIBRARY PROGRAMME

Establishment

The library programme at Chikumbuso was established in 2011. An empty classroom at the Chikumbuso site was dedicated to house the library. It was painted in bright colours, shelves were installed against three walls, and tables, chairs, and comfortable reading spaces were created using *chitenge*-covered cushions and mats. A school in the United States donated a collection of 3,000 books. This original collection of gently used books consisted of fiction and nonfiction, suitable for reading levels Pre-K through 8th grade, and they were primarily in the English language.

The collection is used to supplement classroom lessons about subjects such as weather, history, geography, and biology, in addition to literature. All classes visit the library weekly to explore the stories and information there, and to receive information literacy lessons from the librarian. The physical space is also used after school by the older students who have graduated and now attend local secondary schools.

The library also benefits the women of Chikumbuso by providing technology training and reading materials to increase their literacy. The Chikumbuso librarians are recruited from the community, often being graduated students from the programme. This training and employment have resulted in empowering the librarians with the skills, knowledge, and a sense of pride and accomplishment, as well as providing a means to support their families. In addition to their in-house training, the librarians are given paid time and funds to travel to a nearby Lubuto library where they are mentored by a certified Zambian librarian.

Organisation

A team of librarians from the American Friends of Kenya (www.afkinc.org) visited the project in the summer of 2011 to assist with organising the newly arrived collections. A member of the Chikumbuso community was hired to be the first librarian and was also involved in the sorting of library materials. Many of the Chikumbuso students arrived every morning to help apply barcodes and spine labels, making it a true community project. Initially the library subscribed to the cloud-based library automation system, the Library World (www.libraryworld.com), to establish a database of titles with the ability of managing circulation electronically. Eventually this subscription was discontinued due to unreliable internet connectivity, costs, and lack of use for circulation. The books were classified by the Dewey Decimal Classification System, and the team of librarians used resources such as the *Sears List of Subject Headings* Sears and Miller (1997) and a Dewey Decimal Classification Chart OCLC (2003) downloaded from the internet. They had also brought a supply of spine labels and markers. These were used to create spine labels for each book to assist with organising the books on the shelf. As the books were classified, they were placed on the designated shelves. The categories used for shelving the books were: picture books; I Can Read, fiction, nonfiction and reference. Laura Wendell's (2011) seminal publication *Libraries for all: How to start and run a basic library* was also referred to when setting up the Chikumbuso library. These resource materials were left behind by the visiting team of librarians for use by the Chikumbuso librarian.

Staffing and Training

The first librarian at the Chikumbuso library was a community member Finety Muntango. She worked with the visiting librarian team to learn how to classify, label, and shelve materials, and how to circulate the books. Because of the unreliable internet connection, the automated Library World circulation system was bypassed, and circulation information was (and still is) kept in a journal. The visiting librarians also worked with Muntango on ways to promote the collection using displays and providing classroom teachers with resources that reinforced classroom subjects (for instance, weather). Within a year, Muntango was offered a job as a classroom teacher, and another member of the Chikumbuso community was selected to take on the librarian position. Training for incoming librarians is provided by the outgoing librarian and visiting volunteer librarians when they are available. In 2015 a group of Chikumbuso teachers and the librarian visited the Ngwerere Lubuto Library (www.lubuto.org/ngwerere) to observe their community library programme. The Ngwerere Lubuto librarian, Givenchy Besa, who has a library science degree from the University of Zambia, offered to mentor the Chikumbuso librarians. Accordingly, the Chikumbuso librarians are given paid time and transportation fare to visit the Ngwerere Lubuto library for ongoing mentoring and training, thereby reinforcing their growing library management skills.

Chikumbuso Book Club

Each of the K – 7th grade classes at Chikumbuso visit the library once a week. During their visits, the librarian reads aloud to the younger grades and assists the older students in selecting books for school and recreational reading. Students attending grades 8 – 12 at the local public schools frequently return to Chikumbuso before or after school and use the library as a quiet place to study. In 2014, a visiting school librarian from the United States brought several copies of the young adult book, *A Long Walk to Water* Parks (2010). Simultaneously the Chikumbuso teacher-trainer identified several secondary school students to participate in an after-school book discussion group. This was the pilot group for the Chikumbuso Book Club. Since then, book club members have read and discussed titles such as *A Long Walk to Water* Park (2010), *The Boy Who Harnessed the Wind* Kamkwamba, Mealer, and Zunon (2012), *The Heaven Shop* Ellis (2005), *Waiting for the Rain* Gordon (1997), *I am Malala* Yousafzai and McCormick (2016), and *Thunder Cave* Smith (1997), to name just a few. Often the discussions are accompanied by related experiences. For instance, after reading *A Long Walk to Water*, the students had an on-line discussion with American students who had also read the book at a secondary school in Connecticut. After reading *Waiting for the Rain*, a story set in South Africa that deals with prejudice, the students watched the movie *Mandela* Menell et al. (2006) and had in-depth conversations about the complexities of apartheid and civil rights. Following the reading of *Thunder Cave*, the students were able to have a Skype conversation with the author, Roland Smith, to learn about the craft of writing. Being able to read and discuss these ideas and stories has expanded the students' global exposure.

The book discussion groups are typically made up of six to ten secondary school students and they span a two-week period. Each weekday, the students meet with the discussion facilitator (the librarian) to discuss the previous evening's readings and they start the next section. When the book is finished, a concluding discussion is held and there is usually some sort of activity related to the readings. The books are selected not only for their availability (as several copies are needed to accommodate the club members), but more importantly for their subject relevance. The book club has discussed books dealing with AIDS/HIV Ellis (2005), apartheid Gordon (1997), resource scarcity Kamkwamba et al. (2012); Park (2010), elephant poaching Smith (1997) and bravery and human rights Yousafzai and McCormick (2016).

Books clubs give young adults a social interaction forum in which to hone their critical thinking skills and develop a strong sense of self (Appleman, 6). When asked how participating in the book club impacted his studies and future, former Chikumbuso student Teddy Nosiku noted:

Reading and writing has always played a vital part in my life. However, even though it significantly helped, schooling was not what influenced me to continue developing those skills. It was the book club and the library at Chikumbuso that sharpened the person I am today. Believe it or not reading in the developing world like Zambia where I come from, reading is not for everyone. This is not because they don't like reading, it's because they don't have an opportunity to do so. Lucky me, the book club gave me that opportunity, that opportunity to comprehend the world beyond the one I knew. It developed positive thinking and gave me a better perspective of life, enhanced my knowledge, improved my concentration and made me more confident and debate ready ... Reading is one of the most important and beneficial activities I have ever engaged in. The pleasure and rewards I got from the book club is immeasurable. Reading is the kind of exercise that kept my mind engaged, active and healthy from all the toxic activities that was going around me and in my community. Reading has benefited me not only for the sake of knowledge but also for personal growth and development. All that thanks to the book club and that library (Teddy Nosiku, email to author, September 26, 2019).

Former Chikumbuso student Aaron Nyambe added:

It [the book club] has impacted my life in so many ways. Such as being able to analyse or understand what I am reading in a different perspective. Like, learning about different cultures, and about life through reading nonfictions from different authors. The book club has helped me to be where I am today. It's where I was meeting friends and sharing ideas as well as interacting through discussions about the book we would read. Schools would have been boring without libraries (Aaron Nyambe, email to author, September 26, 2019).

OPPORTUNITIES AND CHALLENGES

The library recently celebrated its eighth anniversary. Nearly a decade after their establishment, the Chikumbuso School and library are now realising several cohorts of graduates who are moving on to higher education and training. In 2018, 47 high school graduates from the programme were attending trade schools, colleges, and other forms of post-secondary training (Chikumbuso 2019). Seventeen 2019 graduates are currently being placed in a wide variety of post-secondary training programmes, including nursing, electrical engineering, teaching, economics, environmental health, pharmacy, and computer studies (Mishek Mvula, email to author, August 18, 2019). While difficult to quantify, the authors draw a direct correlation between the library programme and these student achievements. The positive reaction to and strong participation in the book club supports its continuance. The biggest challenge is to secure multiple copies of selected titles for student distribution. One possible solution is to plan the titles well in advance and work with Lusaka bookstores on discounted prices.

Library use at Chikumbuso has evolved as community needs make themselves apparent. Instruction at Chikumbuso is delivered in English, and by the time the students are in the second grade, they are fluent. However, it was recognised that providing materials in the local languages would also be beneficial, and the original collection has been supplemented with books in the local languages of Bemba and Nyanja. Retention of the librarian has also been an ongoing challenge. Identifying an individual with high interest in the library programme and who recognises the benefits of information literacy has sometimes been difficult, often with the person in the position leaving for personal reasons. Fortunately, having a strong training protocol in place has helped in onboarding new librarians. Additionally, the librarian is now compensated at the same rate as the classroom teachers to demonstrate equity and recognition of her contributions to the students and the teachers.

The strength and responsible management of Chikumbuso and its library programme has resulted in increased support from a wide range of donors. An American Rotary club has funded new furniture, books, and teaching materials to the programme. A cohort of American and Zambian Rotary clubs provided funding for the recently completed computer lab, which will play a significant role in preparing the students and community of Chikumbuso with the knowledge to succeed in a technological and information-rich global

society. The Chikumbuso project, including the school and library, is funded in part by proceeds from the micro-enterprise projects. The project relies heavily on grants, donations, and volunteerism to support the programme. For security reasons, the library at Chikumbuso is accessible to members of the Chikumbuso community, but not to unaffiliated citizens of Ng'ombe. This restriction limits funding opportunities available to public libraries in the region.

The word Chikumbuso comes from the Bemba term for "Remembrance." Members of the community are encouraged to "Remember those who have died, where we have come from, and to do for others" (<https://www.chikumbuso.com/>). To retain sustainability for the project, students who have graduated and receive professional training are expected to "remember" by giving back to the project that gave them their future. The base of support for the project grows as more students graduate from the programme and return as professional and financial supporters.

CONCLUSION

The Chikumbuso library programme was founded in opportunity. It was established and has evolved due to the efforts of the project administration, its teachers and librarians, and the contribution of book donors, teacher-trainers, and discussion facilitators.

The impact of the library and book club at Chikumbuso is reflected in student outcomes. Every year the number of graduating students who go on to successful careers and/or higher education continues to grow. They leave Chikumbuso with an appreciation for the written word, the value of the knowledge they have obtained, a heightened global awareness, and the desire to give back to their society and their country.

The authors of this paper welcome inquiries regarding further information about the Chikumbuso School Library and book club.

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Chikumbuso would not exist if not for its founder, Linda Wilkinson. It is hard to calculate the number of lives that have benefitted by participating in Chikumbuso, either as a widow, a student, a graduate, an employee, or a volunteer. Linda's decision to locate space and resources to create the Chikumbuso library has resulted in a backbone of literacy for the entire community. Thanks also go to Maggi Alexander and Carol MacArthur at Greely Middle School in North Yarmouth, Maine, for generously providing the Chikumbuso library's seed collection of 3,000 books. We would also like to thank Chikumbuso Women and Orphans Project director Gertrude Banda for her wise oversight and guidance. Givenchy Besa, librarian at the Ngwerere Lubuto Library has generously given her time and knowledge to mentor and train the Chikumbuso librarians, and we are grateful. Finally, we acknowledge the contributions of past and present project administrators, teachers, and librarians who have made this program what it is today.

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TIPPING THE INFORMATION LITERACY BALANCE: THE ROLES OF TEACHERS IN PROMOTING INFORMATION LITERACY INTEGRATION INTO THE SENIOR SECONDARY SCHOOL CURRICULUM IN BOTSWANA

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ABSTRACT: *This paper is a synopsis of a doctoral dissertation done at the University of Kwa-Zulu Natal with the objective of investigating information literacy integration strategies into the curriculum of senior secondary schools in Botswana. The rationale of the study was firstly the persistent concern that undergraduate students enrolling into University of Botswana (UB) appeared to lack adequate IL skills and competencies. Secondly, secondary school teachers played little roles in promoting information literacy integration strategies into their specific subjects. The study applied the constructivist theoretical lens complemented by IL models and standard. Qualitative and quantitative research approaches were employed. Questionnaires and semi-structured interviews were used to collect data. A sample of 150 teachers responded to the survey. The findings revealed that senior secondary schools in Botswana did not have clearly stated goals of information literacy. Importantly, there is no national IL policy, guidelines or standards for Botswana secondary schools. The study also revealed that teachers relied heavily on traditional methods in developing IL skills that fell short of constructivist approaches. The study recommended IL integration into the curriculum of senior secondary schools including adoption of international best practices based on IL models/frameworks aligned with constructivist principles.*

KEYWORDS: *teachers, secondary schools; information literacy, integration strategies, constructivism, Botswana.*

INTRODUCTION

The topic of information literacy and the field of teacher/school librarianship have been under-researched in Botswana Jorosi and Isaac (2008). The concept of information literacy (IL) refers to an individual's ability to recognise information needs, find, evaluate, and use information effectively for problem-solving or decision-making ALA (1989). The revolution in IL and the emergence of the information society has become a global priority and it has changed the way people search, find and use information for personal, professional, and educational purposes Bernier (2007). Taylor (2006) asserts that educating students and equipping them with IL competencies is a goal that must be at the heart of the library programme in schools. The constructivist philosophy of education advocates for students to develop the ability to understand and use information to gain lifelong learning Taylor (2006, 1). However, the degree to which teachers can tip the balance in integrating IL into the curricula and teaching IL effectively to students remains a challenge in a Botswana Isaac (2002). The American Association of School Librarians and the Association for Educational Communications and Technology (AASL/AECT) (1998) posit that an information literate person is multi-skilled, having the technical application, and research abilities in addition to constructing knowledge and thinking critically. Teachers and school librarians in collaboration with the school principals are expected to teach, train, and improve IL skills and teaching strategies that may be relevant for students in the 21st century (AASL/AECT) (1998). Information

literacy skills can be taught generically across curricula (for example, by a school librarian) and specifically within the context of a learning area (by the teacher).

The Botswana Senior Secondary School Blue Print advocates skills such as problem-solving, critical thinking, communication, inquiring, teamwork and interpersonal skills to help students to be productive and to survive in the information society. Teachers are viewed as facilitators and guides rather than reservoirs of knowledge. Active learning (by doing) is promoted over passive learning (by listening) to improve education for life-long learning Republic of Botswana Vision, (2016), Republic of Botswana, Senior Secondary School Curriculum Blueprint (1998, 7-8). However, Maruatona (2005) observed that the teaching arrangement in Botswana schools is mostly anti-dialogic and is designed to stifle the potential of the learners to develop critical thinking in the programme taught. The integration of IL into the secondary school curriculum ensures the students to acquire relevant IL skills before joining the university was emphasised by Mutoroke (2009).

RESEARCH PROBLEM AND OBJECTIVES

Despite the fact that the government of Botswana through the Ministry of Education and Skills Development recognises the importance of IL in the senior secondary school curriculum, but there is no policy framework to guide its integration into the curriculum and implementation. Moreover, there is persistent concern that students leaving senior secondary schools to join university are not equipped with IL skills to effectively pursue undergraduate programmes. In particular, students have been found lacking critical thinking and problem-solving skills. Students are also reportedly weak in question formation, brainstorming, categorising, skimming and scanning skills, the use of search engines and databases, evaluation of online and printed material, internet, use of indexes, note-taking and ability to analyse or synthesise information when writing assignments Fidzani and Lumande (2007); Mutula, Wamukoya, and Zulu (2005).

The objectives of this study were (1) to examine the strategies of IL delivery in senior secondary schools in Botswana, and (2) to ascertain the roles teachers play in promoting IL in senior secondary schools in Botswana.

THEORETICAL BACKGROUND

Both interpretive and positivist paradigms underpinned the study. Constructivist theoretical model complemented by IL models such as the Information Search Process (ISP) model Kuhlthau (2004), the Big6™ Information Problem-Solving Eisenberg and Berkowitz (1990); and the *Information Power: Building Partnerships for Learning* frameworks of the American Association of School Librarians and the Association for Educational Communications and Technology (AASL/AECT) (1998) were used as the theoretical lenses.

Gordon (2009, 39) asserts that strategies that promote active learning have the following common characteristics: (1) students are involved in a class beyond listening; less emphasis is placed on transmitting information and more on developing the skills of the students; (2) students are involved in higher order thinking such as analysing, synthesising, and evaluation; (3) students are involved in activities like reading, discussion, and writing; and (4) greater emphasis is placed on the exploration of student values and attitudes. There are various related studies that have used constructivist approaches Herring (2010); Walczak and Jackson (2007); Sharkey (2006); Hart (2006).

LITERATURE REVIEW

The fundamental goal of IL is to develop critical users of information Taylor (2006). Yaacob, Iskandar, and Jusoff (2011, 1) state that educators bear an enormous obligation in the twenty-first century to equip students with IL skills while pursuing their education, and extending it further into their workplace, and developing life-long skills. The constructivist approach is at the centre of teaching IL skills, especially cooperative, authentic, collaborative, independent and lifelong learning Kuhlthau (2001). The learning activities are characterised by

active engagements, hands-on activities, inquiry, problem-solving, investigations, experimental design and collaboration with others Fox (2001). Students acquire knowledge using the necessary information, depending on other people (teachers, partners, parents, society) to guide, help, collaborate and communicate under certain circumstances (social and cultural backgrounds) Liu and Sun (2011, 228).

Barak and Shakhman (2007, 11) studied issues in science instructional practices and found that the teaching of science subjects was based on traditional approaches. They pointed out that the teaching of science subjects must shift from traditional schooling to more constructivist-oriented instruction. The authors listed critical thinking, problem solving, independent study, and decision making as skills that must be fostered if science education is to meet students' needs. Other studies also found constructivist teaching methods to be beneficial to a variety of underserved populations Knapp (2013). John Dewey in the 1930s and Benjamin Bloom (1956) as the main proponents of constructivist approaches have challenged teachers to leave their pulpits as sages on the stage to become guides on the side. Tabulawa (1997) argues that many teachers in Botswana secondary schools were trapped in an endless examination preparation cycle and see student-centred teaching methodologies as luxuries they can ill-afford. Classroom instruction remains predominantly teacher-centred and authoritarian with passive students engaged mainly in recall learning.

Information literacy models that are predicated on constructivist pedagogy include Kuhlthau's Information Search Process (ISP) model Kuhlthau (2004); Kracker (2002), Big6™ model- (Eisenberg and Berkowitz 1990), and Herring's PLUS model Herring, Tarter, and Naylor (2002; Herring (2004). IL models promote problem-based-learning and a student-centred inquiry process that aims to develop skills that are appropriate for lifelong learning Newman (2005). The AASL/AECT is the backbone of IL programmes at the secondary school level. Its aim is to ensure that students and teachers become effective users of ideas and information and advocates for the move from a teacher-centred and textbook approach to teaching and learning that is student-centred and information/resource/inquiry-based AASL/AECT (1998, 2). These models have been derived from research using observation of students who have been successful in completing academic assignments such as term papers, oral reports and multimedia presentations Callison and Preddy (2006, 36).

In Africa despite some IL research Vander Walt (2005); Jiyane and Onyancha (2010); Jorosi and Isaac (2008), there is paucity of firmly rooted IL programmes in schools Those IL programmes that exist are fairly new and only came into existence within the past decade Jacob, (1995). In Botswana, for example, there are limited meaningful information literacy programmes and projects to enable learners exploit the available information resources effectively Mutula (2010); Mutoroke (2009). In contrast, the literature presented here seems to suggest that developed world integration of IL into the curriculum is a well-planned and collaborative exercise between the teacher, subject teachers, students, parents, school principals and policy makers Keith (2007).

ROLE OF TEACHERS IN PROMOTING IL

In the education arena, teachers' qualifications, experience, knowledge of subject areas, and pedagogical skills radically influence student learning. Todd (2001) asserts that the role of teachers is essential for IL initiatives to be successful. These roles must be cultivated through ongoing planning, dialogue, and classroom practice. The primary role of a teacher is to engage students in inductive, hands-on activities, group work, and reflection to promote critical thinking, self-evaluation, and the integration of knowledge across core subject areas Vavrus et al. (2011). Thompson and Henley (2000, 92) further point out that teachers are responsible for designing units or lessons that fulfil both curriculum and IL goals and objectives. Teachers must be equally involved in the integration process of IL in the curriculum so that they can see the connections and how the skills help students' learning Taylor (2006, 41).

The IFLA/UNESCO (2002) school library guidelines stipulate the role of teachers in promoting IL and maximising the potential of the library services to include the following:

- develop, instruct and evaluate students' learning across the curriculum;
- develop and evaluate students' information skills and information knowledge;
- develop lesson plans;
- prepare and carry out special project work to be done in an extended learning environment, including the library;
- prepare and carry out reading programmes and cultural events;
- integrate information technology into the curriculum; and
- make clear to parents the importance of the school library.

In the context of Botswana, the role of teachers in promoting IL in secondary schools has been a subject of debate (Jorosi and Isaac 2008) because of their full-time role in teaching, and overloaded school curriculum.

METHODOLOGY

The study was conducted in Gaborone, the capital city of Botswana. Twelve senior secondary schools (four public and eight private schools) were investigated. Senior secondary school teachers in Gaborone were selected using probability and non-probability techniques. The quantitative approach, which is predicated on the tenets of the positivist paradigm, enabled the researcher to describe the research participants' views on IL integration strategies in secondary schools in Botswana accurately. Understanding social behaviour involves understanding how people define and interpret their particular social situation, that is, how they construct the social realities in their natural environment Creswell (2009, 21). One hundred and fifty out of 277 teachers responded to the questionnaire. The Israel's model (1992) was used to calculate and determine the sample size of the teacher. Out of a population of 900 teachers, a sample size of 277 teachers for all the schools was determined. Table 1 below lists the distribution of teacher sample sizes per school, and the total population of the school librarians and school principals. The school names are given in pseudonyms.

Table 1: Sample size per school

Schools/Institution	Teachers	School Librarians	School Principals
1. PUB1	41	1	1
2. PUB2	42	1	1
3. PUB3	42	1	1
4. PUB4	41	1	1
5. PVT1	11	1	1
6. PVT2	10	1	1
7. PVT3	17	1	1
8. PVT4	17	1	1
9. PVT5	19	1	1
10. PVT6	17	1	1
11. PVT7	9	1	1
12. PVT8	11	1	1
MoEandSD	-	-	-
TOTAL	277	12	12

Key: PUB – Public School; PVT – Private School

The survey questionnaires, as well as interview schedules were used to collect data from teachers. The analysis of data using SPSS allowed the researcher to explore and describe patterns in the study. Microsoft Excel was used for generating simple tables. Content analysis was used to analyse the open-ended responses

to the questionnaires. According to Teddlie and Tashakkor (2009, 263); Creswell and Plano Clark (2011, 203), triangulation methods of data analysis enable quantitative and qualitative data analyses to be integrated into a study.

To achieve validity and reliability, the survey questionnaire and interview schedule were created and developed from previous validated and tested instruments: AASL/AECT (1998); Kuhlthau (2004); Eisenberg and Berkowitz (1990). Other similar and related studies include those of Dotan and Aharony (2008); Onen (2011); Rojtas-Milliner (2006).

The Government of Botswana, Ministry of Education and Skills Development and respective school principals granted permission for the research. Respondents gave informed consent and the study complied with the University of KwaZulu Natal research ethics protocols.

FINDINGS AND DISCUSSIONS

Demographical profiles of the respondents

A total of 150 (one hundred and fifty) male and female teachers of equal gender distribution responded to the questionnaires; 99 teachers were from the private schools and 51 from the public schools. The majority 76% of teachers were in their thirties and forties, consistent with a young and energetic workforce. Sixty-nine percent of teachers held bachelor's degrees; 24% masters' degrees and only 7% possessed diploma qualifications.

Strategies used to deliver IL

Most of the teachers relied heavily on traditional methods of teaching based on prescribed textbooks and requiring students to memorise material. Some teachers, however, reported deploying constructivist approaches by encouraging students to learn critical thinking and problem-solving skills and thus allow students to investigate and solve real-world problems. But 64% of teachers never gave assignments that would make students use the library. Some 73% preferred to give notes to students rather than let students summarise and make their notes. Most respondents 67% always gave students what was expected to be learnt in a topic and then reminded them of what they should know. Table 2 represents views of teachers about IL teaching strategies.

Table 2: Strategies Used to Deliver IL by Teachers (N=150)

Strategies Used to Deliver IL		Always	Never	Don't know
i.	Give assignments that make students use the library. (*C)	28%	64%	8%
ii.	Rely only on prescribed textbooks for teaching. (*T)	49%	43%	8%
iii.	Provide students with notes always. (*T)	52%	42%	6%
iv.	Photocopy materials to students as recipients of knowledge. (*T)	47%	47%	6%
v.	Let students summarise and make own notes. (*C)	20%	74%	6%
vi.	Completing course content is primary goal on lesson plans. (*T)	63%	29%	8%
vii.	Make students raise hands to ask questions or give answers. (*T)	66%	27%	7%
viii.	Allow class activities to be student-centred. (*C)	55%	38%	7%
ix.	Classroom activities demonstrate multi-cultural diversity (*C).	62%	30%	8%
x.	Test students for comprehension of information taught. (*T)	59%	33%	8%

xi.	Always sit or stand in front of the class “Sage on the Stage” (*T)	37%	54%	9%
xii.	Foster motivation for students to explore content taught. (*C)	48%	44%	8%
xiii.	Allow students access to primary & secondary for assignment. (*C)	53%	40%	7%
xiv.	Allow students dialogue with teacher & each other in classroom. (*C)	60%	33%	7%
xv.	Give students what is expected to be learnt and remembered. (*T)	67%	26%	7%
xvi.	Encourage social negotiation as part of the learning process. (*C)	65%	28%	7%
xvii.	Facilitate group interactions “guide on the side”(*C)	55%	38%	7%

Key: Constructivist (*C); Traditional (*T) strategies

The reluctance of teachers to adopt constructivist approaches to teaching can be attributed perhaps to the fact that they are required to cover the entire Botswana General Certificate of Secondary Education (BGCSE) curriculum that is constructed around textbooks and they also deal with large class sizes (forty-five or more students in public schools), thereby logistically hindering variations in methodologies. Teachers are therefore left with little room for innovations in their teaching approaches and instead they rely on lecturing in their classrooms, with little time devoted to discussions or inquiry-based learning that constructivist approaches promulgate. Furthermore, the present educational system in Botswana is examination oriented, which is used to determine if students continue to higher institutions of learning and beyond in their careers. The knowing of factual information to pass an exam, therefore, takes precedence over life-long learning. Teachers receive the curriculum sealed with the Teacher’s Guide to implementing them. As Tabulawa (2009) puts it, “the curriculum is teacher-proof”.

CONCLUSION AND RECOMMENDATIONS

Conclusions

The findings revealed that teachers were moderately enthusiastic about IL, but the extent to which they adequately promoted it through teaching in the classroom remained uncertain. Significant numbers of teachers relied on traditional methods of teaching using prescribed textbooks that require students to memorise material learned. Few teachers used some teaching strategies such as facilitating group discussions which encouraged active learning and feedback on the learning process. The study revealed that most teachers did not have the competence to teach IL. The application of the constructivist methodology is constrained by various issues such as lack of IL resources and high student to teacher ratios particularly in the public schools.

Recommendations

The stakeholders in the secondary school sector should work together to develop national IL policy frameworks to guide the integration of IL into the curriculum. The University of Botswana and Colleges of teachers’ education should also be involved because they are at the core of higher education in Botswana. Additionally, the Government of Botswana should expedite the provision of ICT infrastructure especially Internet connectivity in all senior secondary schools.

An innovative IL pedagogy should be developed by teachers, librarians and curriculum developers that are predicated on IL models such as the Big6™ (Eisenberg and Berkowitz 1990), the Information Search Process Kuhlthau (2004) and Information Power: Building Partnerships for Learning guidelines of the American Association of School Librarians and Association for Educational Communications and Technology AASL/AECT (1998) which espouses student-centred-learning.

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DEVELOPMENT, MANAGEMENT AND ACCESS TO ELECTRONIC INFORMATION RESOURCES



COLLECTION DEVELOPMENT PRACTICES AT INSTITUTIONS OF HIGHER LEARNING IN NAMIBIA WITH SPECIAL REFERENCE TO ELECTRONIC RESOURCES: THE CASE OF THE UNIVERSITY OF NAMIBIA LIBRARY

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ABSTRACT: Collection development is one of the critical activities of any library management process. The goal of collection development in university libraries is to effectively provide relevant and up to date information resources. The purpose of the study was to investigate the collection development practices at the University of Namibia (UNAM) library (and its constituent branches) with special reference to the electronic resources. The study population comprised of 291 teaching staff from all eight faculties of UNAM. A total number of 149 faculty members responded to the survey, which gave a response rate of 51.2%, while a total number of 16 library staff were interviewed. The study was largely quantitative, with qualitative data being collected to supplement the quantitative data. For quantitative data collection, the study used a self-administered questionnaire, while for qualitative data, the study used an interview schedule with library staff. The study found that not all faculty members were aware of the guidelines, procedures and policies on the collection development activities. Eighty-one percent (81%) of faculty members were aware of the importance of their role in selecting library materials. As a result, a high percentage of respondents (62.4%) have been involved in collection development activities with librarians. The main factors influencing collection development at UNAM, according to the faculty members, are: budget allocated for e-resources, communication between librarians and the faculty members, and procedures of placing orders for resources.

KEYWORDS: collection development, electronic resources, university of Namibia, subject librarian, information and communication technology.

INTRODUCTION

Academic libraries are required to provide information to students and academic staff through balanced collections of information resources in various formats and means of access. Electronic resources may be acquired or access may be leased, while the print materials may be acquired traditionally or provided via document delivery. According to Mirza and Mahmood (2012), library and information services consider electronic resources an integral part of information sources that provide efficient services to information seekers. Dadzi (2005) argues that electronic resources are important research tools that can complement the printed information sources in traditional library service. Electronic resources have the potential to provide fast, widespread, and cost-effective access to an unlimited amount of knowledge. This rapid emergence and development of electronic information resources makes it possible to radically envision different ways of organising the collections and services that the library has traditionally provided. Electronic resources (e-resources) are defined as works that require local and remote computer access. These include, but are not limited to, electronic journals or collections of journals, online databases, electronic reference materials, electronic books or collections of books, and streaming media. Collection development, on the other hand, includes many processes which are usually conducted by librarians and their associated faculty members, for example, user analysis, selection, acquisition, collection evaluation, resource sharing, collection maintenance

and weeding of library materials Gulnaz and Fatima (2019). There are no academic, public or school libraries without a library collection; and according to Ameen (2008), acquiring information resources is a core activity of libraries. In agreement, Kavulya (2004, 12) notes that “rapid emergence and development of electronic information technologies make it possible to radically envision more efficient ways of organising and managing collection, but they present a big challenge of adaptation.”

PROBLEM STATEMENT

In April 2010, the four Colleges of Education in Namibia became part of the University of Namibia, and formed the Faculty of Education, following a cabinet resolution to that effect. Due to the mergers, the libraries of the four colleges were forced to attain the same standards set out at the University of Namibia. There was, therefore, a need for these colleges to align their policies, including collection development policies to those of the parent institution - the University of Namibia. According to the Colleges of Education Library report of 2010 UNAM (2010), the libraries of the former colleges of education were failing to support academic programmes offered by their parent institutions. The libraries were characterised by inadequate and outdated textbooks and reference collections. Furthermore, the journal collections were non-existent in most of the colleges. These weaknesses of the college libraries triggered the questions: how much has the merging affected the collection development of resources, especially e-resources? What are the factors that impede the successful running of the libraries in as far as meeting the users’ information needs is concerned? What are the challenges, if any, that the merged libraries as well as the main library face in collection development? Since electronic resources are increasingly becoming popular among learners and researchers, despite the resources’ budgetary limitations, what can the UNAM libraries do to effectively develop and manage their collections to meet the student and staff member’s needs? These, among other factors, constitute the research problem for the current study. Currently, there is no research that has been conducted that deal with collection development, especially pertaining to electronic resources at the University of Namibia library, so this study makes a significant contribution in that respect.

AIM OF THE STUDY

The aim of this study was to investigate the collection development practices at the UNAM library (and its constituent branches) with special reference to the electronic resources. The objectives of this study were to:

- explore the collection development procedures and policies for electronic resources at the UNAM library;
- investigate the factors that influence the collection development of information resources; and
- discover the barriers to the effective collection development of electronic resources at the UNAM library.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This study was anchored on and informed by the Kasalu’s (2010) collection development process which comprise selection, user needs analysis, acquisition, collection development policy, collection evaluation, and the weeding process. Khademizadeh (2012, 4) states that collection development is one of the critical activities of any library management process. The goal of collection development in academic libraries is to effectively provide relevant and up to date literature Johnson (2009); Kasalu (2010, 31). Evans and Saponaro (2005) outline the six major components of the collection development process, namely, the assessment needs, policies, selection, acquisition, evaluation of collections in whatever formats, and de-selection (weeding). Similarly, Kasalu (2010, 73) states the six components of the collection development process, and these include: “needs assessment of the community that a library exists to serve, the selection process, acquisition policies, acquisition process, collection evaluation, and de-selection”.

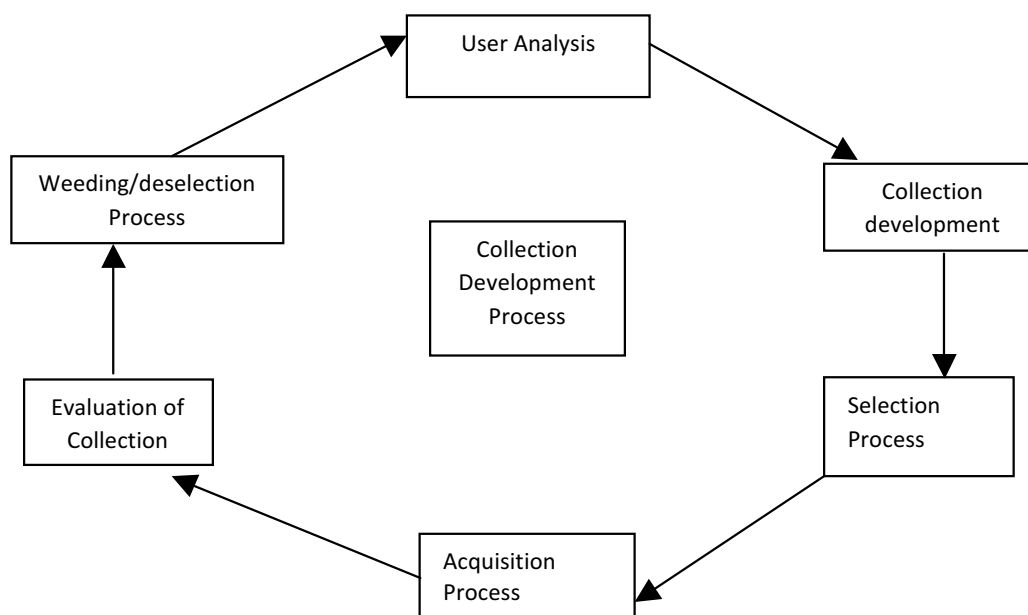


Figure 1: Process of collection development (Source: Kasalu 2010)

User analysis

The collection development process in the university library begins with its community, which involves knowing the academic community, staff, departments, and analysing their information resources needs before any other process is undertaken. In-depth knowledge of the university community assessment needs is the cornerstone to effective collection development procedures. According to Gregory (2011, 15), the goal of any university library is to meet the informational and educational needs of the university community. For a university library to meet the needs of its users, it needs to consider the requirements of its university community through analysing the information needs of its users. Normally, the users' need analysis is carried out for collection development. Khan and Bhatti (2015) found that user needs assessment in university libraries of Pakistan are influenced by various factors that include: the lack of budget, lack of cooperation among faculty members, students' administration, and the lack of policies and resources, lack of reputable vendor, and inflation. It seems that there is a need for faculty members to understand and value the user needs analysis in order to work together with librarians. The library staff who participated in the study also stated that it has been a constraint to them due to the shortage of staff, and insufficient time to conduct the user needs analysis. The major problem is that subject librarians are overloaded because most faculties only have one subject librarian.

Collection development policy

For a university library to be well stocked, there must be a sound collection development policy governing its management by a librarian. As mentioned earlier, the process of collection development includes user needs assessment, policies, selection, acquisition, evaluation of collections, and weeding process. These processes of collection development are guided by a collection development policy which establishes priorities, and it facilitates decision making. Shaw (2012, 16) describes the collection development policy as a formal document that maintains a commitment to systematic collection building and development. Shaw (2012, 16) adds that it can be used as an advocate for the library in terms of public relations with users, for administrative purposes, and for the justification of funds. In simple terms, a collection development policy is the blueprint or plan for the operations of a library as a whole Gregory (2011, 31). On their part, Khan and Bhatti (2016, 25) perceive the collection development policy as a guide for acquiring information resources that may support

the mission and programmes of the institutions. The document is mostly established with the intention to guide, influence, and determine decisions, actions, and other matters; it is a means to an end. The draft document available at the UNAM library stipulates that the aim of the policy is to provide guidelines and standards that should serve as basis for selection, justification of decisions and actions, and the inclusion or exclusion of certain items in the collection. However, a policy of collection development should address the needs of all categories of users, factors that should influence the accessibility, and special needs. Kelly (2015, 44) recommends that the collection policies should provide direction to librarians and users on how their institution chose to meet the materials and information needs of its users.

Selection process

The selection of electronic information resources in most libraries is nowadays a concept that is at the heart of the collection development process Gregory (2011, 56). According to Ameen and Haider (2007), the selection of library materials is the backbone of a collection development process which demands a sound commitment and knowledge of the publishing world on the selectors' part. In addition, Edgar (2003, 404) defines selection as "the decision-making process that accomplishes the goals established during collection development, using criteria separate from the collection development plan for identification and selection of specific library resources". Agee (2003, 140) argues that a good selection of resources in any library may bring excellent resources that could be acquired to build quality collections. Selection is the process of identifying collections needed by library patrons. It is, therefore, an activity done by the librarian in order to ensure that relevant, up to date, current, and quality information resources are done to meet the demands of the university community.

Acquisition process

Acquisition is defined as the way of ordering and purchasing all library materials as anticipated for collection development, which also involves the selection of materials to be purchased for the library service (Dority 2006). Another school of thought defines acquisition as an activity of identifying what the library ought to acquire, determining how it can be obtained, and actually acquiring it. Margill and Carbin (1989), as cited in Wilkinson and Lewis (2003, 1) confirm this analysis. The process also involves organising the incoming requests in order to carry out verification of materials. Moreover, the process deals with vendor licenses, contract, budgeting, and it often collaborates with regional buying consortia to secure the best prices of the organisation.

Collection evaluation

Collection evaluation is an activity that is practiced in every library. Hyödynmaa and Buchholz (2012, 163) clarify that the terms collection evaluation, collection assessment, and collection mapping describe the same process. In contrast, Johnson (2009) explains the term 'collection mapping' as a technique representing the strengths and weaknesses of a library collection; it is mostly used on the curricular needs of the school. Johnson (2009, 163) further elaborates that collection evaluation is a "systematic consideration of a collection to determine its intrinsic merit". Collection assessment is also referred to as a systematic quantitative and qualitative measurement of the degree to which a library's collections can meet the library's goals, objectives, and the needs of its users Johnson (2009, 372). Kasalu (2010) concludes that collection evaluation is important for the library collection because it is impossible to build a balanced and relevant collection of resources unless the strengths and weaknesses of the current collection are known.

Weeding process

Weeding is one of the components of the collection development process in the library industry. It is defined as the "process of removing materials from the active collection for withdrawal or transfer" Kasalu (2010); Kavulya (2004); and Johnson (2009). Weeding is the practice of discarding or transferring to storage excess copies, rarely used books, and materials that are no longer in use. Weeding is an essential activity of collection development. As Johnson (2009) clarifies, for an effective weeding process to take place, libraries must have

a written weeding policy to guide decisions about weeding. Weeding can offer a librarian the opportunity to review the collection carefully, in order to fulfil the information needs of faculty and students in support of the academic curriculum Dubicki (2008, 132). It can keep a collection vibrant, relevant, and usable. Furthermore, weeding can also make the remaining collections more visible to students and faculty.

RESEARCH METHODOLOGY

The study was quantitative in nature, and employed a self-administered questionnaire to collect data. The research design employed in this study was the survey. The survey was found to be appropriate for this study as it sought the opinions, characteristics and experiences from faculty members and librarians of the study who were located in diverse and sparse locations. The target population of the study consisted of 1200 academic staff at the University of Namibia. For the purpose of conducting this study, it was appropriate to select a sample that adequately represented the target population so that the findings can be generalised to the entire population of the University of Namibia. To ensure a greater representation of the overall population, the selected sample accounted for 26% of the target population, that is, approximately 10% above the minimum range of 10% to 20% as Gay and Airasian (2003) recommend for a survey research. In order to select a representative sample from each faculty as listed in Table 1., the following formula was applied:

$$n_i = (N_i/1200) * N$$

Where

n_i is the sample obtained in each faculty

N_i is the total population in each faculty

N is the sample of the entire population

Using the above formula, a total of 291 faculty members were selected and therefore comprised the study sample. Out of the 291 participants in the study sample, 149 faculty members responded to the survey, which gave a response rate of 51.2%, while a total number of 16 library staff were interviewed.

Table 1: Sampling and sample size of faculty members (population N=1200)

	No. of faculty members	% (percentage)	Sample size
Faculty of Education	240	20	61
Faculty of Science	150	13	38
Faculty of Health Science	160	13.3	26
Faculty of Agriculture and Natural Resources	130	11	33
Faculty of Engineering and Information Technology	70	6	18
Faculty of Law	50	4.2	13
Faculty of Humanities and Social Sciences	160	13.3	41
Faculty of Economics and Management Science	240	20	61
Total	1200	100	291

The study used self-administered questionnaires and interviews to collect the data. Self-administered questionnaires were used to collect data from the faculty member, whereas interviews were used to collect data from the library staff. The researchers sought and obtained permission from the Office of the Vice Chancellor for Academic Affairs and Research at the university to include the UNAM staff (faculty members) as participants in the study. A self-administered questionnaire was e-mailed to the faculty members, where they were expected to complete and return it to the researchers via electronic mail. According to Ary, Jacobs, Sorensen and Walker (2014, 675), an electronic mail questionnaire refers to survey that is e-mailed

to potential respondents. In order to understand the participants' constructions of reality, this study also employed a semi-structured interview with librarians on collection development practices at the University of Namibia. This method enabled the researchers to gain the insights, opinions, attitudes, and experiences of the librarians on collection development, and how they practice it in their university.

FINDINGS AND DISCUSSIONS

The socio-demographic characteristics of the respondents is provided Table 2. Table 2 indicates that the majority of respondents were males (59%) and 40% were female. Most respondents, that is 59 (39.9%), belonged to the age group of 41– 50 years, followed by 49 (33.1%) respondents who were between the age group of 31 and 40 years, 27 (18.2%) respondents who belonged to the age group of 51 – 60 years and 13 (8.8%) respondents who were the minority age group under 30 years old. There was no respondent who was over 60 years old.

Table 2: Respondents' socio-demographic characteristics (N=149)

	Frequency	Percentage (%)
Gender		
Male	88	59.1
Female	61	40.9
Total	149	100.0
Age Group		
Under 30 yrs	13	8.8
31-40 yrs	49	33.1
41-50yrs	59	39.9
51-60yrs	27	18.2
Total	148	100.0
Years of Experience		
Under 1yr	10	6.7
1-10yrs	92	61.7
11-20yrs	47	31.5
Total	149	100.0
Job Rank		
Professor	6	4.0
Associate Professor	16	10.7
Senior Lecturer	33	22.1
Lecturer	63	42.3
Assistant Lecturer	24	16.1
Researcher	1	0.7
Assistant Researcher	2	1.3
Tutor	2	1.3
Senior Technologist	1	0.7
Staff Development Fellow	1	0.7
Total	149	100.0

Regarding job experience, the study found that 92 (61.7%) of the teaching staff who responded to the questionnaire had been working at the University between 1 and 10 years of, 47 (31.5%) had 11 – 20 years, and 10 (6.7%) respondents have been working for less than a year at the University of Namibia. No respondents selected the period between 31 and 40 years and none had been working at the university for more than 40 years. The respondents were asked to indicate their job title or rank. The results showed that the majority of respondents 63 (42.3%) were lecturers, followed by 33 (22.1%) who were senior lecturers, then 24 (16.1%) assistant lecturers, 16 (10.7%) were associate professors, 7 (4.7%) were from other job titles or ranks, while

professors constituted a minority of 6 (4%). It is therefore clear that the majority of those who responded were lecturers from various faculties of the University of Namibia.

Collection development policies and procedures

In order to achieve the key objectives of the study, and to answer the research questions accordingly, the research critically reviewed the collection development procedures and policies of electronic information resources at the UNAM library. The study's findings revealed that 72% of the respondents were aware of acquisition of library materials procedures. In general, all faculty members are supposed to be aware of the procedures of the acquisition process, because teaching staff remains the driving force of library resources. A study by Rahman and Darus (2004) on the faculty awareness on the collection development reported that only 25% of respondents were having knowledge about the library liaison programme, while the majority of 75% of respondents did not know about the existence of the programme, even though they have been teaching in the university for more than five years. According to this study, findings revealed that for those who indicated that they were not aware of acquisition of library materials and procedures it could be that they were new faculty members at UNAM and maybe they did not show an interest in selecting library materials for their students. This is an indication that for an effective acquisition process, library staff should be proactive and make sure that all teaching staff members are aware of the procedures and policies of acquiring library resources.

The study also found that not all faculty members were aware of the guidelines, procedures and policies on the collection development activities. Eighty-one percent (81%) of faculty members were aware of the importance of their role in selecting library materials. As a result, a high percentage of respondents (62.4%) have been involved in collection development activities with librarians. The findings of this study are in line with those made by Chaputula and Kanyundo (2014), whose study on the collection development policy at Mzuzu University Library revealed that the selection of information resources at their library did not include all relevant stakeholders. For instance, the selection was initiated by library staff and supported by academic members of staff, whilst students who form the biggest client base of the library were left out. The situation at Mzuzu University Library is likely the same with the situation at the University of Namibia library whereby the present study found that library staff only stated that they work with academics and not with students in the collection development practices. Many a times, students are not involved in the selection of titles of books and other resources to build collections of university libraries. However, it was noted that the selection of information material at the UNAM library is made by library staff, particularly subject librarians, in collaboration with academic staff members and library coordinators of the faculties. This implies that maintaining constant contact with students and academics in order to select library materials is also important Kasalu (2010).

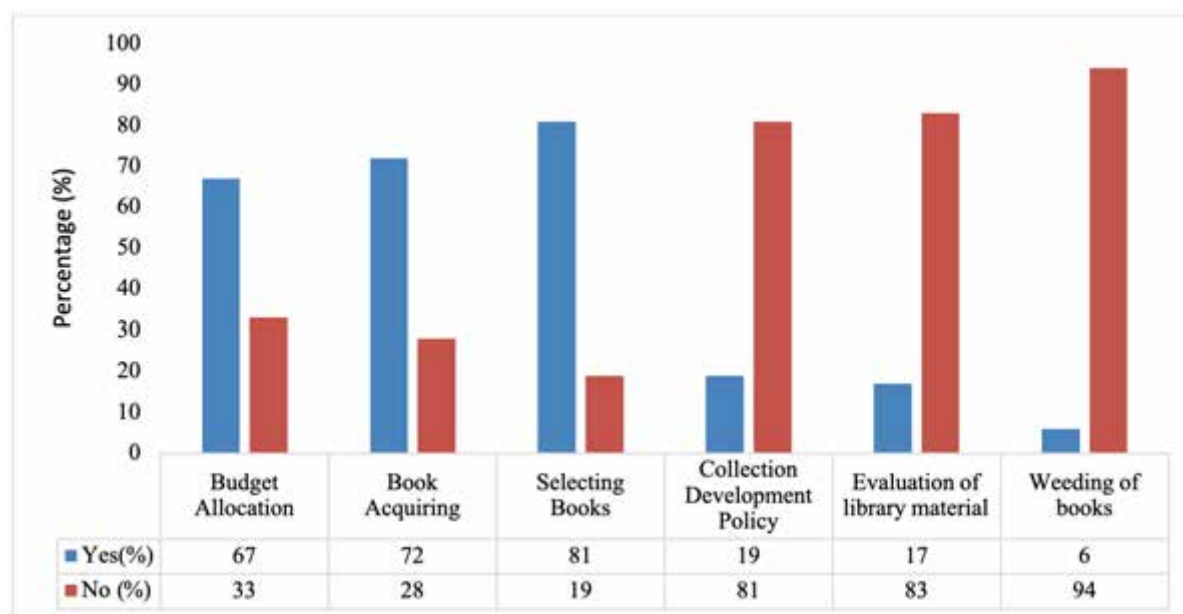


Figure 2: Faculty member's awareness of the guidelines on procedures of collection development activities

The issues around the faculty members' awareness of the procedures and policies of collection development produced a rather sorry picture as the majority (73.8%) of the teaching staff indicated that they were not aware of the policy on collection development; only 26.2% reported that they were aware of the policy on collection development. A study by Vignau and Meneses (2005) indicated that although the directors of the university libraries and managers of collection development were aware of the process of collection development but only a few were actually adopted and implemented the policy. According to Jenkins (2005), a library collection development policy is the foundation upon which all selection decisions should be based and yet this important document is not widely known to faculty members. This may explain the low level of awareness of the policy at UNAM.

In addition, it is worth noting that the UNAM library does not have a formal policy as only a draft policy is available. Faculty members therefore recommended that once the policy document is ready, faculty members should be invited to examine the document and, where applicable, make suggested changes. It is Vignau and Meneses (2005) who advised that for a library to conduct effective collection development it is necessary to establish a policy because it does not only manage the work of the institution, but its absence hinders the accomplishment of improvisations that are so helpful in this field. On the part of the library staff, 87% of them knew that there was no collection development policy, and that only a draft document was in place, while 13% of the participants felt that a collection development policy existed per se and that is the policy that they turned to for guidelines and procedures to acquire resources.

Finally, the respondents were asked to state their level of satisfaction with their involvement in various collection development activities/processes revolving around e-resources, namely: budgeting, selection of library materials, procurement, maintenance of resources, and weeding/de-selection of library resources. Figure 3 provides the findings. Given that budget is one of the important elements or resources in any university library, faculty members were asked to state their own level of satisfaction in their involvement with the collection development activities. Out of 149 faculty members, 5 (3.4%) respondents are very satisfied, 53 (35.6%) are satisfied, while 73 (49%) indicated that they are neither satisfied nor dissatisfied. However, 13 (8.7%) respondents are dissatisfied, and 4 (2.7%) are very dissatisfied with their involvement in the collection development activities. Furthermore, out of 149 faculty members, 28 (18.8%) are very satisfied, followed by 95 (63.8%) respondents who are satisfied, then 18 (12.1%) are neither satisfied nor dissatisfied, and 7 (4.7%) are dissatisfied with their own involvement in the selection of library materials. None of the respondents indicated that they are very dissatisfied. When asked to indicate their level of satisfaction in their involvement

in relation to the procurement of library materials, 7 (4.7%) out of 149 faculty members indicated that they are very satisfied, 80 (40.3%) are satisfied, 72 (48.3%) are neither satisfied nor dissatisfied, 8 (5.4%) are dissatisfied, and 1 (0.7%) are very dissatisfied with their involvement in the procurement activities. Another finding indicated that out of the 149 respondents, nearly all the faculty members totalling 102 (68.5%) indicated that they are neither satisfied nor dissatisfied, 22 (14.8%) are satisfied, 4 (9.4%) are dissatisfied, 7 (4.7%) are very satisfied, and 3 (2%) indicated that they are very dissatisfied with the maintenance of library resources. Figure 3 further displays that 110 (73.8%) of the respondents are neither satisfied nor dissatisfied, 22 (14.8%) are dissatisfied, 8 (5.4%) are satisfied, while 8 (5.4%) of the respondents indicated that they are very dissatisfied with the weeding of library materials. None of the respondents indicated that they are very satisfied with the weeding of resources.

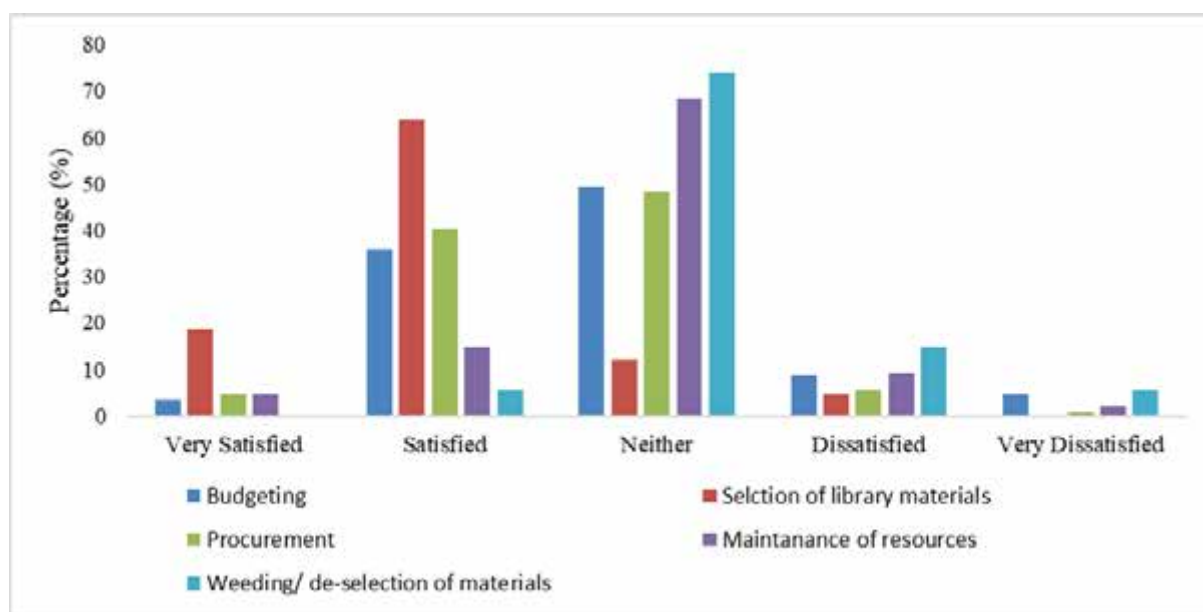


Figure 3: The level of satisfaction with members' involvement in collection development activities

Factors that influence collection development of e-resources at UNAM

The study sought to determine the factors that influence the collection development of e-resources and the findings revealed that the main factors influencing collection development at UNAM, according to the faculty members, are: budget allocated for e-resources, communication between librarians and the faculty members, and procedures of placing orders for resources (see Table 3). This agrees with Oloruntoba (2002), as cited in Akporido (2005, 29) who notes that "finance is a major factor in the growth of an organisation", and therefore a library's growth depends on it. The majority of faculty members (i.e. 54.4%) reported that they were aware of the budget allocated to their faculty. An equally large percentage of the faculty members, however, were not aware of the budget allocated to their faculties to purchase library materials. The teaching staff's ignorance of the budget allocation for their faculties is a worrying trend because in most cases teaching staff are not aware of the budget allocated, as a result they might not be proactive in the selection of materials. It was further observed that the budget allocations were not adequate to acquire sufficient information resources. Similar sentiments have been made by various authors. For instance, Jalloh (2000) and Kavitha (2009) opine that the most constraining aspect which libraries face in developing countries is "inadequate funds or stringent budget cuts" on library operations. As a result, services at some libraries are negatively affected. A number of studies such as Mapulanga (2011), Kanyengo (2009), Kavulya (2006), Chaputula and Kanyundo (2014), and Chaputula and Boadi (2010) have all pointed out that inadequate budgetary allocations negatively impact collection development activities. Hamutumwa (2008) also indicated that a few of the government libraries in Namibia which were surveyed, had mentioned budget constraints as one of the factors hindering librarians from providing electronic resources to government employees in Namibia. This means that budget constraints is not only an issue at the university library but also in government libraries.

Table 3: Factors that influence collection development activities (N=146)

	Frequency		Percentage (%)	
	Yes	No	Yes	No
Budget allocation for e-resources	141	5	94.6	3.4
Contents of communication between faculty and librarians based on a different understanding of the roles	130	16	87.2	10.7
Selection of materials	133	13	89.3	8.7
Collection development policy	122	24	81.9	16.1
Ordering materials	135	12	91	8.1
Functions of the collection development	121	25	81.2	16.8
Collection evaluation	125	21	84	14.1

Challenges faced in the collection development

The major challenge facing the UNAM library was the absence of the collection development policy, which has made it difficult for the teaching staff, students and library staff to understand all the issues related to the collection development of electronic resources in the library. Similarly, a study conducted by Kasalu and Ojimbo (2012) also highlighted several challenges and constraints faced by private universities during the collection development process such as: slowness in the selection process, slow internet connectivity, the use of print selection tools which caused delay in selection, slowness in delivery of orders and were some books listed online might not be available at all. Other challenges mentioned were online ordering which requires prepayment and it was against the policy of most private universities, lack of cooperation by teaching staff in the selection and lack of sufficient staff to carry out the collection development process. This finding is in agreement with the findings of Kiando (2004) who mentioned that most African university libraries lack comprehensive collection development policies, although they all agreed that the policies are essential in providing direction in the collection development and management of library collections to fulfil the chief mission of the library Odini (1997), as cited by Kiando (2004).

Another challenge is the inadequacy of funds to cater for the increasing costs of electronic resources in various subject fields. This is in agreement with Kiando (2004) who argues that e-resources are expensive and they require an enormous financial investment. Kaur and Waila (2016) in their study revealed that management libraries in India were also having difficulties pertaining to e-resource collection building, such as the issue related to inadequate funds. In their conclusion, Khan and Bhatti (2016) mentioned various factors that affect collection development in the university libraries of Pakistan, and they include dwindling budgets, absence of standards, absence of collection development policies, lack of assessments of users and collections, insufficient coordination between faculty and LIS professionals, fast growth of electronic resources, application of information communication and technologies, inactive role of library associations in the formulation of standards, absence of consortial plans as well as alternative plans.

CONCLUSION OF THE STUDY

Based on the findings from the study, the researcher makes the following conclusions according to the objectives of the study:

- Firstly, the study concludes that there is sufficient awareness of the guidelines and procedures used in the collection development practices by both the academic staff and library workers at UNAM. Although the faculty members are aware of collection development procedures and policies that are in place at the UNAM library, a significant number of faculty members were not aware of some of the

collection development components such as the collection development policy, collection evaluation and weeding or disposal of books from the library.

- Secondly, in terms of the factors that influence collection development, the study concludes that there are several factors but the main one is budget allocation. The other factors were not as strongly considered by the respondents.
- Thirdly, there are a number of challenges faced by both the faculty and library workers in collection development. These include lack of catalogues offering electronic resources, lack of a list of titles from the vendors and having difficulties with librarians who are not always available to help faculty members, slow intranet or internet, limited books, sample books, lack of time to surf the net, and lack of understanding of how to use electronic resources.

RECOMMENDATIONS

Based on the findings and discussions of the study, the following recommendations are proposed to improve the collection development activities at the UNAM library:

- The University of Namibia library should acquire more relevant materials to support the curriculum and research needs of the university community. This can be done through conducting user needs analysis in order to ensure the acquisition of relevant, adequate and up-to-date information and services.
- Publishers should exhibit their works (books) to the satellite campuses and also for faculty members to be more actively involved in collection development activities.
- In view of the fact that some of the faculty members did not know the budget allocated to their departments, it is recommended that library staff should make every teaching staff aware of their library book budget and to improve the budget allocated to e-resources.
- The University of Namibia library should endorse the collection development policy, because for any library to conduct effective collection development it is crucial to establish a policy.

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USAGE OF ELECTRONIC RESOURCES BY STUDENTS IN OMUSATI REGION

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ABSTRACT: For all citizens to have access to Information Communication and Technology (ICT) education and achieve lifelong learning, we must ensure the availability of such services both within the formal education community and beyond into the informal education community. Community Library users in Omusati region are currently struggling with the retrieval of electronic resources, which is evident at information centres such as Outapi, Okalongo, Okahao Community Libraries and Tsandi Community Learning and Development Centre as reports have shown. Hence the question; are we failing as librarians to introduce our users to the said resources? There are a wide range of library users that come to the said libraries to search for information, amongst them are students studying at higher institutions who constantly search for information on the unfiltered web. One now wonders if journal articles are no longer part of the frequently searched list or if the users are aware of the electronic information available. In the case where users are aware of available information, do they know how to use the information? Do they know that there are free online resources? How many have access to free online resources? Are they aware that their local libraries provide access to some of the biggest databases e.g. EBSCO? This paper highlights the challenges that users face when accessing electronic resources at the following centres: Outapi, Okalongo, and Okahao Community Libraries, and Tsandi Community Learning and Development Centre. The paper further seeks to find patterns of electronic information usage between users at the aforesaid centres and brings forth successes and challenges faced, including recommendations for effective access and usage of the said resources.

KEYWORDS: electronic resources, community libraries, Omusati region, Namibia.

INTRODUCTION TO THE STUDY

The world is diverting to the electronic usage and at the time of study and during observation among the four Omusati Community libraries (Outapi, Okahao, Okalongo and Tsandi) it was observed that users normally do not ask for any type of electronic resources (e-resources). Thus, this research attempted to find out the level of awareness and the use of e- resources at the above stated libraries.

BACKGROUND OF THE STUDY

Access to information remains one of the top priorities in Namibia, therefore there is a need to continuously assess the use of e-resources in this digital era. This study brought to bear the utilisation of the available e-resource in the libraries. Ashikuzzaman (2014) defines e-resources as resources which require computer access or any electronic product that delivers a collection of data, be it text referring to full text bases, electronic journals, image collections, other multimedia products and numerical, graphical or time based, as a commercially available title that has been published with an aim to being marketed. In enhancing the use and access of e-resources in the twenty-first century, many institutions have put interventions to accelerate the use of e-resources, which entirely benefits the community at large. The University of Namibia (UNAM), amongst others is no exemption. Leonard (2015, 240) reveals that apart from UNAM developing their e-collection in meeting the user's demands when it comes to virtual access of resources, it has also started acquiring e-journals since 2003 to support the teaching, learning and research services of the University. According to Hamutumwa, Mutula, and Hoskins (2017, 150), e-resources are believed to ease the access of resources,

giving reference to distance learners utilising their study materials at any time anywhere. Nonetheless, in a study on the use of electronic resources by law students at the University of Namibia, Leonard, Hamutumwa, and Mnubi-Mchombu (2020, 60) highlighted challenges affiliated to e-resources, which includes bandwidth problems, irregular training and limited searching skills.

Most libraries started using e-resources around the 80s Miller (2000, 160). From the early 1980s to the present, libraries have moved into reliance on online systems, electronic databases, and vendor connections, directly impacting collection development decisions.

PURPOSE OF THE STUDY

The purpose of the study is to identify the level of awareness and use of e-resources by the students who have access to the four Omusati community libraries.

OBJECTIVES OF THE STUDY

The research aims to:

- Discover the level of students' awareness towards e-resources;
- Identify the students who have access to e-resources;
- Assess the students' knowledge on how to use e-resources; and
- Determine challenges faced during the use of e-resources

RESEARCH DESIGN AND METHODOLOGY

In Durrheim's (2006, 33) words, "Research design as a strategic framework for action serves as a bridge between research questions and the execution or implementation of the research." The research designs are plans that guide the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to research purpose. This research design focused on quantitative methods whereby questionnaires were distributed equally amongst the 4 community libraries in Omusati region.

Population and sample

A study population is believed to be a group of individuals who have the same characteristic Creswell (2008, 151). The population of this study constituted of students in Omusati Region. The sample for the study comprised students who had access to the mentioned community libraries. A total of 60 students, 15 students from each of the 4 community libraries were included in sample for the study.

Data collection and instruments

Primarily numerical data was collected using a questionnaire comprising of open ended and a few close ended questions. Fifteen questionnaires were distributed in each of the four designated Omusati libraries.

FINDINGS

Below are the findings of the study, arranged as per the research questions. Although the sample was 60 students, only 26 respondents filled in the completed the questionnaires. Therefore the findings and discussions are based on the 26 respondents.

Demographic information

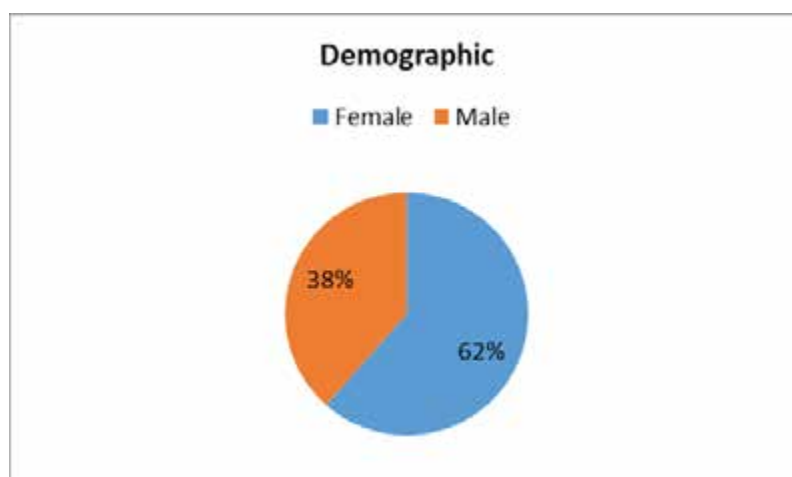


Figure 1: Gender information

The study shows that 16 (62%) respondents were female while 10 (38%) were male. The researchers went further to find out the age group of respondents as indicated below.

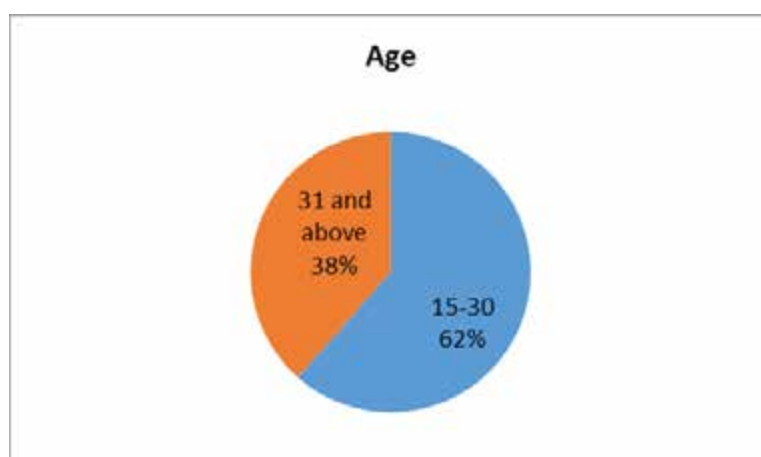


Figure 2: Age group

The figure above shows that the majority were between the 15-30 age group while only 10 (36%) were 31 of age and above.

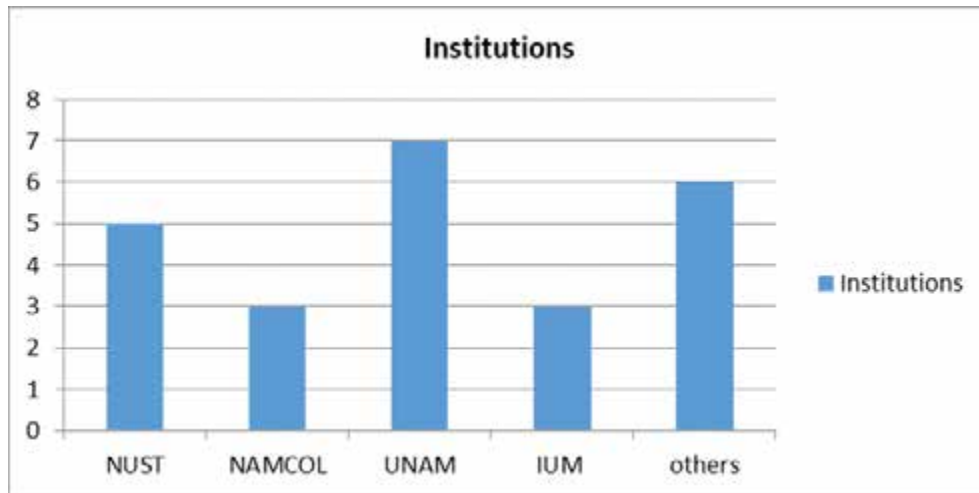


Figure 3: Name of the study institution

The study shows that the majority (7) were from UNAM, 8 from other institutions, 5 from NUST, and NAMCOL and IUM with 3 each. The researchers further asked which libraries the respondents access the e-resources from, as indicated below.

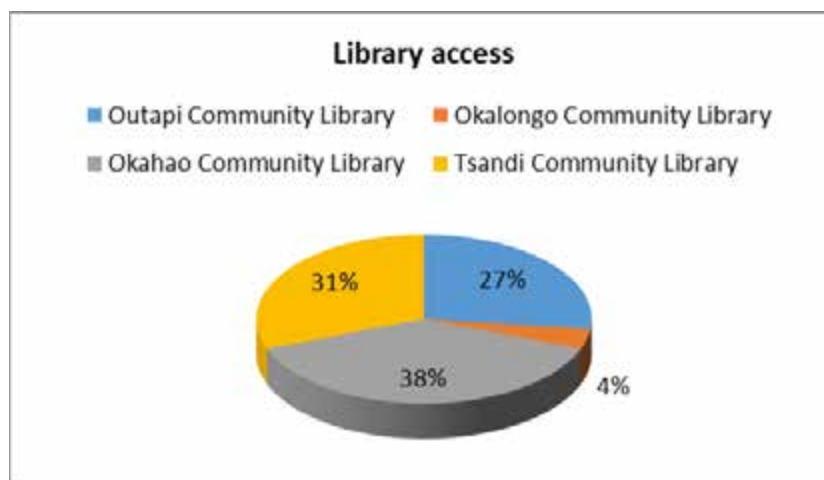


Figure 4: Library accessing

As per the figure above, Okahao has the most respondents that access e-resources from their library with 10 (38%), followed by Tsandi with 8 (31%), Outapi with 7 (27%) and lastly Okalongo 1 (4%).

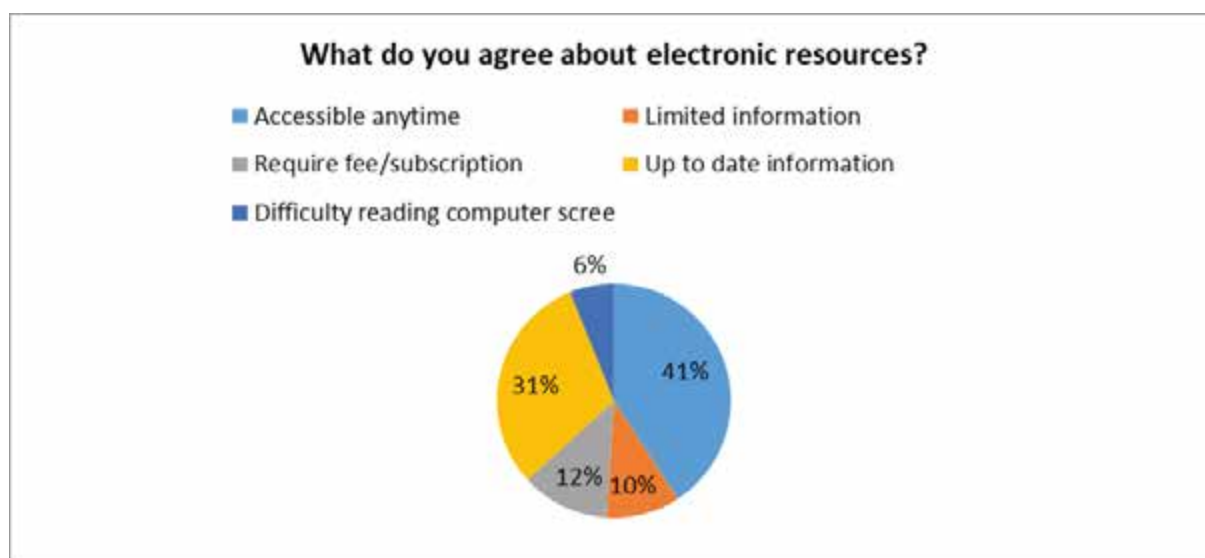


Figure 5: Agreement on e-resources

Students were asked to choose on what they agree on about e-resources and the results are shown in fig. 5 above. The majority, 20 (41%) agrees with the idea that e-resources are accessible anytime, 15 (31%) consider up to date information, 6 (12%) for subscription, 5 (10%) limited information and lastly 3 (6%) for difficulty reading computers.

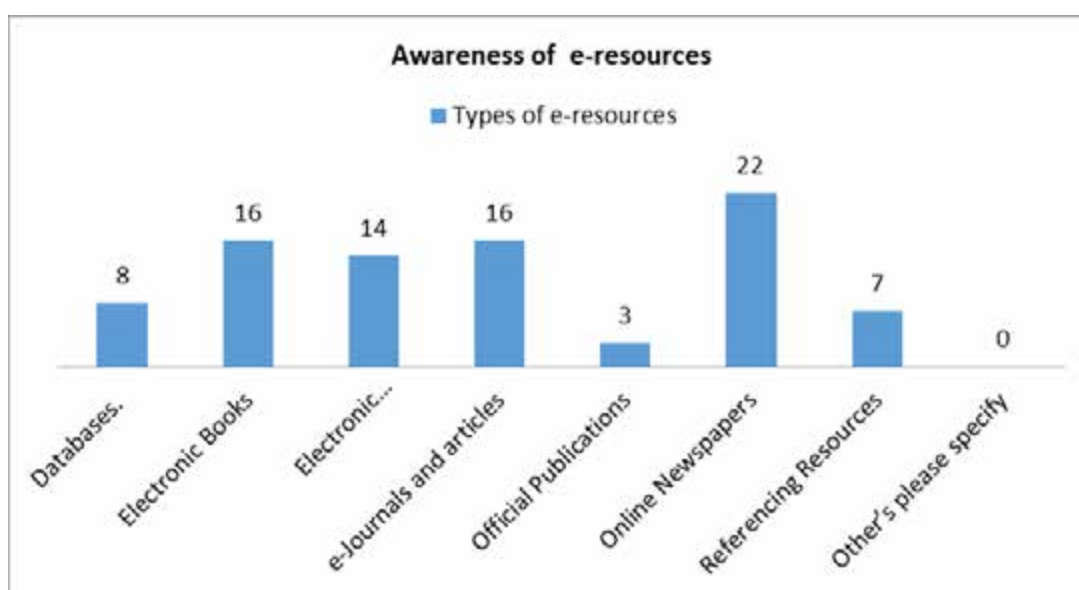


Figure 6: Awareness of electronic resources

The researchers asked whether the respondents were aware of the different e-resources available and this shows that the majority were aware of the online newspapers 22, e-journals and e-books both 16, e-dictionary 14, databases 8, referencing resources 7 and lastly official publications 3.

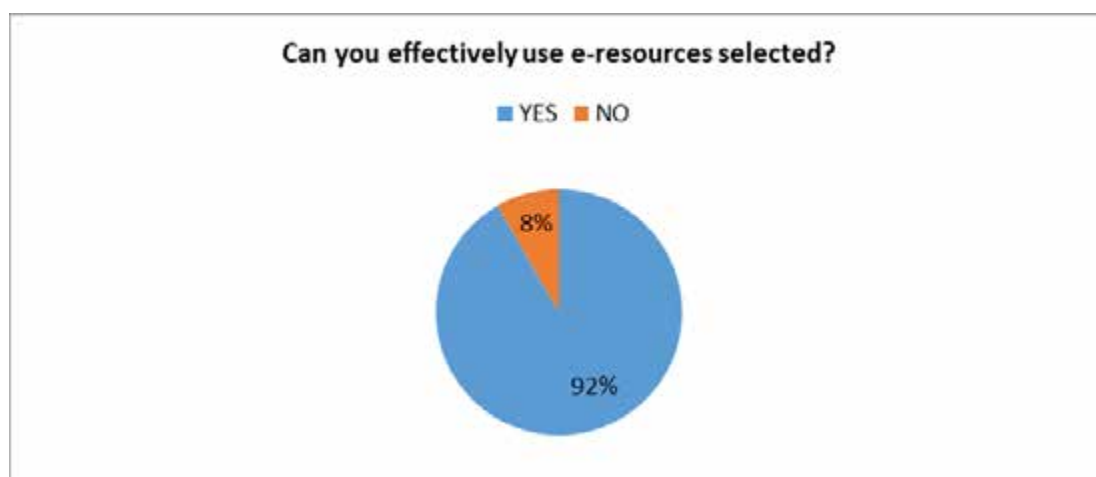


Figure 7: Effectiveness of e-resources

The students were asked to state whether they could effectively use the selected e-resources, and the majority (24) (92%) said yes they could use e-resources effectively and only 2 (8%) said that they could not.

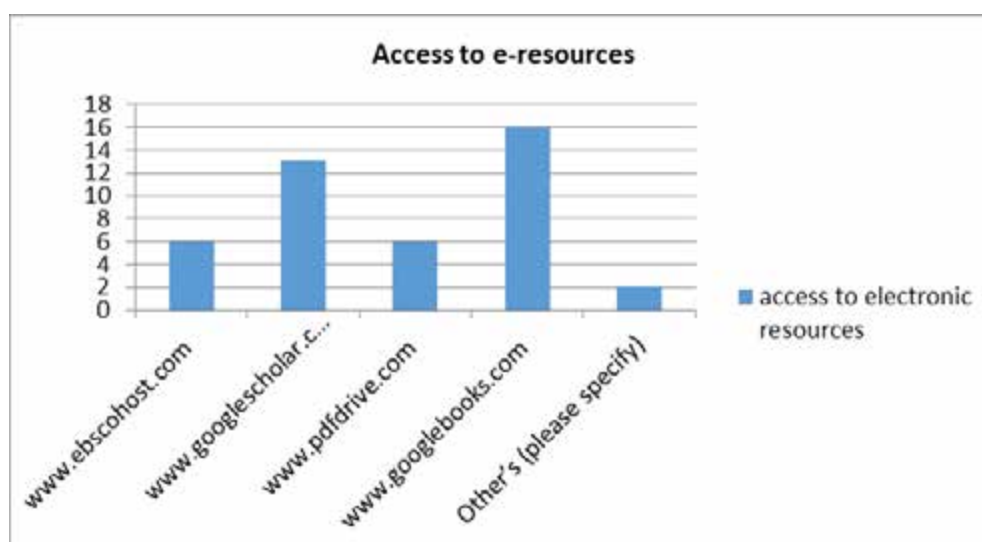


Figure 8: Types e-resources

The respondents were also asked from which of the above they could access e-resources from, and majority indicated googlebooks (16), followed by googlescholar (12), pdfdrive (6), ebscohost (6), and lastly others 2.

CHALLENGES FACED WHEN ACCESSING E-RESOURCES

- Slow internet was top in the list of challenges
- Power failure
- Poor reading skills
- Too much information
- Lack of searching skills
- Subscription fees
- Referencing academically for e-resources
- Lack of space in computer lab
- Limited information

SUMMARY OF FINDINGS

Looking at the data above, there were more male than female respondents, whereas the majority of respondents were below the age of 30. This could be because students at higher learning institutions are coming from high school thus, they are below the age of 30. Okahao reported the highest number of respondents, followed by Tsandi, Outapi and then Okalongo with only 1 respondent. Most of the respondents were from UNAM, and this could be due to the fact that UNAM has more campuses in the north. The majority of the respondents (22) were aware of the online newspapers, followed by e-journals and e-books and the lowest was official publications. Many respondents found e-resources convenient because they are accessible at any time. The study also revealed that most respondents had access to googlebooks. However there is need for training and raising awareness of the users on the available databases and how to access them. The challenges highlighted by the respondents include slow internet, lack of ICT skills and too much information, well known as information overload among others, and these could be among the factors contributing to low use of e-resources.

CONCLUSION

The study looked at the use and access of e-resources at the 4 community libraries in Omusati Region. This study revealed low usage of e-resources which could be because of the challenges they encountered when accessing e-resources, however the respondents showed a positive influence of e-resources highlighting the anytime access of resources.

RECOMMENDATIONS

The study recommends that librarians in Omusati create more awareness on the available e-resources. It further recommends that librarians train students on how to access e-resources and finally, academic institutions should provide online tutorials and guides to students on how to access e-resources.

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AWARENESS OF ELECTRONIC RESOURCES AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA LIBRARY: STUDENTS', LECTURERS' AND LIBRARIANS' PERCEPTIONS

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ABSTRACT: Worldwide, electronic resources are becoming increasingly common in university libraries, which are spending a sizable amount of their budgets on increasing their electronic collections. The maximization of the usage of the sources would largely depend on the level of library users' awareness and perceptions of e-resources. Consequently, this current study adopted a quantitative research approach to investigate library users' awareness and perceptions of e-resources in the National Open University of Nigeria (NOUN) library. A survey involving 1,513 students, 140 lecturers and 27 academic librarians was conducted using online (Google form) self-administered closed-ended questionnaires to collect relevant data. The findings indicate that a variety of e-resources is available in the library; there are favourable perceptions of and attitudes to e-resources; the library has endeavoured to create awareness of e-resources among users using a variety of contemporary means, which the users rate highly; and lecturers have deeper awareness of the e-resources than students. The implications of the study as well as recommendations for further research are offered in the paper.

KEYWORDS: electronic resources, academic libraries, national open university of Nigeria, user studies, library services.

INTRODUCTION AND PROBLEM STATEMENT

Over the years, librarians have exploited emerging technologies to offer new services to library patrons, as libraries continuously fulfil their important role as information dissemination entities that students, teachers and research groups use to access and explore available electronic resources Lamont (1999, 390); Vassiliou and Rowley (2008, 355); Thanuskodi (2011, 36). Society has also witnessed a tremendous change in the way tasks are accomplished; libraries are reducing in size as stocks of the volume of printed documents shrink and electronic information resources (hereafter abbreviated as e-resources) gradually replace physical monographs due to technological advancements Bhatia (2011, 408); Natarajan and Revathi (2012, 61). E-resources have therefore become part and parcel of the collections of academic libraries. E-resources assist in expediting access to information and facilitate the learning or research activities carried out by library users Bhatia (2011, 480). Several scholars have pointed out the importance that users ascribe to e-resources e.g. Egberongbe (2011); Haridasan and Khan (2009). However, Rapple and Lambert (2010, 163), among other scholars, lament that many valuable collections of academic e-resources are underutilized simply because potential users are unaware of their existence. According to Tripathi and Jeevan (2008, 616), distance learners do not take advantage of available e-resources because of they lack awareness of the e-library services offered by libraries.

Despite the importance that is attached to the new form of information resources that libraries offer to their clients, academic libraries in Africa, and more particularly in Sub-Saharan Africa, are not endowed with big budgets to meet the demands for e-resources. Many academic libraries experience budget cuts, which reduce the amounts that can be spent on their e-resource collections. In the late 1990s and early 2000s, libraries resorted to collaborative efforts by establishing consortia in different countries in Sub-Saharan Africa, including Nigeria Osai(2010), South Africa, Darch, Rapp, and Underwood (1999) and Botswana Molefe (2003), to increase their purchasing power for e-resources, which were (and still are) exceedingly expensive. However, the efforts to stock libraries with e-resources have not resulted in maximum usage. This is attested to by various authors from different countries in Sub-Saharan Africa, including Nigeria e.g. Ani (2010); Alison, Kiyingi and Baziraake (2012). The factors underlying the poor or low usage of e-resources include students' and faculties' personal characteristics, their poor searching skills, the limited number of resources available to users, users' lack of awareness of e-resources, and their lack of interest in, time for and commitment to using e-resources Alison et al. (2012). The Open University of Nigeria is no exception; therefore, the current study was undertaken to explore library users' awareness and perceptions of e-resources in the current information age.

PURPOSE OF THE STUDY

The purpose of this paper was to examine users' awareness and perceptions of e-resources at the National Open University of Nigeria (NOUN). The specific objectives were:

1. To examine the different types of e-resources available in the NOUN Library.
2. To assess the students' and staff members' perceptions of e-resources.
3. To determine the level of staff members' and students' level of awareness of e-resources available in the NOUN library.
4. To evaluate the tools used to create awareness, among library users, of e-resources in the library.

RESEARCH METHODOLOGY

The current study was quantitative in nature, with a survey being considered to design the study. The population for this study was divided into three categories, namely academic librarians, academic staff members (hereafter referred to as lecturers) and students. The NOUN Annual Report 2014/2015 (2015, 79) estimates that the university had 189,364 registered students, 275 lecturers and 54 academic librarians in 2014/2015. Using the Research Advisor's (2006, 2) table on sampling, 1,513 students, 140 lecturers and 27 academic librarians were considered to constitute a representative sample. Given that the students were scattered across six geopolitical zones in Nigeria as well as across different levels of study (i.e. undergraduate, master's and PhD levels), there was need to obtain representative samples for each zone and study level. The following steps were used:

- (a) The representative percentage of students in selected study centers was determined using the formula $\frac{n}{N} \times 100$, where n = student population in a selected center and N = total student population in all selected centers.
- (b) To obtain the representative student sample size in selected study centers, the representative percentage of students in selected study centers was multiplied by the desired student sample size (desired student sample size derived from the sample size in the Research Advisor's table, with a confidence level = 95% and margin of error = 2.5% (Research Advisor 2006, 2).
- (c) The representative percentage of students in each level was determined using the formula $\frac{n}{N} \times 100$, where n = student population on a selected level and N = total student population in a selected center.

- (d) To obtain the representative class level sample size in selected study centers, the representative percentage of students in the various levels was multiplied by the representative sample size of students in the selected study centers.

The sample size for the lecturers was 140, while 27 librarians were selected for the study based on the Research Advisor's (2006, 2) table on determining sample sizes at 95% confidence level. Once the sample sizes were determined, the lists of students and staff were used to identify the actual students and staff who would participate in the study, using the stratified random sampling (for students and lecturers) and purposive sampling (for librarians). The strata were zones and levels of study for students and academic units for lecturers. An online survey questionnaire was used to obtain data from all respondents who had been identified using lists obtained from the student affairs office (for students) and the human resources department (for lecturers and librarians). The researchers then sent out an email with an introductory note requesting the respondents to complete the questionnaires by a given date, which was set at three months after the request was made. Once the data was collected; it was analysed using descriptive statistics in the Statistical Package for Social Sciences (SPSS) software.

RESULTS AND DISCUSSION

This section offers a description of the respondents' profiles, and then presents and discusses the findings in three sections, namely students' and lecturers' perceptions of and attitudes towards e-resources; users' levels of awareness of e-resources; and tools used to create awareness of e-resources.

Respondents' demographic profile

The distribution of respondents as presented in table 1 was based on three categories, namely the academic librarians (27; 2.4%), the lecturers (110; 9.5%) and the students (1,013; 88.1%). The study response rate for academic librarians was 100%, for lecturers 79% and for students 67%. The overall response rate was 68%.

Table 1: Distribution of respondents based on category

Category of respondents	Frequency	Percentages (%)
Academic librarians	27	2.4
Lecturers	110	9.5
Students	1,013	88.1
Total	1,150	100.0

Out of the 27 librarians that participated in the study, 18 (66.7%) were female, while nine (33.3%) were male. The majority of the academic librarians were in the age bracket 30 to 34 years (37%), followed by 35 to 39 years (25.9%), which indicated that librarians in NOUN were young academics. A total of 55.6% of the librarians had master's degrees or an equivalent, while 11.1% were holders of PhD degrees. On the part of the lecturers, 58 (52.7%) were male, while 48 (43.6%) were female. The majority was therefore male. The majority of the lecturers were in the age bracket older than 50 years (24.5%), followed by the age bracket 45 to 49 years (23.6%). These results imply that many lecturers were in the prime of their career. A higher percentage of lecturers were holders of PhD degrees (60%), which indicated the level of academic knowledge of the teaching staff at NOUN. Out of the 1,013 students who participated in the study, 656 (64.8%) were male, while 331 (32.7%) were female. The majority of the students were in the age bracket 30 to 34 years (31.2%). The distribution of the students by level of study also showed that more than 60% were postgraduate students.

Users' perceptions of and attitude towards e-resources at the NOUN library

Lecturers and students were asked to indicate their perception of e-resources available at the NOUN library. The options reflected in Table 2 represent the perceptions of users. The mean and standard deviation scores of academics in Table 2 reveal that it took too much time to find relevant e-resources ($\bar{x} = 2.98$; $s = 0.86$); and that there were too many e-resources ($\bar{x} = 2.81$; $s = 1.22$). The issue that e-resources were not always accessible posted a mean score of 2.72.

Table 2: Mean and standard deviation scores of lecturers' perception of e-resources available at NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD (s)
It takes too much time to find relevant e-resources	2 1.8%	27 24.5%	60 54.5%	13 11.8%	8 7.3%	2.98	0.86
There are too many e-resources	20 18.2%	23 20.9%	35 31.8%	22 20.0%	10 9.1%	2.81	1.22
E-resources are not always accessible	5 4.5%	37 33.6%	56 50.9%	8 7.3%	4 3.6%	2.72	0.81
E-resources are not updated	5 4.5%	33 30.0%	68 61.8%	1 .9%	3 2.7%	2.67	0.71
What I find from e-resources is not what I need	11 10.0%	35 31.8%	55 50.0%	8 7.3%	1 .9%	2.57	0.81
GRAND MEAN = 2.7450							

Table 3: Mean and standard deviation scores of students' perception of e-resources available at NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD (s)
There are too many e-resources	233 23.0%	135 13.3%	259 25.6%	288 28.4%	98 9.7%	2.88	1.31
It takes too much time to find relevant e-resources	214 21.1%	165 16.3%	376 37.1%	210 20.7%	48 4.7%	2.72	1.15
E-resources are not always accessible	250 24.7%	232 22.9%	373 36.8%	123 12.1%	35 3.5%	2.47	1.09
What I find from e-resources is not what I need	207 20.4%	292 28.8%	447 44.1%	52 5.1%	15 1.5%	2.38	.92
E-resources are not updated	313 30.9%	210 20.7%	365 36.0%	103 10.2%	22 2.2%	2.31	1.08
GRAND MEAN = 2.3283							

The results in Table 3 reveal students' perceptions of the e-resources available at NOUN library: there were too many e-resources ($\bar{x} = 2.88$; $s = 1.31$); it took too much time to find relevant e-resources ($\bar{x} = 2.72$; $s = 1.15$); and e-resources were not always accessible ($\bar{x} = 2.47$; $s = 1.09$). Tables 2 and 3 further show that a large percentage of lecturers, unlike the students, were undecided on many fronts. For example, 55% of lecturers and 37% of the students were undecided on the issue the time it took to find an e-resource. In summary, while 46% of the students reported a positive perception of the library's e-resources, a greater number of

lecturers (i.e. 51%) were undecided and seemed not to have a clear view of e-resources in the library. There is a big awareness gap here, as it suggests that there might be limitations to the use of the library e-resources and the library might need to repackage its awareness programme to improve the perceptions of library patrons and encourage the use of library e-resources. Mawindo and Hoskins (2008), Deng (2010), Ge (2010), Dhanavandan et al. (2012), Gakibayo and Okello-Obura (2011) report respondents' poor perception of library e-resources because they were not familiar with the resources as a result of inadequate awareness.

How users learnt about e-resources available in the NOUN library

Respondents were asked two questions to assess how they had learned about the e-resources that were available at the NOUN library. Firstly, we asked them to state their level of agreement with how they had learned about the e-resources and, secondly, we asked them to rate the effectiveness of the avenues or methods through which they had learned about the e-resources. In the first instance, the results in Table 4 show that the participating lecturers learned about the available e-resources in NOUN library via the library staff ($\bar{x} = 3.93$; $s = 1.16$); personal discovery ($\bar{x} = 3.37$; $s = 1.14$); electronic mail ($\bar{x} = 3.16$; $s = 1.26$); the electronic library webpage ($\bar{x} = 2.90$; $s = 1.23$); and a friend ($\bar{x} = 2.84$; $s = 1.16$).

Table 4: Mean and standard deviation scores of how lecturers learned about the e-resources available in NOUN library

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD(s)
Library staff	10 9.1%	3 2.7%	9 8.2%	51 46.4%	37 33.6%	3.93	1.16
Personal discovery	9 8.2%	15 13.6%	28 25.5%	42 38.2%	16 14.5%	3.37	1.14
Electronic mail	18 16.4%	11 10.0%	30 27.3%	37 33.6%	14 12.7%	3.16	1.26
Electronic library webpage	22 20.0%	15 13.6%	32 29.1%	34 30.9%	7 6.4%	2.90	1.23
A friend	21 19.1%	16 14.5%	42 38.2%	22 20.0%	9 8.2%	2.84	1.16
Other colleagues	26 23.6%	13 11.8%	41 37.3%	25 22.7%	5 4.5%	2.73	1.19
Library social media tools (e.g. Facebook, Twitter, tc..)	23 20.9%	15 13.6%	44 40.0%	25 22.7%	3 2.7%	2.73	1.12
Direct mailing to staff	28 25.5%	12 10.9%	52 47.3%	17 15.5%	1 .9%	2.55	1.06
Staff orientation	34 30.9%	20 18.2%	44 40.0%	12 10.9%	– %	2.31	1.03
GRAND MEAN = 2.77							

The items that best describe how the students learned about available e-resources in the NOUN library are shown in Table 5. The most outstanding ways were: personal discovery ($\bar{x} = 3.45$; $s = 1.43$); through a friend ($\bar{x} = 2.89$; $s = 1.40$); through electronic library webpage ($\bar{x} = 2.89$; $s = 1.46$); through fellow students ($\bar{x} = 2.85$; $s = 1.40$); and through a student orientation programme ($\bar{x} = 2.81$; $s = 1.49$).

Table 5: Mean and standard deviation scores of how NOUN students learned about e-resources availability

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean (\bar{x})	SD (s)
Personal discovery	171 16.9%	109 10.8%	110 10.9%	341 33.7%	282 27.8%	3.45	1.43
Through a friend	256 25.3%	142 14.0%	217 21.4%	254 25.1%	144 14.2%	2.89	1.40
The electronic library webpage	287 28.3%	132 13.0%	149 14.7%	297 29.3%	148 14.6%	2.89	1.46
Fellow students	283 27.9%	128 27.9%	168 16.6%	324 32.0%	324 32.0%	2.85	1.40
Student orientation	285 28.1%	146 14.4%	145 14.3%	260 25.7%	177 17.5%	2.81	1.49
Electronic mail	301 29.7%	148 14.6%	193 19.1%	289 28.5%	82 8.1%	2.71	1.36
Direct mailing to student	308 30.4%	173 17.1%	226 22.3%	191 18.9%	115 11.4%	2.64	1.38
Library staff	267 26.4%	197 19.4%	285 28.1%	170 16.8%	94 9.3%	2.63	1.29
Social media tools (Facebook, Twitter)	327 32.3%	153 15.1%	239 23.6%	228 22.5%	66 6.5%	2.56	1.31
My lecturers	319 31.5%	236 23.3%	268 26.5%	161 15.9%	29 2.9%	2.35	1.16
GRAND MEAN = 2.64							

In terms of the effectiveness of the avenues or methods through which lecturers got to learn about the existence of e-resources in the library, Table 6 reveals that the most highly rated method or avenue was library staff (\bar{x} = 4.15; s = 1.13); followed by colleagues (\bar{x} = 3.37; s = 1.35); electronic mail (\bar{x} = 3.09; s = 1.42); personal discovery (\bar{x} = 3.02; s = 1.37); and new staff orientation programme (\bar{x} = 2.95; s = 1.31).

Table 6: Mean and standard deviation scores of how lecturers rated how they got to know about the availability of e-resources in NOUN library

ITEMS	NE (1)	SE (2)	EF (3)	VE (4)	ME (5)	Mean (\bar{x})	SD(s)
From library staff	4 3.6%	10 9.1%	15 13.3%	18 16.4%	63 57.3%	4.15	1.18
From other colleagues	7 6.4%	29 26.4%	27 24.5%	10 9.1%	37 33.6%	3.37	1.35
Through electronic mail	18 16.4%	22 20.0%	31 28.2%	10 9.1%	29 26.4%	3.09	1.42
Personal discovery	16 14.5%	28 25.5%	30 27.3%	10 9.1%	26 23.6%	3.02	1.37
New staff orientation programme	13 11.8%	34 30.9%	32 29.1%	7 6.4%	24 21.8%	2.95	1.31
Through social media tools	19 17.3%	31 28.2%	26 23.6%	8 7.3%	26 23.6%	2.92	1.42
Direct mailing to staff	14 12.7%	37 33.6%	29 26.4%	5 4.5%	25 22.7%	2.91	1.34

From friends	12 10.9%	33 30.0%	40 36.4%	5 4.5%	20 18.2%	2.89	1.23
Through the electronic library webpage	21 19.1%	31 28.2%	29 26.4%	2 1.8%	27 24.5%	2.85	1.43
GRAND MEAN = 2.9230							

For the students, it was found that they thought that their fellow students ($\bar{x} = 3.12$; $s = 1.46$) ranked highest in the list of effective avenues or methods through which they got to learn about the availability of e-resources in the library. In the second position were friends ($\bar{x} = 2.99$; $s = 1.43$); followed by new student orientation programme ($\bar{x} = 2.99$; $s = 1.44$); personal discovery ($\bar{x} = 2.85$; $s = 1.45$); and the electronic library webpage ($\bar{x} = 2.74$; $s = 1.47$).

Table 7: Mean and standard deviation scores of how students rated how they got to know about the availability of e-resources in NOUN library

ITEMS	NE (1)	SE (2)	EF (3)	VE (4)	ME (5)	Mean (\bar{x})	SD(s)
From fellow students	204 20.1%	143 14.1%	257 25.4%	141 13.9%	268 26.5%	3.12	1.46
From friends	217 21.4%	155 15.3%	296 29.2%	108 10.7%	237 23.4%	2.99	1.43
New student orientation programme	237 23.4%	141 13.9%	231 22.8%	199 19.6%	205 20.2%	2.99	1.44
Personal discovery	252 24.9%	188 18.6%	240 23.7%	126 12.4%	207 20.4%	2.85	1.45
Through the electronic library webpage	295 29.1%	176 17.4%	241 23.8%	98 9.7%	203 20.0%	2.74	1.47
Through social media tools	313 30.9%	153 15.1%	255 25.2%	123 12.1%	169 16.7%	2.69	1.44
Through electronic mail	331 32.7%	142 14.0%	280 27.6%	91 9.0%	169 16.7%	2.62	1.44
Direct mailing to students	361 35.6%	144 14.2%	274 27.0%	98 9.7%	136 13.4%	2.51	1.40
From library staff	346 34.2%	247 24.4%	204 20.1%	70 6.9%	146 14.4%	2.43	1.39
From lecturers	425 42.0%	223 22.0%	184 18.2%	73 7.2%	108 10.7%	2.22	1.34
GRAND MEAN = 2.5845							

The results in this section reveal that most lecturers (i.e. 70%) became aware of the NOUN library's e-resources through library staff, while the majority (60%) of students became aware of e-resources through personal discovery. Apparently, the two groups of users learned about the availability of e-resources in the library through different means. The study further revealed that the lecturers were more aware than the students, as reflected in the overall mean. Kaur & Verma (2009) make similar observations, namely that 96% of faculty members and 19% of undergraduate students were aware of library e-resources. The level of e-resources awareness among students was found to be low and therefore there is need for the NOUN library to market the e-resources vigorously to their users. Tripathi & Jeevan (2008) note that the majority of remote learners are not aware of the e-resources in their libraries. The low level of awareness among students is a disturbing trend as it implies that usage of e-resources may be limited. Previous studies by Kumar and Singh (2011), Okiki (2012) and Dadzie and Van Walt (2015), also reveal that the majority of faculty members indicated

non-awareness of library e-resources. In contrast, Egberongbe (2011), Fasola (2013) and Gupta and Sharma (2015) report high levels of awareness among lecturers, research scholars and students.

Tools used to create awareness of e-resources in the NOUN library

This section reports on and compares responses from students, lecturers and librarians regarding the tools used to create awareness of e-resources in the NOUN library. Special emphasis is placed on contemporary means. Table 8 reflects the librarians' responses, which highlight the following as the means employed by the NOUN library to create awareness of the availability of e-resources: electronic mail ($\bar{x} = 3.91$; $s = 1.22$); notice boards ($\bar{x} = 3.70$; $s = 1.23$); texting (SMSs) ($\bar{x} = 3.63$; $s = 1.31$); instant messaging ($\bar{x} = 3.59$; $s = 1.28$); Facebook ($\bar{x} = 3.56$; $s = 1.26$); and library handouts ($\bar{x} = 3.40$; $s = 1.30$).

Table 8: Mean and standard deviation scores of the types of tools used to create awareness of the availability of e-resources in the NOUN library as indicated by academic librarians

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD(s)
Electronic mail	2 7.4%	2 7.4%	2 7.4%	10 37.0%	11 40.7%	3.91	1.22
Notice boards	3 11.1%	2 7.4%	1 3.7%	15 55.6%	6 22.2%	3.70	1.23
Texting (SMSs)	3 11.1%	2 7.4%	5 18.5%	9 33.3%	8 29.6%	3.63	1.31
Instant messaging	3 11.1%	2 7.4%	5 18.5%	10 37.0%	7 25.9%	3.59	1.28
Facebook	3 11.1%	2 7.4%	5 18.5%	11 40.7%	6 22.2%	3.56	1.26
Library handouts	3 11.1%	4 14.8%	5 18.5%	9 33.3%	6 22.2%	3.40	1.30
Twitter	7 25.9%	2 7.4%	4 14.8%	8 29.6%	6 22.2%	3.15	1.54
Flyers	3 11.1%	6 22.2%	6 22.2%	10 37.0%	2 7.4%	3.07	1.17
Listserv	11 40.7%	4 14.8%	6 22.2%	5 18.5%	1 3.7%	2.20	1.20
GRAND MEAN = 3.1840							

Table 9: Mean and standard deviation scores of the types of tools used to create awareness of the availability of e-resources in the NOUN library as indicated by lecturers

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean (\bar{x})	SD (s)
Notice boards	7 6.4%	6 5.5%	16 14.5%	63 57.3%	18 16.4%	3.72	1.01
Twitter	38 34.5%	4 3.6%	11 10.0%	51 46.4%	6 5.5%	3.72	1.01
Electronic mail	14 12.7%	4 3.6%	2 1.8%	73 66.4%	17 15.5%	3.68	1.17
Facebook	37 33.6%	6 5.5%	23 20.9%	36 32.7%	8 7.3%	3.68	1.17

Library handouts	28 25.5%	4 3.6%	40 36.4%	31 28.2%	7 6.4%	2.86	1.26
Texting (SMSs)	38 34.5%	9 8.2%	18 16.4%	36 32.7%	9 8.2%	2.72	1.43
Flyers	30 27.3%	7 6.4%	51 46.4%	16 14.5%	6 5.5%	2.65	1.19
Listserv	38 34.5%	7 6.4%	44 40.0%	17 15.5%	4 3.6%	2.47	1.22
Instant messaging	49 44.5%	5 4.5%	18 16.4%	32 29.1%	6 5.5%	2.46	1.44
GRAND MEAN = 2.9020							

On their part, the lecturers selected notice boards ($\bar{x} = 3.72$; $s = 1.01$); Twitter ($\bar{x} = 3.72$; $s = 1.01$); electronic mail ($\bar{x} = 3.68$; $s = 1.17$); and Facebook ($\bar{x} = 3.68$; $s = 1.17$) as the main ways that the library used to reach out to them in the process of creating awareness about the availability of e-resources.

Table 10: Mean and standard deviation scores of the types of tools used to create awareness of the availability of e-resources in the NOUN library as indicated by students

ITEMS	SD(1)	D(2)	UD(3)	A (4)	SA (5)	Mean (\bar{x})	SD (s)
Electronic mail	246 24.3%	95 9.4%	94 9.3%	390 38.5%	188 18.6%	3.17	1.47
Notice boards	244 24.1%	95 9.4%	115 11.4%	433 42.7%	126 12.4%	3.10	1.40
Texting (SMSs)	339 33.5%	125 12.3%	155 15.3%	290 28.6%	104 10.3%	2.67	1.43
Library handouts	396 39.1%	108 10.7%	146 14.4%	260 25.7%	103 10.2%	2.57	1.47
Facebook	403 39.8%	98 9.7%	135 13.3%	256 25.3%	121 11.9%	2.51	1.50
Instant messaging	413 40.8%	119 11.7%	186 18.4%	199 19.6%	96 9.5%	2.45	1.42
Flyers	332 32.8%	208 20.5%	233 23.0%	176 17.4%	64 6.3%	2.43	1.28
Twitter	455 44.9%	115 11.4%	167 16.5%	197 19.4%	79 7.8%	2.34	1.41
Listserv	544 53.7%	133 13.1%	188 18.6%	110 10.9%	38 3.8%	1.98	1.22
GRAND MEAN = 2.4510							

The results in Table 10 indicate that the students reported that the means the library used most to create awareness of e-resources are the electronic mail ($\bar{x} = 3.17$; $s = 1.47$); notice boards ($\bar{x} = 3.10$; $s = 1.40$); texting (SMSs) ($\bar{x} = 2.67$; $s = 1.43$); library handouts ($\bar{x} = 2.57$; $s = 1.47$); and Facebook ($\bar{x} = 2.51$; $s = 1.50$).

A follow-up question was posed to all respondents to determine their level of agreement about the effectiveness of using modern ways or tools to create awareness about e-resources in the library. Table 11 presents the mean and standard deviation scores of academic librarians' opinion on the effectiveness of modern tools that can be used to create awareness of the availability of e-resources in the library.

Table 11: Mean and standard deviation scores of modern tools that can be employed effectively to create awareness of the availability of e-resources in the library as indicated by academic librarians

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD (s)
Email	–	–	1 3.7%	10 37.0%	16 59.3%	4.56	0.58
Facebook	–	–	1 3.7%	9 33.3%	17 63.0%	4.51	0.57
Texting (SMSs)	–	–	2 7.4%	10 37.00%	15 55.6%	4.48	0.64
Instant messaging	–	–	2 7.4%	12 44.4%	13 48.1%	4.41	0.64
Twitter	2 7.4%	–	1 3.7%	9 33.3%	15 55.6%	4.21	1.10
Blogs	4 14.8%	–	%	13 48.1%	10 37.0%	3.93	1.32
YouTube	6 22.2%	1 3.7%	1 3.7%	8 29.6%	11 40.7%	3.63	1.51
Flicker	8 29.6%	–	2 7.4%	6 22.2%	11 40.7%	3.44	1.72
Listserv	9 33.3%	–	1 3.7%	5 18.5%	12 44.4%	3.40	1.80
Myspace	8 29.6%	1 3.7%	3 11.1%	5 18.5%	10 37.0%	3.29	1.71
Ning	10 37.0%	3 11.1%	2 7.4%	4 14.8%	8 29.6%	2.89	1.73
GRAND MEAN = 3.7350							

The results in Table 11 above show that academic librarians were of the view that effective awareness of the availability of e-resources in the library can be created through email (\bar{x} = 4.56; s = 0.58); Facebook (\bar{x} = 4.51; s = 0.57); Texting (SMS) (\bar{x} = 4.48; s = 0.64); instant messaging (\bar{x} = 4.41; s = 0.64); Twitter (\bar{x} = 4.21; s = 1.10); and blogs (\bar{x} = 3.93; s = 1.32). Others specified by some academic librarians include WhatsApp; delicious; LinkedIn; and Pinterest.

Table 12: Mean and standard deviation scores of modern tools that can be employed to create effective awareness of the availability of e-resources in the library as indicated by lecturers

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD (s)
Email	1 0.9%	– %	– %	51 46.4%	58 52.7%	4.50	0.60
Texting (SMSs)	5 4.5%	1 .9%	4 3.6%	51 46.4%	49 44.5%	4.25	0.93
Facebook	6 5.5%	1 .9%	3 2.7%	64 58.2%	36 32.7%	4.12	0.94
Twitter	13 11.8%	– %	2 1.8%	56 50.9%	39 35.5%	3.98	1.20
YouTube	13 11.8%	2 1.8%	– %	65 59.1%	30 27.3%	3.88	1.19

Instant messaging	14 12.7%	1 .9%	10 9.1%	51 46.4%	34 30.9%	3.82	1.25
Blogs	14 12.7%	2 1.8%	6 5.5%	57 51.8%	31 28.2%	3.81	1.24
Flicker	28 25.5%	2 1.8%	6 5.5%	49 44.5%	25 22.7%	3.37	1.51
Myspace	31 28.2%	– %	8 7.3%	57 51.8%	14 12.7%	3.21	1.46
Listserv	39 35.5%	1 .9%	5 4.5%	47 42.7%	18 16.4%	3.04	1.59
Ning	45 40.9%	2 1.8%	6 5.5%	46 41.8%	11 10.0%	2.78	1.56
GRAND MEAN = 3.4825							

Table 12 presents mean and standard deviation scores of lecturers' opinions on the modern tools that can be used to create effective awareness of the availability of e-resources in the library. The results indicate that lecturers were of the view that effective awareness of the availability of e-resources in the library can be created through email (\bar{x} = 4.50; s = 0.60); texting (SMS) (\bar{x} = 4.25; s = 0.93); Facebook (\bar{x} = 4.12; s = 0.94); Twitter (\bar{x} = 3.98; s = 1.20); YouTube (\bar{x} = 3.88; s = 1.19); instant messaging (\bar{x} = 3.82; s = 1.25); and blogs (\bar{x} = 3.81; s = 1.24).

Table 13: Mean and standard deviation scores of modern tools that can be employed to create effective awareness of the availability of e-resources in the library as indicated by students

ITEMS	SD(1)	D(2)	UD(3)	A(4)	SA(5)	Mean (\bar{x})	SD (s)
Email	116 11.5%	21 2.1%	25 2.5%	351 34.6%	500 49.4%	4.08	1.12
Facebook	115 11.4%	35 3.5%	30 3.0%	389 38.4%	444 43.8%	3.91	1.28
Texting (SMSs)	190 18.8%	20 2.0%	53 5.2%	370 36.5%	380 37.5%	3.72	1.46
Twitter	215 21.2%	33 3.3%	41 4.0%	387 38.2%	337 33.3%	3.59	1.45
Instant messaging	257 25.4%	19 1.9%	59 5.8%	363 35.8%	315 31.1%	3.45	1.56
Blogs	297 29.3%	47 4.6%	49 4.8%	349 34.5%	271 26.8%	3.24	1.61
YouTube	309 30.5%	54 5.3%	76 7.5%	359 35.4%	215 21.2%	3.16	1.57
Flicker	391 38.6%	41 4.0%	93 9.2%	309 30.5%	179 17.7%	2.85	1.60
Listserv	468 46.2%	42 4.1%	79 7.8%	286 28.2%	138 13.6%	2.59	1.56
Myspace	462 45.6%	50 4.9%	96 9.5%	260 25.7%	145 14.3%	2.58	1.51
Ning	521 51.4%	60 5.9%	115 11.4%	225 22.2%	92 9.1%	2.32	1.41
GRAND MEAN = 3.0675							

Table 13 presents the mean and standard deviation scores of students' opinions on the modern tools that can be used to create effective awareness of the availability of e-resources in the library. It has been found that students were of the view that effective awareness of the availability of e-resources in the library can be created through email ($\bar{x} = 4.08$; $s = 1.12$); Facebook ($\bar{x} = 3.91$; $s = 1.28$); texting (SMSs) ($\bar{x} = 3.72$; $s = 1.46$); Twitter ($\bar{x} = 3.59$; $s = 1.45$); instant messaging ($\bar{x} = 3.45$; $s = 1.56$); blogs ($\bar{x} = 3.24$; $s = 1.61$); and YouTube ($\bar{x} = 3.16$; $s = 1.57$). Others specified by some students include Instagram, WhatsApp, Google Allo, advertisements and LinkedIn.

The results concerning the tools used to create awareness among library users reveal that academic librarians and students, on the one hand, and lecturers, on the other hand, had different opinions on how the library reaches out to its users. Whereas the librarians and students selected electronic mail, notice boards and texting (SMSs), in that order, lecturers chose notice boards, Twitter and electronic mail as tools used by the library to create awareness. According to the current study's findings, the modern tools that can be employed effectively to create awareness of e-resources in the library include electronic mail, Facebook and texting (SMSs). Some of these are highlighted by Leong (2009), who observes that the strategies for creating awareness among distant learners include: making use of contacts; providing awareness programme on website; and constant delivery of information. The use of modern tools such as social media in consonant with these strategies would greatly enhance e-resource awareness among distant learners at NOUN. The integration of the various modern tools, such as electronic mail, Facebook and SMSs, and other relevant social media tools, into the library webpage and the lecturers' and students' portal platforms would also enhance their effectiveness, as more remote users would become aware of library e-resources. According to Dadzie and Van Walt (2015) and Islam & Habiba (2015), the deployment of modern tools on the library webpage leads to improved awareness, enhanced library and user collaboration, and the creation and sharing of information. In addition, it bridges the gap between the library and its remote users.

CONCLUSION AND RECOMMENDATIONS

The NOUN library has made a variety of e-resources available to its clients, who are mainly undergraduate and postgraduate (including masters and PhD) students and lecturers. The resources include but are not limited to e-journals, e-books, CD-ROM databases, e-magazines and e-newspapers. The high ranking of CD-ROM databases in this era in which even CD-ROM readers are slowly phasing out is symptomatic of the digital divide that exists between developed and developing countries. Nigeria, like all African countries except perhaps South Africa, is lagging behind in terms of information technology advancements. This has resulted in low levels of adoption of ICTs in institutions of higher learning, among others. We believe that this might also be a factor that is hindering the maximization of the benefits associated with e-resources. However, the study has revealed that the users' perceptions of and s towards e-resources are favourable. Although the level of awareness of e-resources among the users is low, it is nevertheless commendable. The fact that lecturers are more knowledgeable about the e-resources that are available in the library than students is encouraging, as students often rely on lecturers to direct them to relevant resources for their studies and research. Librarians can take advantage of this observation and use the lecturers to direct students to e-resources. The users' high rating of modern means of creating awareness of the availability of e-resources at the NOUN library is equally encouraging as not only are they faster, they are also relatively cheaper than traditional means. The email and social media platforms have a wider reach than traditional means, such as snail mail and physical or public meetings. To maximize the potential benefits of social media, however, the library is encouraged to introduce push services as students should not be expected to pull information from the library's tools and services used to create awareness.

AREAS FOR FURTHER RESEARCH

We are cognizant of the fact that awareness of e-resources is not an end in itself. Utilization of the resources is equally important. A study to investigate whether users' awareness of e-resources has led to the utilisation of

the said resources is strongly recommended. Further research is also recommended to explore the extent of accessibility of the resources to remote users, particularly in view of the fact that NOUN is an open university.

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ABSTRACT: *This paper describes efforts to preserve long-term priceless archival resources by making them accessible while ensuring that they are preserved in their original format, using Okavango Research Institute (ORI) Library's special collections as a case study. The depth of these collections, their acquisition and appraisal processes to determine their significance to the library are described, as well as steps that were followed in integrating them in the library's collections. Special collections are often produced informally and stored in environments determined by the personal resources of the collectors. In ORI library, the collections were sourced mainly from researchers or enthusiasts who worked in different capacities in Ngamiland region and had interest in Okavango Delta and the people who live in the region. The special collections provide unique information of historic value that has the potential to support biodiversity conservation in this protected area. The materials form an essential part of the library's resources. The longevity of these materials is often threatened because they are prone to damage due to their fragility and their previous varying physical environments. Caretakers normally restrict access to such collections to preserve them, which is counterproductive to the intent of the collectors and the mandate of the library. It is therefore the responsibility of libraries to ensure that beyond identification, processing and preservation, such collections are made accessible to users. There are, however, numerous challenges that are encountered in the process of integrating personal collections into the library's resources.*

KEYWORDS: *preservation, special collections, collection access, electronic documents, digitisation.*

INTRODUCTION AND BACKGROUND

Special collection is a term that is used to define any research material that falls outside the main library collections of current publications, serials and monographs Prochaska (2003). The Okavango Research Institute (ORI) Library is a branch of the University of Botswana (UB) Library Services, which serves a broad community of researchers and stakeholders involved in studying and planning for the Okavango Delta region. Its collection of information resources cover a wide range of subject areas of interest to the Okavango research community.

The Institute's research themes include ecosystem dynamics and services, water resources management, sustainable tourism and climate change. The library supports ORI in its vision of being a leading wetland research institute in Africa and the world by preserving and ensuring continued access to the Okavango region's legacy of biodiversity data and information. In its effort of preserving these legacy materials, the library has over the years collected information materials from scholars who worked in the different capacities in the Okavango Delta.

Other than materials acquired through the normal acquisition process, ORI Library has received donations that have proven to be rich sources of information about the Okavango Delta region. The materials enhance our understanding of the history of Ngamiland, and their contents are of interest to researchers and writers, both as background information and data that leads to the development of further knowledge. According to Morrison (2007), the library relied on the insights and observations of researchers to identify information sources for inclusion in the special collections. The Library had to find ways of preserving and making the materials, which are mostly in a fragile condition, accessible. This was made possible through digitising the collections and sharing them using several different platforms.

THE COLLECTIONS

Digitising collections is vital as digitised materials provide broader and intensified access to a larger community and collections of different types (Yan Quan Liu 2004). Moreover, they can be copied to diverse formats and from one storage medium to the other through “refreshing” as Lazinger (2001) calls it, to prevent the destruction of original materials.

The ORI Library has received donations of private collections of more than 4000 books, journals, aerial photographs and maps, professional correspondence, interviews, and other materials accumulated over a 30-year period by a former government officer, Mr Peter Alexander Smith. Many of the materials donated by Smith were rare, unique and out of print. Smith worked in various positions for the Bechuanaland Protectorate Government and subsequently, the Botswana Government, mainly in the areas of tsetse fly and invasive aquatic plant control. Through working in these positions, in and around the Okavango Delta, he became recognised for his knowledge of the ecology and botany of the area. Peter Smith’s trips into the Okavango Delta, a major wetland in north-west Botswana, with a very rich flora and fauna, involved scribbling his observations and notes on 1:50000 topographic maps. His donated works now form part of the University of Botswana, Okavango Research Institute Library's natural collections. The maps have approximately 4500 handwritten annotations of observed flora, fauna, places and water channels within the Delta. However, due to their fragility, access and retrieval of information on the maps by library clients is restricted, and decoding the handwriting requires expert knowledge about the features on the maps.

To ensure preservation, access and usage of the information on the maps, a story map was created. This was made accessible through a story map platform. At the scanning stage, the contextual documents were subjected to Optical Character Recognition (OCR) technology to make their contents machine readable and searchable. Each annotation was then transcribed by the library staff.

After transcription, error checking and interpretation by relevant content experts the institute, each annotation was stored as a point in a GIS database. The images and annotations were then transformed for internet access using a GIS internet map server. Finally, a story web map was created from the now ‘web friendly’ collection by applying web page templates found on ArcGIS Online to create a rich, user friendly and interactive home for the Pete Smith Annotated Map Collection. A basemap from the National Geographic was selected and overlaid with the annotations web map layer. Annotations of the shape files were then loaded onto the basemap. To configure the storytelling application, the compare template was chosen, which enables comparison of past and current features.

Finally, more information was added to the map using botany and hydrology domain expertise, and other users who could shed more light on the annotation data. Landis (2007), supports this and interprets it as a philosophy and procedure that promotes user participation and has roots in diverse fields. The product was then shared through a publicly accessible web-based platform called story map (<https://www.odis.ub.bw/portal/apps/StoryMapBasic/index.html?appid=aa5669abd14e9ddb6ab1fb20be2047>).

Another digitisation project provides access to a collection of slides documenting the culture and indigenous knowledge of the San in the Okavango Delta and Bere/Takatshwane region by Dr Hans Joachim Heinz, a parasitologist who lived amongst the Ko! San for many years. He studied their social organisation and documented their botanical, entomological, and anatomical knowledge Heinz (1979).

The slides provide insights to the San communities' collective knowledge of all aspects of their way of life. The slides are accompanied by descriptions obtained by library staff from the San themselves. While the collection had formerly been held in the custody of the ORI library, without a formal agreement in place, copyright was transferred to the University of Botswana in December 2006. The Library intends to publish the photographic collection of the San through SuAVE (Survey Analysis via Visual Exploration), an online platform for visual exploratory analysis of surveys and image collections. It integrates visual, statistical and cartographic analysis and allows users to annotate and share images and distribution patterns Ilia State University (2014).

A collection of books, research reports, photographs and notebooks from the late wildlife biologist, Dr Richard Bell, was obtained as a gift in 2007. Bell was prominent for his knowledge of wildlife monitoring techniques and community wildlife management schemes. Dr Bell worked as a wildlife biologist throughout southern Africa for 30 years. He moved to Maun from Zambia in 1993, worked on a project with the Botswana Department of Wildlife and National Parks, and then set up his own consulting firm in Maun until 2003, when he passed on. His collection come from all stages of his work in Malawi, Kenya, Zimbabwe, Zambia, Botswana, Tanzania, and Mozambique. Bell was a voracious reader and collector of research materials. He was deeply interested in the philosophy of conservation and had worked extensively with development of community wildlife management schemes. He was known for his detailed note taking - the collection contains approximately 20 hard covered notebooks filled with minutes of meetings and observations, for which an index has been prepared.

In 2015, the library added hunting records collected by Mrs Debbie Peake, a Maun-based taxidermy supplier and secretary of the Botswana Wildlife Management Association (BWMA). The materials are a potentially rich source of biodiversity information. Information collected by the Botswana Wildlife Management Association between 1996 and 2014 about hunting quotas, concession location, and trophy measurements, as well as biological specimens, forms an important piece of the knowledge legacy of legal hunting in Botswana. Following the 2014 suspension of hunting in Botswana, recognizing the valuable insights to wildlife research that these materials can provide, the Association worked with the University of Botswana's Okavango Research Institute to catalogue, transfer and preserve the materials in the ORI's library and archival collections, and to capture the data in a widely accessible online resource, the Global Biodiversity Information Facility (GBIF) (<https://www.gbif.org/project/82758/data-rescue-for-the-records-of-the-botswana-wildlife-management-association#datasets>).

CHALLENGES ENCOUNTERED

Research libraries are often required to acquire materials supporting the institution's areas of research, and to anticipate the needs of future scholars. Issues of inheritance and legal transfer sometimes hamper the legitimacy of the acquired collection as it takes time to allocate copyright when the inheritance is contested. In some cases, the proper process of transfer is not implemented, resulting in some collections not having deeds of transfer. Moreover, several issues are allied with the usage of digital information as it can be easily distributed across the world through various digital medium, making it prone to modification and difficult for one to detect the rightful owner Shettar (2014). Technological obsolescence can be a challenging issue, as technological infrastructure needs upgrading from time to time. Infrastructure used as storage for the digitized collections can be problematic as systems at times crash Hughes (2004).

Incorporating personal collections into a library's resources often faces challenges such as lack of storage facilities for the original materials, which is the case with the current unique collections at the ORI. The collections' specialised storage facilities require the right temperature and humidity to ensure their longevity. The library does not have adequate storage facilities. This inadequate storage space hinders exposure and access to these valuable collections. For example, the ORI Library's special collection houses some historic images that need to be displayed. Had there been enough space for these collections, these photographs could be exhibited on the walls for them to become a vital part of research materials, library tours, and to be shown to students during orientations. Such displays could also be used to market the library to potential users.

There is also a dire need for capacity building to enable staff to acquire the technical skills needed to work with these fragile collections. Training of staff is not readily implemented by institutions due to financial constraints Sunil (2009). Preservation standards to be followed are a necessity, and access to appropriate materials for packaging is also needed. These can be expensive to acquire. Dappert (2010, 5-13), states that: "Digital media are brittle and short lived. Hardware and software technology continue to evolve rapidly. Changes in organizations and their cultural and financial priorities add risk to continued accessibility and long-term preservation of digital assets". Thus, Conservation of library materials through digitisation should be a priority as it is an emerging area and library professionals should draw attention to proper preservation measures Sunil (2009).

CONCLUSION AND RECOMMENDATIONS

Despite these challenges, the ORI Library intends to ensure that the data contained in these collections are preserved and made accessible as they can provide insights to environmental research in the region. They also encompass rich context for scientific and economic studies of natural resources management in the region that can as well be substantial in informing decisions. In addition, the ORI Library's experience with these special collections, and their embedded data, should be of interest to other memory institutions and to researchers seeking content for their work.

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SPECIALIZED INFORMATION AND OUTREACH SERVICES



SPECIALIZED INFORMATION SERVICE DELIVERY FOR APPROPRIATE USE OF AGROCHEMICAL PRODUCTS IN GHANA

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ABSTRACT: Agrochemical products are meant to increase agricultural productivity and consequently ensure food security in the world. Agrochemicals are used to protect crops and animals against harmful effects of weeds, pests and diseases. Farmers have better yield, when weeds, pests and diseases are controlled. However, some farmers abuse the chemicals, especially in the developing world. The abuse of these chemicals poses serious problems to the environment, the farmer, and the general food consumer. Owing to the effects of the abuse of agrochemicals on society, scholars made efforts towards ensuring that farmers get the right information on how to appropriately use the products in some countries, but no such studies have been conducted in Ghana. The purpose of this study was to explore the use of specialised information service delivery as a tool of ensuring appropriate use of agrichemicals in Ghana. The main research question of the study was: How can specialised information service delivery be used to ensure effective use of agrochemicals in Ghana? A survey strategy with questionnaire instrument was employed to collect the needed data from 60 farmers in a selected farming community. The results were analysed using descriptive statistical methods with MS Excel. The results revealed that the information needs of the farmers include information on agrochemicals functions, their negative effects and the protective measures against the harmful effects of the chemicals. The preferred format of such information is pictures/diagrams, text and audiovisual and preferred channels of dissemination are extension officers, radio programmes and agrochemicals distributors.

KEYWORDS: specialized information services, information service delivery, agrochemical products use, Ghana.

INTRODUCTION

Agrochemical products are meant to increase agricultural productivity and consequently ensure food security in the world. Agrochemicals are used to protect crops and animals against harmful effects of weeds, pests and diseases. All things being equal, farmers have better yield, when weeds, pests and diseases are prevented or controlled. Therefore, in the modern agricultural industry, agrochemical products are very critical. However, the chemicals are sometimes abused or inappropriately used by some farmers, especially in the developing world, partly due to illiteracy, lack of information or misinformation about how to use the products.

The abuse of agrochemical products poses serious problems to the environment, the farmer, and the general food consumer. Owing to the dangers the misuse or abuse of agrochemical poses to the world, scholars are making efforts to ensure effective use of agrochemicals, especially in the developing world. Studies investigated the general factors that influence farmers' adaptation and use of the chemicals. For instance, Mariyono, Kuntariningsih, and Kompas (2018, 305-323) analysed factors that affect the use of pesticides in vegetable farming in Indonesia in order provide appropriate policies that would lead to lesser use of pesticides and to minimize their effects on human and environment.

From information service delivery perspective, scholars have investigated the kind information farmers need, its sources and how it can be disseminated to them for effective use of agrochemicals. Benard, Dulle, and Hieromin (2018, 209-225) assessed the information needs of fish farmers in Tanzania and how such information could be obtained. In a similar study, Elly and Silayo (2013, 547-566) explored the information needs of rural farmers and the sources of such information, and found that the farmers basically needed information about crop and livestock husbandry, marketing, and funding options, which came from interpersonal communications. Furthermore, Msoffe and Ngulube (2017, 82-90) investigated the preferred information sources of poultry farmers in accessing poultry management information in Tanzania. The study found that farmers in the study communities preferred acquiring poultry management information through interpersonal and informal sources. Nyareza and Dick (2012, 494-508) investigated the benefits of using community radios stations to communicate agricultural information to peasant farmers in Zimbabwe and how to incorporate that into the country's agricultural extension service programmes.

In Ghana, similar efforts have been made towards providing relevant information to farmers. For instance, Osei et al. (2017, 72-79) assessed the sources of information for vegetable farmers in Accra. The study found that most vegetable farmers use radio as a source of agricultural information and that farmers strictly go by the supplier information or prescription when applying agrochemical products such as fertilizer, weedicides, and pesticides. Egyir, Owusu-Benoah, Anno-Nyako, and Banful (2011, 83-97) identified key factors that influence the adoption of agrochemicals on plantain farms in Ghana. Among others, the study found being literate, having higher income from sales, having access to hi-tech machinery and being linked to extension services and financial institutions as factors that influence Ghanaian plantation farmers to use agrochemicals. Despite the local efforts made regarding the use of agrochemicals, no study has been conducted in the country to explore how information can be specially packaged and delivered to farmers for effective use of agrochemical products. The purpose of the study is to explore the best ways of packaging and disseminating information about agrochemical products to farmers in Ghana. The main research question the paper seeks to answer is how can specialised information service delivery be used to ensure effective use of agrochemicals in Ghana? The rest of the paper is arranged as follows: Method, results, discussion, conclusion and recommendations.

METHODS

The study employed a survey strategy in its investigation. A structured questionnaire was used to collect the needed data from sixty farmers in Tokokoe, a farming community in the Volta, Ghana. The sample was randomly selected using member lists of three farming groups in the community. Questionnaires were administered face-to-face to the participants by the researchers with a research assistant who is a native of the community. The role of the research assistant was to read the questionnaire to participants who could not read and to explain to others who did not understand certain concepts or questions.

All participants, before the process, were informed of the purpose of the study, their right to voluntarily participate and to withdraw from process anytime they wished to do so. They were also assured that the information to be collected was for academic purpose only and would be treated with the utmost confidentiality. The data collected was analysed using descriptive statistical methods and MS Excel. Frequencies and percentages of the participants' responses were calculated using the software. The data was presented in simple tables and in percentages.

FINDINGS

This section presents the results of the study. The information gathered can be categorised into three main types: participants' farming profile, participants' use of agrochemicals and participants' agrochemical information needs. These three types of information represent the main headings under which the results are presented.

Participants' farming profile

This section presents results about participants' level of education, number of years in farming and the types of crops they farm.

Level of education

The results as show that 29 (48.3%) of participants have basic education. In Ghana basic education currently consists of 9 years of education: 6 years in primary school and 3 years in Junior High School. Middle school leaving certificate has next high figure with 20 (33.3%) responses, which consisted of 10 years of education: 6 years in primary school and 4 years in middle school. The two qualifications are almost of the same level in Ghana education system. The qualification at that level used to be Middle School Leaving Certificate but was replaced with Junior High School Certificate after educational reforms. The two certificates recording the highest responses indicate that majority of the participants' highest qualification is basic. Nonetheless, 4 (7%) respondents have Higher National Diploma, and 2 (3.3%) have first degree. This implies that all the participants ever attended school; however, majority of them can be described as semi-literate, as many may not have appreciable level of reading, writing and analytical skills.

Numbers years in farming

The responses to a question on the number years of farming indicate that majority of the participants, 21 (35%), have been farmers for 6 to 10 years, and only 4 (7%) have been farming for over 26 years. Fourteen (23%) participants have least experience as their farming activities spans only 5 years. Nonetheless, all participants can be described as experienced farmers albeit different levels of experiences.

Types of crops cultivated

The results in responses to a question of the type of crops participants cultivate show that 28 out of 60 representing (47%) cultivate cocoa, 27 (45%) engage in planting plantain, 24 (40%), and 18 (30%) involve in cocoyam and cassava farming respectively. Many farmers are engaged in cultivating cocoa probably because cocoa farmers get incentives from Ghana Cocoa Board, a body responsible for purchasing cocoa from farmers. Again, coco is a cash crop, so farmers who are interested in making more money are likely to engage in cultivating the crop. Plantain has the next highest responses of 27 (45%). Plantain is used to prepare different kinds of local dishes in Ghana. It is also cultivated on large scale for commercial purposes. This could explain why it is being cultivated by many farmers. The third highest grown crop in the community is cassava, but its position is surprising, in that cassava is used to prepare different meals in Ghana, especially in the forest areas like the study community, so 30% of the participant engaging in cassava farming is unexpected.

None of the participants cultivate rice, meanwhile many Ghanaians eat rice. Rice depends on available water to do well. It could be that the community does not have stable water that supports rice cultivation, or the land might not be good to do rice farming. None of the crops recorded 50% and above responses. This could suggest that the farmers are engaged in mixed cropping.

Farmers' use of agrochemicals

This section presents results on participants' use of agrochemicals. The section consists of responses regarding whether or not the participants use the chemicals, how long they have been using it, whether or not they understand and follow instructions when using the chemical.

A YES or NO question was asked to ascertain whether or not the participants use agrochemical products in their farming activities. 52 (87%) respondents responded YES, while 8 said no. This suggests that almost all the farmers in the community use agrochemicals to farm.

Types of agrochemicals used

A question was asked to find out the types of agrochemicals farmers in the study community use. A list of agrochemical products was provided for them to select from. The products were grouped into: weedicide, pesticide and fertilizer. The results indicate that most of the participants use glamozone (42%), 24D- calipherps (42%), sunphoshate (37%), Atrazin powder (37%), and nikokine (37%). For pesticides, the chemicals used most are confidor (33%), desban (32%) and akati master (27%). However, the only fertilizers used are ammonia (33%) and NPK (22%). The results imply that the participants used a range of agrochemicals.

Years of using agrochemicals

Table 4 contains responses to a follow up question that was asked to find out how long farmers have been using the agrochemical products. 35 (58%) of the respondents have been using the chemicals for 6-10 years while 19 (32%) use it for 1-5 years. This implies that the farmers know what agrochemicals are and have been using them for quite a number of years.

Availability of instructions on the use of agrochemicals

A YES or No question was asked to find out whether farmers have access to instructions on how to use the agrochemicals. 56 participants representing (93%) responded that the instructions on the use of the products are always available and only 4 responded no. This suggests that most of the agrochemical products used in the study community come with usage instructions.

Understanding usage instructions

A follow up YES or NO question was asked to ascertain whether or not farmers understand instructions that come with agrochemical products. 48 (80%) responded that the instructions are understandable while 20% said no, which is a good sign towards effective use of the chemicals.

Following instructions of the use of agrochemicals

In response to the question whether farmers follow instructions when using the agrochemical products, majority (70%) responded yes, while (30%) do not follow. Nonetheless, having majority following the instructions could lead to effective use of the chemicals in the community studied in particular and Ghana in general.

Reasons for not following instruction

In responding to a question why farmers do not follow instructions when using agrochemical products. Only 34 participants out of 60 responded to the question. Among those responded 19 indicated that they do not follow instructions because they do not have the required tools to do so. For instance, if farmers are required to wear protective cloths when using particular chemical, they may not wear the cloth if they do not have it. Yet, 12 (20%) respondents do not follow instructions because they cannot read. This could be understandable because most of the instructions are in text form and mostly in foreign languages, so farmers who cannot read will find it difficult to follow the instructions.

Farmers' information needs

To determine the best way of disseminating information about agrochemical products to farmers, the researchers tried to find out their information needs. The results, in Table 1, indicate that 49 (82%) of the participants need information regarding the functions of the products, while 45 (75%) need information on how they can protect themselves against the harmful effects of the chemicals. Yet, 44 (73%) want to know the negative effects the chemical will have probably on them, the land and the food that would be produced. This suggests that the information needs of agrochemical users in the community ranges from the function of the chemical, through the expiring date of the product; the negative effects of the products to where to find the needed material that will enable them use the product effectively. Hence, agrochemical producers should make conscious efforts to accompany their products with such information.

Table 1. Information needs of agrochemical users

Information need of chemical users	Frequency	Percentage
The functions of the chemicals	49	82
the negative effects of the chemicals	44	73
Expiring date of the chemicals	43	72
the steps or processes of using the chemicals	36	60
How I can protect myself during and after using the product	45	75
Where to find the needed materials for the use of the chemicals	39	65

Farmers' preferred format of information

A question was asked to find out farmers preferred format of information about agrochemical products. Table 2 below represents participants' responses regarding choice of information format. Thirty-eight (63%) prefer information in the form of pictures or diagrams, 33 (55%) want textual information, while 14 (23%) participants choose audio-visual information. This suggests that to ensure effective use of agrochemical information, such information should exist in multiple formats: text, picture and audio-visual. This is to satisfy the divergent choice of information formats.

Table 2. Farmers preferred information format

Preferred information format or form	Frequency	Percentage
Text	33	55
Audi	9	16
Audiovisual	14	23
Picture/diagram	38	63
Total		

Farmer preferred channel of information dissemination

The value of information, arguably, depends on how it is being used in making better decisions. We further argue that an effective use of information depends on how it is communicated to the people who need it. Based on these arguments, a question was asked to find out the preferred channel of disseminating agrochemical information to farmers in ToKokoe, the study community. Table 3 displays the participants' responses to the question.

Table 3 shows that 43 (71%) of 60 respondents prefer receiving information about agrochemicals through extension officers. Probably because extension officers are professionals, working with recognised state or private institutions, so information coming from them is more likely to be authentic and reliable. 33 (55%) participants would like to receive the needed information about agrochemicals from the distributors of the chemicals. Probably because they are sellers or distributors of the products, they will know better about the products than anyone else, hence it might be prudent to hear from the horse's own mouth. Although, majority of the respondents prefer receiving information from extension officers and agrochemical product distributors, appreciable number of them wants the information to be delivered to them through radio announcement, local assemblies and as instruction manual. This implies multiple channels of communication should be employed in disseminating of agrochemical information in Ghana; however, priority should be given to engaging the services of extension officers and the chemical distributors.

Table 3. Farmer preferred channel of information dissemination

Preferred channel of information distribution	Frequency	Percentage
Radio announcement	21	35
instruction manual	22	37
Extension officers	43	71
chemical distributors	33	55
Local chiefs	0	0
Information service department (assembly)	22	37
Total		100

DISCUSSION

This paper investigated how agrochemical information can be packaged and disseminated to farmers in Ghana for effective use of the agrochemicals. The results indicate that almost all the farmers in the community studied use various kinds of agrochemicals for many years.

The results also reveal that for effectively use of agrochemicals in the community, farmers need information regarding the functions of the chemicals, the negative effects of the chemicals and how they can protect themselves against the harmful effects of agrochemicals during and after use. However, Benard, Dulle, and Hieromin's (2018, 83-97) found fish farmers' information needs include: information how to treat water, spawning operations, and fish preservation and processing. In a similar study, farmers needed information on crop and livestock husbandry, marketing, and funding options (Silayo 2013). This suggests that information needs of farmers are based on the type of farming they do at a particular place and time. Lwoga, Stilwell, and Ngulube (2011, 383-395) corroborate this conclusion that information needs, and information-seeking patterns of farmers are specific to certain locations.

Furthermore, the results revealed that majority of farmers prefer to receive information from extension officers. This finding relates to that of Inyang's (2015), which states that vegetable farmers in Nigeria receive information mainly from extensions officers. However, in Nyareza and Dick's (2012, 494-508) study extension service programmes was not satisfying the agricultural information needs of peasant farmers because the extension officers were not many and did not have means reach out to every household. This implies that extensions officers or services are considered a reliable and authentic channel of communicating to farmers; however, for such service to be trusted and effective there should be enough officers who are well resourced to do their work. However, some participants prefer being communicated to through radio and manuals.

CONCLUSION

This study investigated information services delivery for effective use of agrochemicals and found that farmers in Tokokoe, a farming community in Volta Region, Ghana use various types of agrochemicals in their farming activities. Though, some of them currently abuse the chemicals, majority of them would be able to use them responsibly and effectively if information about the chemicals is properly packaged and disseminated to them. The farmers need information on what the chemicals do, the negative effects of the chemicals and how they (farmers) can be protected against the harm of the products during and after use. Such information should be presented in the form of pictures or diagrams, text and in audiovisual format, and disseminated through extension officers, radio programmes and agrochemical product distributors.

RECOMMENDATION

Base on the findings the paper recommend that information for agrochemical use should be appropriately and locally package to meet the Ghanaian farmer's need and that more extension officers should be trained and appropriately resourced to disseminate information to farmers for appropriate use of agrochemicals.

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SERVING THE PUBLIC: AFRICAN ACADEMIC LIBRARIES AND OUTREACH SERVICES

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ABSTRACT: Academic libraries are sources of information and services, which serve not only the academic community but also the general public. The libraries serve as preservers and disseminators of information, adding value to the public as they give access to information through outreach services. As such, public users of different disciplines including farmers, entrepreneurs, professionals, household members, industries and other similar groups in the public are the beneficiaries of the information held in the academic libraries. This paper discusses the issues, challenges and solutions of outreach services provided by the University Library of the Federal University of Technology, Owerri (FUTO) in Nigeria and Sokoine National Agricultural Library – the Sokoine University of Agriculture in Tanzania. The paper generally discusses academic library services offered to the non-academic community for the aim of extending access to information resources held in the academic libraries.

KEYWORDS: outreach services, academic library, library services, Nigeria, Tanzania.

INTRODUCTION

Academic libraries are centres of resources for learning, teaching and research, primarily set to serve a particular learning community. However, for some reasons, academic libraries have for long extended their services beyond the learning community to give underprivileged communities access to information Kodikara, Seneviratne, and Punchihewa (2013). Outreach services for academic libraries differ based on the definition, purpose and objectives. Some academic libraries consider an outreach programme as an extensive library service offered to the academic community such as faculty, graduate students, and undergraduate students to impose close collaborations and increase awareness of library services Currie (2009); Cornel University Library (2016). For the rest of academic libraries, outreach programmes mean serving the general disadvantaged population especially surrounding the campus and remote users to meet the information needs, promote new or under-utilized library services and resources. Generally, academic libraries outreach services aim at marketing library resources, increase partnership and collaborations, participating in special events, community relationships, user education, social responsibility and other associated concepts Salamon (2016); Schneider (2008).

Providing a common definition of outreach for libraries is a challenge, the main point of discord being whether a library outreach programme should be for the general community or the learning community Courtney (2003), as cited in Salamon (2016). For this paper, “outreach services” take account of all library services and programmes directed to the non-academic community who could not have otherwise been exposed to information resources and services held in the academic library as defined by Schneider, Kodikara, Seneviratne, Punchihewa and Salamon.

Therefore, this paper focuses on the library public partnership programmes with the surrounding community and outreach services provided by the two academic libraries namely Sokoine National Agricultural Library (SNAL) - the Sokoine University of Agriculture in Tanzania and the University Library, the Federal University of Technology Owerri in Nigeria. Thus, it will discuss different outreach programmes offered and targeted population, benefits, challenges and solutions.

LITERATURE REVIEW

This literature review discusses some of the publications and case studies of outreach activities in academic libraries.

Research findings by Graham (2005) showed that inhabitants outside the immediate university community prefer the university to play active roles in their communities like educating the staff of the local public library and a further study by Schneider (2008) discussed important factors that drive academic libraries to serve the public through outreach services and programmes. Outreach services can be determined by the need expressed from outside the academic community demanding access to library resources and services. It can also be influenced by the library's mission and obligation to the community with the need for the library to market its resources, create value to the community and more. Besides, the academic library can develop outreach services in response to a specific community problem or crisis.

A case study of the University of Moratuwa library describes unique outreach services designed to meet the information needs of the community surrounding the campus (Kodikara, Seneviratne, and Punchihewa 2013). The library is running two outreach activities namely "Child Development Programme for kids of Sumudu Pre-School" and "Reading Camp for students of Bodhiraja Vidyalaya". The Child Development Programme is focused on entertaining preschool children, identify and enhance the skills and talents of preschool children and fulfilling the educational information needs of the preschool children by exposing them to modern technology. The Reading Camp for students is determined to support students academically through modern technology, teaching information literacy and building the reading culture among school children.

In the point of view of outreach as services beyond library walls but within the learning community, some of the scholars have reported the activities and benefits to the library and academic community. According to Currie (2009), outreach services provided by academic libraries to first-year students as soon as they report for the first time on the campus contribute to an increase in awareness and the use of library resources and services. The study further explored effective methods of engaging first-year students in outreach for American colleges and universities. These methods include librarians' participation in first years' learning communities to foster regular interactions with students through designing information literacy-focused assignments, embedding library resources in the course management system and participation in online class discussions. Some of the universities have developed a stand-alone course for first-year students focusing on information literacy skills. Other methods are open houses, online library instruction and peer-led programmes. A survey conducted by Dennis (2012) on the outreach services for academic librarians in the US shows that they have a significant impact on the academic community.

For outreach to be successful, adequate time is needed for planning. Fontenot (2013) states that in his five years' experience as an outreach librarian, outreaching on a budget, finding people that can network, tailoring the outreach approach, and teaching and looking for help at all levels are some of the best practices to adopt for success, while Phillips (2011) suggests the application of modern technology into outreach services.

OUTREACH SERVICES AT SNAL, SOKOINE UNIVERSITY OF AGRICULTURE

Mkulima Library

SNAL is committed to serving the public, particularly the farmers within and outside the country with access to information resources and services. The library has a section called “Mkulima Library”. “Mkulima” is a Swahili language word that means “a farmer”. In Tanzania, the English language is used as a language of instruction in all higher learning institutions. Therefore, the academic libraries information resources and services are highly provided in the English language which becomes a barrier to the majority who uses the native language, Swahili. The section was developed to solve the challenge of the language barrier for information literacy and access to the non-academic community SNAL (2019).

Mkulima library started in 2016 to serve the majority local farming community to access information resources relevant to their farming activities. The library is designed to meet the information needs of farmers through the collection of both physically bound and electronic information resources in the Swahili language. Researchers at the university are encouraged to translate their research findings into Swahili for the library to disseminate and to help farmers put the knowledge into practice for improved farming and animal keeping. Farmers are encouraged to physically visit the library and access resources at Mkulima collection or to remotely access Mkulima electronic resources at <https://www.lib.sua.ac.tz/mkulima/>. The content of materials in the Mkulima library is organised into publications covering single subjects with simple language, which helps farmers to follow instructions and understand the topic of their interest.

Farmers who visit the library are exposed to the use of modern information and communication technologies and information literacy training as groups and individuals. To promote the use of the Mkulima library, SNAL regularly visits different regions to a district level to conduct workshops and seminars based on the needs of the farmers in their respective areas. Furthermore, the library participates in different academic and farmers' conferences to market services and resources of Mkulima library in the country and beyond borders.

All the outreach services to the public are provided free of charge by the university library to give the public access to information services and resources. The knowledge is eventually transforming the lives of individuals as they make informed decisions.

Table 1: Mkulima Library Statistics

S/N	ITEM NAME	NUMBER OF TITLES
1	Mkulima Collection – Physical items	
	All subjects (1465 copies)	653
2	Mkulima Collection – Electronic items (https://www.lib.sua.ac.tz/mkulima/)	
	Chakula na Lishe (<i>Food and Nutrition</i>)	31
	Matumizi bora ya Arthi (<i>Land Use and Management</i>)	30
	Matumizi bora ya Zana za Kilimo (<i>Use of Farming Equipment</i>)	06
	Mifugo na Uvuvi (<i>Animal Keeping and Fishing</i>)	81
	Misitu na Nyuki (<i>Forest and Beekeeping</i>)	22
	Usindikaji na Masoko (<i>Food Preservation and Marketing</i>)	37
	Uzalishaji Mazao (<i>Crop Production</i>)	275

School reading competition

Literature has constantly reported on the poor reading culture in Africa and many other developing countries including Tanzania (Wema 2018). In response to this problem, SNAL through its outreach services participates in the school reading competition to build the reading culture among primary and secondary school students in Morogoro municipality. In collaboration with other education stakeholders in the municipality, SNAL is among the sponsors of the so-called “*Saffepa Book Reading Competition*” conducted every year.

The *Saffepa book reading competition* involves all primary school students in Morogoro municipality. About 30 schools both private and government participate in this competition every year. The competition also involves parents, teachers and the general community participation, especially in the closing day ceremony. SNAL as a sponsor is involved in the provision of reading materials both printed and electronic to all the participating schools. It also awards free reading materials to the five best schools on the closing day event.

Teachers and parents have reported on the significant impact of the *Saffepa book reading competition*. Students have built strong relationships with reading materials especially books, and they have raised their level of confidence in reading, particularly in massive audiences. Furthermore, the event creates a good relationship between the academic library and primary schools surrounding the university. SNAL also uses the opportunity of the *Saffepa book reading competition* closing day event to market the Mkulima library to parents, teachers and the general public audience attending the event. Library staff conducts training especially mobile access to electronic materials in the Mkulima collection as many farmers don't like visiting academic libraries.

University and national exhibitions

SNAL is actively involved in exhibitions identified by the university and the national calendar, which involves academic matters, industrial business and farmers' activities. Edward Moringe Sokoine Memorial Exhibition is one of the formal exhibitions in the university calendar, which is organised every year at the university premises inviting industries, businesses, farmers, individuals, government sectors and all agricultural stakeholders. The exhibition normally takes place for a week and closes on 12 April, the day of the tragic accident which claimed the life of the then Prime Minister of Tanzania, Edward Moringe Sokoine. National exhibitions that involve the active participation of SNAL include “Saba Saba Exhibitions” which is meant for trade activities, “Nane Nane Exhibitions” meant for farmers and the Tanzania Commission for Universities Exhibitions.

Outreach services provided in these exhibitions include marketing of library services and resources, particularly the farming community, information literacy training especially training farmers in accessing electronic information using their handheld devices and consultancy services on general activities of the library and university. Pre-university students normally approach the library desks to seek information that supports their learning and the courses offered by the university and directorate of library services.

OUTREACH SERVICES AT FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI LIBRARY

Scholars believe that outreaches are more effective when linked to the goals of the institution to help in staff, budget and time allocation, while Zitron (2013) outlines the activities that can help to plan an outreach that is based on achieving the institution's mission and goals, whereas Bishoff et al. (2015) show how the environment of the institution impacts on the types of outreaches chosen.

The activities of the Federal University of Technology, Owerri (FUTO), Nigeria library is basically to support the university in the realisation of its vision and mission. The outreach services likewise started, as a means to meet the University's Corporate Social Responsibility and the “Town and Gown” relationship to its host communities. The university is situated on a large piece of land taken from eleven (11) host communities. The

acquisition of this land from agrarian communities generated a lot of controversies between the university and these communities. The areas of controversies border on boundary renegotiation, admission of host communities' indigenes into the university, employment, and contract award, security issues, etc.

It is in line to remedy this situation that the sixth substantive Vice-chancellor of FUTO, Prof. Chigozie C. Asiabaka in pursuance of his vision aimed for FUTO viz: To re-position FUTO to be a top-ranked first-class institution of excellence in technological knowledge production and dissemination, through teaching, research and service to humankind Asiabaka (2011). As encapsulated in his "Quest for Excellence", he created the office of Host Communities Relations Committee in 2011. The Host Communities Relations Committee is to serve as a liaison between the University and the host communities, ensuring good rapport between the two parties.

The Committee, which has a librarian as the head, is to seek ways the host communities can benefit from the programmes of the university, bearing in mind the corporate social responsibility and "Town and Gown" commitments of the university to its host communities. It is through the Host Communities Relations Committee that the university library has pursued its outreach programmes.

Corporate social responsibility

There is a growing interest in the social responsibility of corporations amongst their stakeholders and society in general. Organisations do not operate in a vacuum, thus their activities impact their surroundings which include their stakeholders, society, and other influenced parties.

All humans have moral obligations to preserve the environment and there is no excuse for doing nothing to improve the environmental state of the globe. This also applies to institutions of higher education Christensen et al. (2009).

However, with growing attention and focus on university world rankings, more and more universities are settling their key performance indicators (KPIs) on the number of publications, the number of postgraduate students, etc., without sufficient focus on the applicability of the proposed research and whether or not it will be of any help to the bottom billion.

In Nigeria, most universities are located in rural communities and they are expected to bring about the development of these communities. Universities have the moral obligation to contribute to the development of their host communities.

This was succinctly put by the Vice-Chancellor of the University of Port Harcourt, Port-Harcourt, Nigeria, Prof. Joseph Ajienka, who while speaking about his university's Host Community asked; "This is an agrarian community, when you take land from them, what do you give them in return, what new occupation do you give to them" Asiabaka (2011).

Town and gown relation

Historically, the Town and Gown is used to portray two distinct communities in a "university town". While the town represents the host community or the non-academic population, the "gown" represents the university community Omeire (2010). Babalola (2010) has summarized the purpose of university education in Nigeria as teaching, research and public service commitment. Omeire (2010) supported public service commitment by stating that universities cannot escape the inevitable fact of being part of a local community and supporting the community's growth. Thus the higher education's locus of power is the determination of what role if any, they will play in their community.

Until recently, social issues and the engagement of the local community were hardly priorities for higher educational institutions. They had to remain on the cutting edge of research and development to be competitive in an ever increasingly demanding market-place for prospective students.

This perception, combined with the universities' penchant for making unilateral decisions without community consultation, make the relationship between the two entities discordant. On the other hand, people in the higher educational institutions may feel that the townspeople exhibit antagonism, do not appreciate their effort to educate the populace, frequently do not support them, and do not offer students and faculty special services.

Florida (2006) has argued that universities are widely recognised as beneficial to society and their host cities. Florida (2006) asserts that the most successful metropolitan areas of the United States in the 1990s were, without exception, those that had strong universities. Florida (2006) further indicates that the teaching and research missions of universities are widely accepted and admired by the public, and most people want their children to go to college and earn a degree. However, recent studies on town-gown relationships suggest that universities and host communities still experience difficulties while trying to understand each other. A possible cause of such difficulties is the fact that they perceive each other in different ways and terms Omeire (2009); Onwunari (2010).

Using library outreach to solve the information needs of FUTO host communities

The concept of rural information services stems from the idea that information is a human right owed as much to the poor, illiterate, isolated and neglected rural dweller, as well as the rich, well educated, endowed and privileged people of the urban elite. Access to information is vital for rural people in maintaining active and independent lives. Okiy (2003, 128) asserts that "rural development is a basis for economic development and information is an important ingredient in the development process".

It is the responsibility of outreach librarians to engage and educate individuals and groups on the importance of the library and the services the library offers, explain how librarians can assist them physically or virtually and emphasise why they have to come to the library, rather than waiting for these people to come to the library on their own Fontenot (2013); Potter (2012) and for years academic libraries have engaged in outreach services which have been accepted as their social responsibilities to the communities Salamon (2016).

In the university-host communities' relation, effective communication is very crucial for understanding, peace, cooperation and mutual development of the university and the host communities. Formal meetings are encouraged to identify problems and challenges, discuss expectations and develop professional relationships. The relationship between universities and communities would be positively enhanced if there existed a well-established channel of communication and information services between the parties. In using such medium, university policies that affect host communities (e.g. employment, contracts, admission, land acquisition, use of the university's library, health, and bank facilities, etc.) are explained. This is where the role of the librarian becomes very valuable. In the case of FUTO, even though the outreach was championed by librarians, it made use of professionals from different units/departments of the university, e.g. School of Agriculture, Directorate of General Studies, Health Services, Guidance and Counseling Unit, etc. as the need arises. The information needs of FUTO Host Communities addressed through library outreach are as follows:

- **Land issue:** One of the critical issues in the university/Host community relationship in Nigeria is land matters. For a university to be established, a minimum land area of 1000 hectares is required by the National Universities Commission (NUC) standard (Omeire 2010). In the case of the Federal University of Technology, Owerri (FUTO), Nigeria, an enormous landmass of 4,580.88 hectares Imo State of Nigeria official gazette, Owerri (1982) was acquired. Considering the large expanse of land acquired to establish FUTO in a densely populated agrarian area, many kindred and families lost their farming lands to the university. There were also complaints of lack of compensation or incomplete

payment. This generated a lot of tension between the university and its host communities. The Host Communities Relations Committee led by a librarian had a series of town hall meetings with the different communities where adequate information on the land used, the process of land acquisition, payment of compensation and process of getting some part of their land back if possible were provided. This was done in conjunction with the University Physical Planning Unit who provided the actual details of the landmass and the acquisition processes. The introduction of the use of the university library and the benefit accruable was always a focal point in the town hall meeting. The communities were requested to check the original university map available in the library.

- **Agricultural extension services:** The FUTO host community is agrarian and needs information concerning treated seed/improved varieties, soil conservation, prevention of plant and animal diseases, weather forecast, farm machinery, recommended thinning practices, fertilizer applications, proper storage of farm products, marketing techniques, cooperative activities and other agro-cultural processes. The university library in conjunction with the School (Faculty) of Agriculture and Agricultural Technology (SAAT) organises training workshops on the above-stated areas as the need arises. The University has a well-developed school of agriculture with seven (7) departments and a good collection of agricultural books and journals in both print and non-print formats in the university library. The School (Faculty) of Agriculture and Agricultural Technology (SAAT) also has a well-equipped school (faculty) library.

To facilitate attendance, the university sometimes provides a vehicle to go to the various communities to bring participants. These communities are not into commercial farming but subsistence agriculture. They harvest their crops little by little to feed their families. They, therefore, require special varieties of seeds that can suit their soil and last long without getting spoilt. At the end of the training workshop, new improved varieties suitable for their purpose are distributed to them to go and experiment. A team from the School of Agriculture follows up with the farmers to monitor how they implement ideas from the training. In this training, the main role of the librarian is in creating awareness, coordination and drawing attention to the rich collections of agricultural literature to the participants. To enhance understanding and subsequent application of the workshop fallouts, the training is usually facilitated using the Igbo language, which is the local language of the people.

IMPACT OF THE OUTREACH SERVICES

Many significant testimonies have been given by the farmers on the impact of the Mkulima library in their farming activities. Generally, farmers who have access to information resources and services provided by SNAL have reported changing their old local farming methods to modern agriculture through the knowledge provided in the materials collection. The farmers have also been the good marketers of the Mkulima library to their colleagues to access knowledge for modern agriculture for increased agricultural production.

Exhibitions have been important platforms to attract more public members to visit the library and remotely access electronic resources offered by SNAL. Mkulima library gets around 150 visitors in the physical collections and 1014 every month in the electronic collections. Serving the public with access to information contributes to the attainment of sustainable development goals of quality education and zero hunger due to improved farming. All the outreach services offered at SNAL are important in building an information and knowledge society.

Appreciable impacts have been recorded in all the FUTO library outreaches to varying degrees. The number of visitors from the host communities who patronize the university library has increased but the number is still significantly low compared to the population of the host communities. The issue of university land encroachment by the members of the host communities has reduced significantly. A committee known as

FUTO Original Land Owners has been set up among the host communities who are now liaising with the Federal Ministry of Land for possible boundary adjustment.

There have also been reported improvements in the yields of crops in the host communities following the use of improved seedlings and agricultural practices as evidenced by the agricultural specialist who followed up the projects. This has gone a long way in enhancing the relationship between the university and the host communities.

Many youths from the host communities are now being admitted to study in the university both on merit and catchment area quota after meeting the due requirements. Between 2011/2012, 2012/2013, and 2013/2014, over two hundred candidates from the host communities were offered admission to study at FUTO. An appreciable number of qualified youths from the host communities have also been given employment at FUTO after following due processes. This has practically stopped the regular demonstrations and disruptions of academic activities in the university by the youths.

The secondary schools that received book donations have continued to appreciate the library for the kind gesture as they testify that the books have been of immense help to their students.

CHALLENGES OF OUTREACH SERVICES

Outreach services for academic libraries require resources such as time, staff, and funding Salamon (2016); Kodikara, Seneviratne, and Punchihewa (2013). One of the challenges faced by both SNAL and the university library at FUTO is its outreach programmes in finance. Little support from the parent institution (Sokoine University of Agriculture) has enabled successful outreach services currently provided at SNAL. The university library FUTO has been able to partially solve this problem by liaising with other units/departments in the university. However, due to limited resources, particularly financial support, SNAL and the university library, FUTO has not achieved their full potential to effectively market and take information services to the public. More resources are needed for African academic libraries to attain the mandate of serving the general public.

Outreach at SNAL is focused on ordinary public individuals particularly farmers with minimum knowledge of reading and writing in the Swahili language. Unfortunately, there are still many individuals in the country who cannot read in Swahili due to the high level of illiteracy Nkunguu (2014); Msanjila (2005). It has been a barrier for information access to the target population of the SNAL outreach services such as Mkulima library.

Access to electronic information resources requires basic skills in the use of information and communication technologies (ICTs) such as the use of computer and mobile devices; and access to internet services. The target population of Mkulima library is farmers who largely live in rural areas where some factors include lack of electricity, poor internet access, lack of access to ICT facilities and lack of information literacy skills are major issues.

The agricultural extension services have the added problem of follow up. This cannot be done by the library alone without the cooperation of the School (Faculty) of Agriculture and Agricultural Technology. Sometimes, the relevant staff from this school may not be readily available thereby making monitoring of progress and reporting difficult.

Most of the beneficiaries of the outreach programmes are old men and women who cannot read and write in the English language. This makes the usage of the library and the reading of articles almost impossible.

The outreach also faced credibility questions as a good number of the members of the host communities viewed the actions as a way of invading offering admissions, jobs and contracts to the indigenes.

CONCLUSION

Academic libraries are part of the general community; thus they have a role to play to improve life through the provision of information services to the public. Serving the public promotes the effective use of resources held by universities and builds strong relationships for the development of the general community. Outreach services also allow academic institutions to put research output into practice. However, the services should be well designed based on the particular needs and context of the community. From these two case studies, outreach services are offered under minimal resources of the academic libraries. Therefore, African academic libraries should be empowered with more resources such as staff, finance and time to improve outreach programmes, which influences community development.

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THE ROLE OF LIBRARIES IN MEETING THE INFORMATION NEEDS OF SMALL-SCALE FARMERS IN ZAMBIA

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ABSTRACT: Information is a key resource for any sector in a country. In Zambia, a lot of developmental efforts are being channeled to achieving the 7th National Development Plan (7NDP). The goal of the 7NDP is to create a diversified and resilient economy for sustained growth and socio-economic transformation that is being driven amongst others, by agriculture. It is for this reason that various stakeholders, including librarians, involved in promoting agriculture need to ensure that farmers have the necessary resources to increase productivity. Zambia has about 1.5 million small-scale farmers. For farmers to make sound decisions, they require timely information, in a format that is easy to understand. With this, it is imperative that libraries in Zambia align some of their services to meeting the demands of these farmers. Libraries are key in helping to improve farmers' lives and livelihoods by connecting them to information and providing other skills and resources needed to better their agricultural activities. The objectives of this study included: to determine how small-scale farmers in Zambia looked for information; to determine the challenges that small scale farmers faced in acquiring the needed information in their work; and to explore the ways in which libraries and librarians in Zambia could take advantage of various opportunities that were available to help meet information needs of small scale farmers.

KEYWORDS: libraries, small-scale farmers, information needs, information seeking behavior, farmers.

INTRODUCTION

The agricultural sector is an important instrument for development and a source of livelihood in Africa. In Zambia, the 7th National Development Plan (7NDP) which runs from 2017 to 2021 prioritizes creating a diversified and resilient economy for sustained growth and socio-economic transformation driven, among others, by agriculture. With the theme "Accelerating development efforts towards the Vision 2030 without leaving anyone behind", this integrated approach recognizes the multi-faceted and interlinked nature of sustainable development which calls for interventions to be tackled simultaneously through a coordinated approach to implementing development programmes Zambia. Ministry of National Development Planning (2017). The 7NDP is in principal a policy document that outlines the Zambia's government's desired developmental outcomes as well as the accompanying strategies and programmes. This approach involves various stakeholders working together and leaving no one behind. National development agendas are important because they help shape many government spending activities as well as help determine programme priorities. It is a well-known fact that information plays a key role in decision making. The International Federation of Library Associations and Institutions (IFLA) (2015) believes that increasing access to information and knowledge across society, assisted by the availability of Information and Communications Technologies (ICTs), supports sustainable development and improves people's lives. The Zambian government is promoting agriculture to diversify the economy away from an overreliance on mining. Agriculture contributes about 19 percent to the Gross Domestic Product (GDP) and employs three quarters of the population. The Zambia territory is 75 million hectares (752,000 km²), out of which 58% (42 million hectares) is classified as medium- to high-potential for agriculture production Zambia. Ministry of Fisheries and Livestock (2019). Simatele and Binns (2008) also agree when they say that agriculture makes a significant contribution to the food basket of many urban households in Zambia. With so much potential with regards to farming and national

development, it is important that all stakeholders involved make all the efforts possible to support farming in Zambia. Garforth (2001) believes that knowledge about the information needs and information seeking behavior of small-scale farmers is crucial to effectively satisfy their information needs and develop demand-led extension and advisory services. In addition, Lesaoana-Tshabalala (2003) also agrees that with relevant agricultural knowledge and information, farmers could improve their work to sustain agriculture and also benefit economically.

Agriculture in Zambia is one of the key priority sectors that contribute to economic growth and poverty reduction. The Zambian agricultural sector comprises crops, livestock, and aquaculture. There are three broad categories of farmers: small-scale, medium, and large-scale. Small-scale farmers are generally subsistence producers of staple foods with occasional marketable surplus. Medium-scale farmers produce maize and a few other cash crops for the market. Large-scale farmers produce various crops for the local and export markets. Most Zambians are subsistence farmers Zambia. Ministry of Fisheries and Livestock (2019). According to the Zambia National Farmers Union, farmers in Zambia are categorized as small-scale farmers and commercial farmers; the former being those farming up to 10 hectares of land and the latter farming above 10 hectares. Small-scale farmers play a vital role in promoting food security, yet they have to cope with numerous challenges ranging from farming inputs to market access. It is for this reason that libraries, which are amongst the stakeholders in national development, must ensure that they align some of their services to supporting small-scale farmers.

Libraries, especially public ones are strategic institutions, and if well managed, can be very instrumental in supporting small-scale farmers. All libraries regardless of type have the capacity to support information needs of small-scale farmers. Electronic Information for Libraries EIFL (2013) report that public libraries are effective development partners, helping improve farmers' lives and incomes, according to the newly released impact assessment results of five innovative public library services. With about 1.5 million small-scale farmers in Zambia, it became imperative to ascertain their information needs and to also establish what role public libraries in Zambia can play to support their work. This is cardinal because small-scale farmers need relevant and timely access to information in their day-to-day farming activities. No studies have been done in the recent past to ascertain what libraries in Zambia can do to help farmers access the relevant information that they need to carry out their activities effectively. This study hoped to establish not only the information needs of small-scale farmers in Zambia, but to also make suggestions to libraries and librarians on what they could do to help the small-scale farmers.

OBJECTIVES

The objectives of this study included the following:

- To determine how small-scale farmers in Zambia looked for information;
- To determine the challenges that small-scale farmers faced in acquiring the needed information in their work;
- To explore the ways in which libraries and librarians in Zambia could take advantage of various opportunities that were available to help meet information needs of small-scale farmers.

METHODOLOGY

This study targeted about 100 small-scale farmers across Zambia using random sampling. An online survey tool, eSurv, was used to collect information from small-scale farmers and to analyze some of the data received. The link to the questionnaire was shared with the National Union for Small Scale Farmers in Zambia (NUSFAZ) which subsequently shared the link with its members via two Facebook groups - Small-scale Farmers (farming as business) and Nkoka Women in Agro-Business. The study used both quantitative and qualitative approaches. Interviews were used to collect data from Zambia National Broadcasting Corporation.

RESULTS AND DISCUSSION

Respondents: gender, qualifications and source of income

This study had a response of 92% from the survey that was shared on various farmers' fora. Of these, 57.1% were males and 42.9% were females. About 7.7% had a secondary school qualification whilst the majority, 92.3% had some form of tertiary qualifications. The survey also revealed that 80% of the small-scale farmers had other sources of income apart from farming and 20% indicated that they solely depended on farming.

Small-scale farming is done by different people, regardless of level of education. This study revealed that most respondents had tertiary education. It was also interesting to see the number of female small-scale farmers in Zambia. Women constitute an important part of urban farmers, since agriculture and related processing and selling activities, among others, can often be more easily combined with their other tasks in the household. The ability of small-scale farmers to earn a living income is critical to ensure their viability and economic success. Small-scale farmers play a critical role in the global food system. Their success depends on having adequate resources to manage the risks of growing food crops, engaging with profitable and equitable markets, and a governance environment that supports small-scale farmers Oxfam (2018). In Zambia, it was evident from the findings that workers in formal employment also engaged in some form of agricultural activities.

It is encouraging to note that despite having formal employment, people still saw the need to engage in small-scale farming which is a positive trend for the growth of Zambia.

Distribution of small-scale farmers across Zambia

About 65% of the participants that took part in the survey carried out their small-scale farming in Lusaka Province, about 15% did it from Southern Province. The remaining provinces all had less than 1% of the participants carrying out their small-scale farming activities there.

The majority of participants were from the urban area, an indicator that more people in the urban areas were taking up farming as an alternative source of income aside formal employment. With the creation of highly populated areas due to the growing number of people migrating to urban areas because of poverty, there has been an increase in urban farming to counter food insecurity and provide a source of livelihood. According to Simatele (2008), urban agriculture in Africa has been identified as an important income generation and survival strategy among poor and not so poor households.

Formal training in farming/agriculture

When asked whether the small-scale farmers had formal training in agricultural related courses, about 84% indicated that they did not and about 16% indicated that they had. The majority of respondents in the survey did not have qualifications in agricultural related courses which created a gap in knowledge needed for their agricultural related activities. This is an opportunity for libraries to provide information for these small-scale farmers to help them obtain the knowledge needed to promote their agricultural activities. The majority of farmers were therefore mainly using experience hence the need for more specialized information to support them.

Experience in small-scale farming

When asked how many years the small-scale farmers had been engaged in farming, the findings revealed that the majority of the respondents in this survey amounting to about 32.2% had between 1 and 5 years' experience in farming, about 28.4% had over 10 years' experience, about 23.9% had experience of between 6 and 10 years and about 12.5% had experience for less than one year. The majority of respondents having been engaged in farming in the last five years may be an indication that the occupation has become an important aspect contributing to national development in terms of food security. It may also be due to other

economic conditions to supplement on their income, since the majority also had other sources of income as indicated in 4.1.

Type of farming

When asked what kind of farming the small-scale farmers were engaged in, it was revealed that the majority, about 75% were involved in both livestock and crop farming; about 21.6% were involved in only crop farming and only about 3.4% were involved in livestock farming alone. This is as shown below in Table 1.

Table 1: Type of farming

Type of farming	No. of farmers	%
Livestock and crop (mixed)	66	75
Crop only	19	21.6
Livestock only	3	3.4

In Zambia, government's emphasis to make agriculture a major contributor to the country's gross domestic product is not only focused on diversifying from overdependence on copper, the country's major foreign exchange earner, but also on the need for farmers to grow other food and cash crops, increase livestock production and invest in fish farming, among other ventures aimed at contributing to economic development and poverty reduction Zambia Daily Mail (2018).

Sources of information related to farming

Respondents were asked to tick the sources of information for farming that they used. The following information in Figure 1 indicated the results:

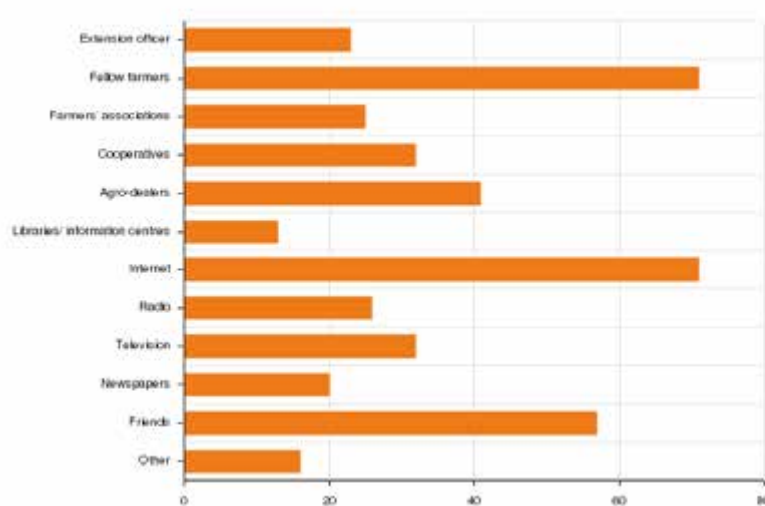


Figure 1: Sources of information

Figure 1 above revealed that the majority of the respondents in this survey (84.5%) relied mainly on fellow farmers and the use of the internet as their sources of farming related information. About 67.9% obtained their information from friends, about 48.8% used agro-dealers as their sources, about 38.1% used agricultural cooperatives and the television as sources, 31% used the radio, and 29.8% used farmers' associations, 27.4% used extension officers as sources of information, 23.8% used newspapers and about 15.5% used libraries and/or information centres as sources of farming information.

Information is key in decision making regardless of the sector concerned. Mgbenka (2016) observes that information is an essential ingredient in agricultural development programmes. It is for this reason that key contributors to national growth such as small-scale farmers have ready access to relevant information.

Mass media plays a critical role in disseminating information to the masses and it constitutes the main vehicle for wide and rapid transmission of information to farmers. Mgbakor (2013) supports this assertion when he says that the mass media have a vital role to play in the communication of agricultural information among the literate farmers. Small-scale farmers have not been left out in benefiting from these sources. From the results above in Figure 2, small-scale farmers used the internet, radio, television and newspapers as some of their sources of information. These are some of the most common platforms for mass media.

The above findings show that fellow farmers and the use of the internet topped the list with about 84.5% using them as sources of information. Libraries can take advantage of this by facilitating a forum or platform where farmers could have discussions with fellow farmers on important issues affecting farming.

Information is an important resource in modern agriculture. The developments in Information and Communication Technologies must be embraced in promoting and supporting current trends in agriculture. Technology has the potential to facilitate efficient access to useful information even remotely. This facilitates effective decision making. The modern farmer is an entrepreneur who tries to grow right crops and animals in the most profitable way and as evident from the results in 4.1, these farmers have other jobs, so time is a factor. They need so much information to support them in their farming activities, but they seldom have the time to visit libraries physically. The use of the internet is a great opportunity to support such farmers. With the majority of them having some form of tertiary education, it even becomes easier to provide e-resources to support their activities. With the current times, there is a lot of information in electronic format that libraries can ensure they acquire on farming, and package it accordingly. This would greatly benefit farmers that access the library resources.

Over a third of the respondents used television and radio as sources of information as shown in figure 2 above. And about 23.8% of the respondents used newspapers as sources of information. Radio is one of the most responsible and efficient mass medium for disseminating information required for mobilizing farmers to participate actively in agricultural activities and programmes.

Lumpa observes that the media in Zambia plays the role of informing, educating and entertaining the general public (personal communication, June 19, 2019). With regards to informing and educating, the media has a number of social and economic issues such as health, education, science, agriculture etc. on which they inform and educate the public. Therefore, the media reports on or produces programmes on these subjects in a general manner. However, when it comes to Agricultural Information, the Government through the Ministry of Agriculture has a dedicated Department called the National Agricultural Information Services (NAIS) which is mandated to inform and educate the public on various agricultural issues. NAIS uses Zambia National Broadcasting Corporation (ZNBC) television and radio and sometimes community radio stations to disseminate agricultural information.

On ZNBC television and radio, the following are some of the programmes produced by NAIS: Lima Time - ZNBC TV, Voice of the Farmer - Radio 2, Farm Magazine - Radio 2, Rural Note Book - Radio 1 (All 7 Local languages), Farmers Note Book - Radio 1 (All 7 Local languages), Radio Farm Forum - Radio 2 and Farming Today - Radio 2 produced by Zambia News and Information Services (ZANIS)

With the increase in the number of media houses in Zambia, it is necessary for libraries to partner with these in disseminating information to small-scale farmers. Media Institute for Southern Africa (MISA) Zambia (2019) reports that Zambia has about 19 television stations, 42 commercial radio stations, 47 community radio

stations across the country. In addition, Zambia has six daily newspapers and two weekly ones. Libraries can identify which ones are convenient to work with and ascertain what programmes to work with.

Lumpa further observes that media institutions like ZNBC and other print media report and produce programmes on agriculture as one-off reports and productions (personal communication, June 19, 2019). The recordings of these programmes can be accessed through the respective institutions that produce them such as NAIS, as ZNBC is only used as a platform to broadcast the programmes.

About 38.1% of the respondents used farming cooperatives as sources for their information. The Government of Zambia, through the Seventh National Development Plan (7NDP) has acknowledged the important role cooperatives play in national development. The 7NDP emphasizes the use of cooperatives as a model to contribute to job creation and poverty reduction. The Government also seeks to diversify the cooperative model into sectors other than agriculture with emphasis on realigning the cooperatives to operate as business entities that can create employment and income generating activities (Zambia: Ministry of Commerce, Trade and Industry 2018). Until recently, the idea of Cooperatives in Zambia was largely associated with agricultural activities as they have been a conduit for transmitting agricultural inputs to farmers. However, as stated earlier, in the recent past, there has been renewed interest and focus on the general use of Cooperatives by the Zambian Government. This is because the Government now sees Cooperatives as an effective vehicle to mop up rural capital for investment and contribute to national development.

The main loan products offered by Financial Cooperatives include ordinary loans, emergency or soft loans and agricultural loans. FCs charge interest rates on their loans ranging from 0% to as high as 100%. It is therefore important that libraries do their research to avail this important information to farmers who may need such important information.

When asked whether the farmers had other sources of information other than from the list that was provided, it was revealed that the following were also sources of farming related information: Farmers magazines, Social media platforms such as WhatsApp groups for farmers and Facebook groups for farmers, workshops/trainings on farming (conducted by various people: seasoned farmers, livestock specialists, conferences and seminars for farmers, agricultural expos and shows, place of work, field days for farmers, books on farming (purchased) and experts with technical support (at a fee).

When further asked if the respondents found the information from these sources useful, 76.2% said yes and 23.8% said sometimes. Although the majority of respondents relied on fellow farmers, friends and internet for information related to farming, and also additionally stated that most of the information provided was useful, it is important that institutions such as libraries support farmers by facilitating and/or helping disseminate information about activities that provide expert information for farmers. From the additional sources above which the farmers indicated were also their sources of information, it is evident that workshops, trainings, seminars, agricultural expos and shows, field days etc. still make up great sources of information. It therefore takes organized institutions like libraries to create awareness to farmers about these, document or stock information about them and ensure farmers are updated with all such activities.

The Food and Agriculture Organization (FAO) (2003) observed that farmers can improve agricultural productivity and ensure food security when up-to-date information is provided using appropriate languages and formats and delivered through proper communication channels. Libraries should take advantage of this need for up-to-date information by making it easily accessible.

Kind of information sought

The small-scale farmers that took part in this survey were asked as to what kind of information they sought from various sources. The results as indicated in Figure 2 below revealed that about 83.3% sought information on pest/disease control, about 79.8% sought on agricultural technology, about 72.6% sought information

on market sources for their produce, about 67.9% sought information on agricultural inputs, about 64.3% sought information related to training for farmers, about 46.4% sought information on smart farming whilst 35.7% sought information on credit/loan facilities.

Respondents were also given an opportunity to indicate other kinds of information they sought apart from the options that were itemized. The following were the responses:

- Best crops to grow in certain areas
- Modern and up-to-date ways of farming
- Farming grants
- Other profitable agricultural ventures

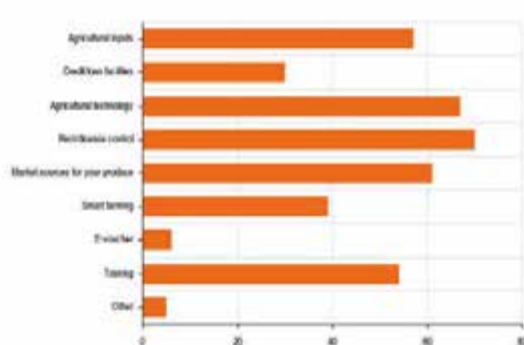


Figure 2: Kind of information farmers sought

Figure 2 above shows the kinds of information that small-scale farmers in Zambia sought from various sources. Topping the list was information on pest and disease control which accounted for 83.3% as shown above. Pests and diseases can have adverse and damaging effects on agricultural production. Pests and diseases may cause problems by damaging crops and food production as well as infesting livestock. FAO (2003) estimates that up to 35% of the losses in annual crop production worldwide are the result of pests. When these losses are combined with postharvest losses, they account for almost one-half of the world's potential food supply creating a food deficit. It is therefore imperative that libraries prioritize disseminating information related to disease prevention and pest control. In times of disease outbreaks, libraries must be in the forefront to disseminate and advertise prevention and control measures.

Agricultural technology was rated second with 79.8% of the respondents seeking such related information for their farming needs. With changing times, and the advancement of technology, farmers are appreciating the need to embrace change by applying modern techniques to control the growth and harvesting of animal and vegetable products. FAO (2014) observes that modern farming technologies have eased the burden of hard labour for many farmers worldwide. However, many of the world's farmers, mainly small-scale farmers, still lack the technology to efficiently reap their crops. Farming technologies are crucial to the evolution of the farming industry. It is therefore encouraging to see that information on agricultural technology was sought by many of the respondents in this survey. It is worth noting that best modern practices in farming could improve small-scale farmers' profits and increase productivity.

Information on market sources was also highly rated as shown in Figure 3. Mizinga (2013) observed that small-scale farmers often faced difficulties in production and marketing of their produce as they usually sold their produce individually at the farm gate to middlemen or on local markets at given prices. This reduces farmers to price takers irrespective of the costs they incur in the production and marketing process. It is therefore important that small-scale farmers are availed with the necessary information on where they could

sell their products. Libraries, being custodians of information, must ensure that they source the relevant marketing information and make it easily accessible to farmers.

Use of libraries/information centres

When asked whether the respondents visited libraries and/or information centres, it was revealed that of the respondents, about 34.5% used libraries and about 65.5% did not.

Of the respondents who visited the library or information centre, when asked how often they visited libraries, the farmers' responses were as indicated in Table 2 below:

Table 2: Visit to libraries

Use of libraries	Respondents	%
Very often	6	20.7
Often	4	13.8
Sometimes	8	27.6
Rarely	10	37.9

Table 2 above shows that about 37.9 % of the small-scale farmers that visited libraries rarely visited them. However, about 20.7% visited the libraries often, about 13.8% indicating that they visited the libraries often, about 27.6% indicating that they visited them sometimes.

The participating farmers were asked to state what kind of information they sought from libraries – whether related to farming or not. The results revealed that about 50% of the small-scale farmers sought farming related information. The kind of information sought was as discussed in 4.7. In addition, it was observed that the farmers also sought other kinds of information from libraries that were not related to farming such as general fiction reading, research in their respective professional fields, current affairs, and children's reading resources, amongst others. This result creates an opportunity for libraries to beef up resources on farming needs; after all, over a third of the small-scale farmers already accessed library services even for non-farming related reasons. Since most farmers have other professional occupations and educational needs, libraries can provide services to support both their formal professions as well as farming related information. This might even increase the frequency of visits of such members to libraries or where electronic resources are available, an increase in the use of such resources.

Challenges faced in seeking information for farming

Farmers were asked what challenges they faced when seeking information related to farming. Figure 3 below shows the findings:

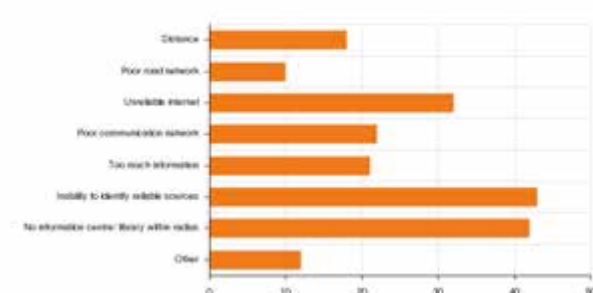


Figure 3: challenges faced by farmers in seeking information

Figure 3 above shows the challenges that small-scale farmers that took part in this survey faced in seeking information for farming. About 52.4% indicated that the inability to find reliable sources of information for farming was the biggest challenge, about 51.2% indicated that not having a library or information centre within radius was a challenge, about 39% alluded to unreliable internet availability as a challenge, about 26.8% said that poor communication network was also a challenge, and about 25.5% indicated that too much information around was a challenge. Other challenges identified included:

- Having scanty useful data;
- Unavailability of Extension Officers;
- Lack of packaged information for farmers in Zambia;
- Inadequate online resources about farming in Zambia as most information available is on other countries;
- Inadequate agro specialized easy reference services;
- Unable to find the actual farming information wanted;
- Sometimes available farming information is outdated;
- The library visited does not stock agriculture information;
- Inability to access information on funding to support farmers;
- Where to find the answers I am looking for/and who or where to ask.

Topping the list was the fact that 52.4% of small-scale farmers did not have reliable sources of information and 51.2% indicated the lack of a library/information centre within radius. This is an opportunity for libraries and librarians to promote information literacy amongst farmers with regards to how they sought information from various sources. The results revealed that in as much as farming related information was available, it was not always well packaged and localized for easy use by small-scale farmers in Zambia. In fact, some respondents indicated that there was more farming related information on other countries unlike Zambia especially on the internet. Libraries role is to provide timely and relevant information in the format that is convenient to the users. The provision of farming information in electronic format must be fully explored by libraries as farmers did state that this is the way to go especially with the current changing times.

Suggestions on what services libraries can do to help farmers

The participants in this survey were asked what they thought libraries should or can do to support them as farmers. The following were the suggestions:

- Libraries to assess the information needs of farmers and then stock resources with appropriate information;
- Stocking adequate current resources on farming in general as well as latest news on farming;
- Libraries to acquire well written practical agricultural articles and guidelines on various aspects of farming;
- Stocking documentaries on farming which farmers can access;
- Stock journals and magazines and other research related documents on farming trends and challenges;
- Documented information on how to grow a variety of crops in Zambia;
- Sensitize farmers on farming related information available in libraries. Libraries need to market their products and services;
- Sensitize farmers on Government policies relating to farming;
- Stocking and/or facilitating translation of books into local languages for local farmers to benefit;
- Information corners on agriculture where different kinds of information sought can be found in the shortest possible time;
- Libraries to provide guidance on where to find information relating to farming especially on e-resources;

- Libraries to be active in providing information about serious national outbreaks (like the army worms) and what farmers should do to avoid or overcome such;
- Libraries to help promote and facilitate the use of localized apps for farmers;
- Libraries to support promote and even initiate Open Days for farmers;
- Libraries to provide facilities such as computers and internet for farmers to access online resources;
- Libraries to help create fora where farmers can help exchange information with fellow farmers or other specialists;
- Libraries to provide remote e-resources to farmers with cutting edge technologies;
- Stock information on customised crops per region in Zambia, crop rotation and their related challenges in management;
- Stock information on genuine sources for inputs as a lot of fake products are available on the market;
- Libraries to promote e-resources on farming since the number of libraries in the country cannot cater for all farmers across the country. It is now easier to access e-resources than physical books.

RECOMMENDATIONS

The following were the recommendations:

- Libraries must create partnerships with agricultural organizations such as Zambia Agricultural Research Institute, NAIS and other media houses to ensure that information is made available to small scale farmers as and when needed;
- Libraries must fully explore the provision of e-resources to support the small-scale farmers in Zambia;
- Libraries must provide a platform for holding awareness activities such as seminars, workshops and demonstrations to farmers;
- Libraries must be proactive in collecting information on availability of loans and other support services for farmers and package and disseminate it accordingly.

CONCLUSION

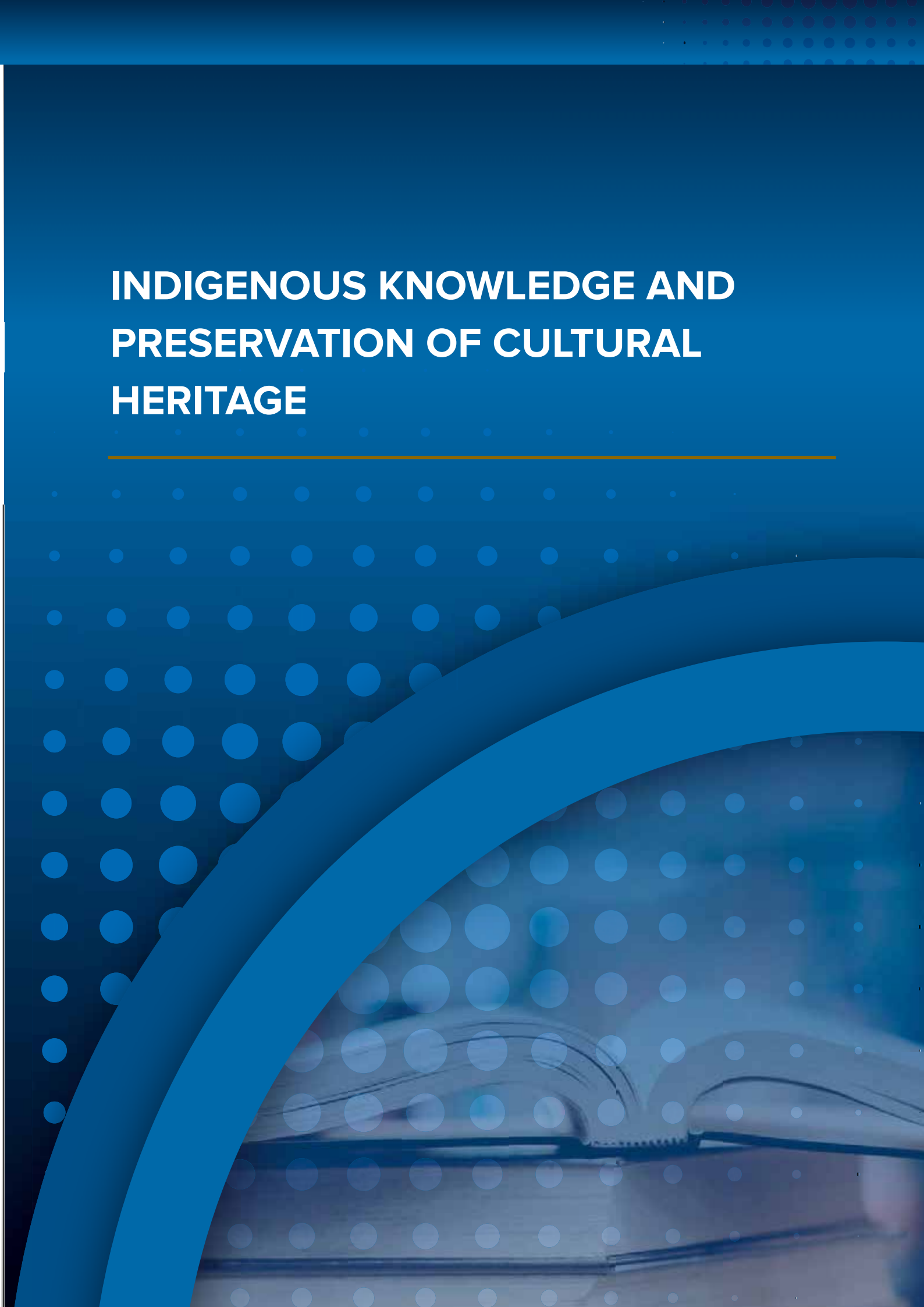
Many people in Zambia are appreciating having some land to produce some crops and sometimes even keep livestock. This comes with its own challenges and as such small-scale farmers need support to ensure that their produce is good. Libraries must support small-scale farmers by ensuring that information needed to carry out agricultural activities even on a small-scale is made available and accessed. Many small-scale farmers have no formal training in these farming related activities so providing them with useful and timely information will be beneficial and increase productivity. This will help support governments efforts to make Zambia a self-sustaining country in terms of food security.

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INDIGENOUS KNOWLEDGE AND PRESERVATION OF CULTURAL HERITAGE



FROM DESPAIR TO HOPE: CANCER INDIGENOUS KNOWLEDGE PRACTICES (CIK) IN UGANDA

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ABSTRACT: Cancer indigenous knowledge (CIK) through ethnobotanical research has been able to identify plants with anti-cancer agents. These medicinal plants are used to prevent and treat various types of cancer to improve the survival rate and quality of life. This study aimed to examine the CIK practices in Uganda. The study-specific objectives included: to establish the information needs of the cancer patients in Uganda; to identify the types of cancers in Uganda; to examine the CIK practices in Uganda (CIK); to examine the factors that could either promote or hinder the access and utilisation of CIK in Uganda. A phenomenological research design with a qualitative approach was adopted. Data were collected through face-to-face in-depth interviews with the CIK practitioners, cancer patients, and managers of CIK to ascertain the CIK practices in Uganda. The findings show that factors that facilitated access were: side effects from conventional treatment, information from trusted sources, availability of herbs, and the increased interest in CIK. The study further identified factors hindering access which include: non-documentation, non-government support, poor perception of CIK, and lastly, non-availability of the documented CIK. Lastly, the study recommends that the government of Uganda through the MoH should streamline traditional medicine into the health system; CIK practitioners to engage in research and promote documentation of the available CIK practices; IK practitioners to carry out public sensitization on what IK is and what it is not.

KEYWORDS: cancer, cancer indigenous knowledge, indigenous knowledge, Uganda.

BACKGROUND AND PURPOSE OF THE STUDY

Cancer has had a major impact across the world. This non-communicable disease is a burgeoning global health and economic problem Cannon et al. (2012, 3). Pain, incapacitation, mutilation, side-effects associated with cancer treatment, cost, and death, have compelled several cancer patients to seek alternative sources of remedies such as cancer indigenous knowledge (CIK) practices. CIK through ethnobotanical research has been able to identify plants with anti-cancer agents Aremu, Ncama, and Omotayo (2019, 16). These medicinal plants are used to prevent and treat various types of cancer to improve survival rates and quality of life. It is also believed that the use of traditional medicine compared to chemotherapy, for instance, is essential to healthcare because it is first of all affordable, assumed to be accessible, and with no major side effects, hence a preferred treatment option Segun, Ogbole, and Ajaiyeoba (2018, 63).

More than 21.4% of cancer patients in Europe are using complementary and alternative medicine (CAM) in the form of medicinal herbs or remedies to manage the symptoms, improve the quality of life, and possibly because it is cost-effective. Cancer patients turn to herbal medicines because of poor prognosis and rapid physical decline Molassiotis et al. (2005, 251); Bahall (2017, 9). Cancer medicinal herbs used include nettle leaves/teas, thyme, green tea, mistletoe, Ovosan (a locally produced tablet combining many herbs), selenium, ginseng, ginkgo biloba, and echinacea, blood salts, aloe vera, olive leaves, lupine extracts (angelica) and multivitamins. In the USA, the use of CAM has steadily increased and it is used by a population of between 40% and 60% of the patients diagnosed with cancer. This is in an attempt to reduce radiation or chemotherapy side effects, manage disease symptoms, improve immunity, and promote health Buckner et al. (2018, 277). In China, traditional Chinese medicine (TCM) is an alternative treatment for cancer that plays an important role during the entire course of cancer treatment like chemotherapy or radiotherapy stages and improving post-

operative symptoms like nausea, diarrhea, vomiting, pain, appetite, and fatigue Qi et al. (2015, 16). Examples of medicinal plants include ginkgo, kava kava, grapefruit, and St John's wort Qi et al. (2015).

The use of indigenous medicinal knowledge in developing countries has been part of therapeutic practices. In sub-Saharan Africa, indigenous medicine is essential to healthcare mainly because it is accessible and affordable Segun, Ogbale, and Ajaiyeoba (2018, 68). Furthermore, patients use CIK because of their faith and beliefs, disappointment in conventional treatment, toxic conventional treatment and to relieve symptoms of the cancer conventional treatment Yarney *et al.* (2013, 3). In Uganda, the use of ethnomedicine is above 80% especially in rural areas, with the government in the process of integrating it into the main health care system Tugume *et al.* (2016, 1). Cancer patients use ethnomedicine because of health systems related barriers (long-distance, transport costs, queues, unavailability of drugs), health workers' related barriers (discrimination, bribes, language) individual patients' characteristics, and socio-cultural beliefs related to the convenience, and its readily available, low cost and high efficacy of traditional medicines Mwaka *et al.* (2014). CIK has been around for decades, however, there is limited literature on the use of CIK practices in Uganda.

This study aimed to examine the CIK practices in Uganda. The study-specific objectives include 1) To establish the information needs of the cancer patients in Uganda, 2) To identify the types of cancers in Uganda, 3) To examine CIK practices in Uganda, and 4) To examine the factors that could either promote or hinder access and utilisation of CIK in Uganda.

METHODOLOGY

The study adopted a phenomenological research design. This design and approach were used because the researchers intended to maximize the depth of information collected; therefore, the study used semi-structured interviews especially for the cancer patients and this allowed the researchers to delve into the perceptions, understandings, and feelings of the study participants since they had lived or experienced or worked with people under the cancer ordeal. The population of the study included cancer patients, indigenous knowledge managers/researchers, and CIK practitioners. The study population was purposefully sampled. In this study, eleven participants were purposively sampled. They included; seven cancer patients, two CIK managers/researchers, and two CIK practitioners. Data were collected through face-to-face in-depth interviews with the CIK practitioners, cancer patients, and managers of CIK to ascertain the CIK practices in Uganda. Additionally, a detailed document review was conducted using online resources such as Scopus, Google scholar, PubMed, and ethnomedical publications. Interview recordings were transcribed for data analysis. The transcripts together with the notes from the interviews were coded. The researchers extracted broad descriptive categories such as *information needs, types of cancer, plant species, factors promoting access, and factors hindering access*.

FINDINGS AND DISCUSSION

The findings below were presented according to the objectives of the study.

Information needs of cancer patients

The study shows that cancer patients were interested in acquiring information about: the type of cancer they have been diagnosed with, the medical experts in that type of cancer, cancer treatment, side effects, other alternative treatment in case there is any, how best they can care for themselves regarding nutrition and the cost of treatment. However, it was noted that some cancer patients fail to get access to such information especially from their physicians yet they are the most trusted sources. As shared by one respondent;

"The doctor is a very busy man; I always fail to ask him for information even when I want to because I need to be mindful of all those people waiting outside to see him. I have always relied on other people for information like my children, friends, and the radio"

This shows that cancer patients require information to guide them in their treatment and management of cancer but there are some unmet information needs and this corroborates with Faller *et al.* (2016, 24) who noted that cancer information needs are many but they are often unfulfilled. In studies carried out by Noh *et al.* (2009, 1278), they noted that cancer patients believe in the importance of knowing the nature of treatment and how their bodies will respond to it and if there are any possible side effects to watch out for. Shea-Budgell, Kostaras, Myhill, and Hagen (2014, 165) further noted that patients can access information from their doctors, family, friends, and media.

Types of cancer

The study established that the most common cancers in Uganda are cervical cancer, prostate cancer, breast cancer, *Kaposi sarcoma*, Burkitt's lymphoma, lung cancer, skin cancer, cancer of the bone, cancer of the eye, cancer of the colon, and cancer of the blood. This is supported by the Uganda Cancer Institute report published in The Observer (2019), which stipulated that 22,000 Ugandans have succumbed to various types of cancer like in women most common cancers are breast cancer, cancer of the cervix, and *kaposi sarcoma*, lymphoma, cancer of the stomach, and liver cancer. In males, prostate cancer, cancer of the esophagus, liver, and lymphoma, were highly detected while the most common in children were leukemia, Burkitt's lymphoma, kidney, and sarcomas.

CIK practices in Uganda

One of the themes that came up during the interviews was CIK practices, which included the use of herbal and conventional treatment. The study revealed that most of the cancer patients were using plants in the course of managing cancer.



Figure 1: African Cherry (*Prunus Africana*) Entasesa

The findings from the study reported that the leaves and bark from this wonder anti-cancer tree are boiled and the water is given to cancer patients for drinking. One respondent mentioned that *"this was the first herb I was advised to plant when I was diagnosed with cancer...as you can see it has now grown into a tree"*. This corroborates with Komakech and Kang (2019, 1), who reported African Cherry's ethnopharmacological potential in the management and treatment of benign prostatic hyperplasia, prostate cancer, skin infections, and healing wounds.



Figure 2: Marijuana (*Cannabis*) or Njaga

The study also revealed the use of marijuana in the treatment of cancer. It is either sniffed, smoked or boiled and taken as syrup. As one participant shyly commented that *"I use njaga to reduce the pains and nausea from the cancer treatment. Although every time I use it I become so sleepy, it is like taking morphine"*. This agrees with a study carried by Machado *et al.* (2008, 439), who reported that patients prepared cannabis to reduce vomiting and nausea caused by chemotherapy treatment. Furthermore, Abrams (2016, 12), noted that cannabis combats anorexia, chemotherapy-induced vomiting, and nausea, pain, depression, and insomnia.



Figure 3: Aloe vera

The study findings show that aloe vera leaves can either be blended with juices or boiled and then you drink the water. As noted by one respondent, *"I blend the fresh leaves with other fruits and drink, it is sour but I am now used to its taste. I was informed that it stops the growth of new blood vessels where cancer cells grow"*. This agrees with Rajeswari *et al.* (2012, 122) that fluids from the aloe vera leaves promote regeneration of human normal cells, reduces pains and inflammation, and also enhances the healing in the wounded cell monolayers.

The findings revealed that many cancer patients ate fresh fruits or blended the fruits to make juice for drinking. Examples of the fruits mentioned included beetroot, soursop, carrots, etc. The participants indicated that they get the available fruits mix all of them in a blender and extract juice from them. This juice is then taken three times a day in a big mug of 500mls. Usually, the juice is taken thirty minutes before every major meal.

One participant explained that:

"I make juice from an assortment of various fruits such as beetroot, soursop, and carrots, then I drink a glass thirty minutes before my major meals. This helps my body to absorb all the required nutrients to fight cancer in my body".



Figure 6: Beetroot

The participants in the study shared that they use beetroot to increase their blood levels. One of the respondents who reported that she was suffering from leukemia noted that she makes juice out of the beetroots.



Figure 7: Guanabana Soursop

Soursop is another commonly used plant by cancer patients to kill malignancy cells in various cancer. It is commonly known as the *"cancer cure fruit"*. One particular respondent remarked that *"I sometimes blend the fruits to make juice or boil the leaves and drink the water"*. Okoro-Shekwaga and Osunde (2013, 1) reported that soursop leaves, seeds, and skin are used in traditional medicine used in the treatment of cancer



Figure 8: Garlic

The study further revealed that cancer patients use garlic in boosting their immunity. As noted by a particular respondent, *"I always have garlic in the house, I blend it with other juices and drink. I also use it in preparing our meals"* Petrovic *et al.* (2018, 2) reported that garlic extracts are beneficial in giving better therapeutic outcome, stops the proliferation of cancer cells and reduces cancers in breast cancer.

The respondents indicated that they regularly ate greens in one of their two main meals to improve their immunity. They mentioned greens such as amaranthus, Sukuma wiki, spinach, *gyobo*, and comfrey. As one participant noted: *"My daughter who is a market vendor sends me greens every after two days. I was advised to either steam or boil the greens not to lose the nutrients"*



Figure 9: Amaranthus (Amaranthaceae) or dodo

The leaves from this plant are boiled and taken by the cancer patients to boost immunity.



Figure 8: Comfrey

The comfrey is boiled, and the water is drunk to cure pain in the bones



Figure 9: Rosemary

The rosemary herb has anti-cancer properties. The respondents shared that rosemary is prepared by drying the leaves, pounding them, and adding the powder to tea. Pérez-Sánchez *et al.* (2019, 1) revealed that the rosemary extract inhibits various cancer progression and metastasis.



Figure 10: Black seed plant (*Nigella sativa*)

The black seed plant are added to hot water and the concoction is taken lukewarm. Black seeds contain thymoquinone, which is an antioxidant and anti-inflammatory compound that may also have tumor-reducing properties.

Factors promoting access and utilisation of CIK in Uganda

Side effects from conventional treatment

This was one of the reasons why many cancer patients turn to CIK. One particular respondent noted that; *“... most of the cancer patients turn to our traditional herbs to fight off the side effects as a result of the treatment they receive from hospitals like chemotherapy...”*

There are several traditional herbs which are used by the cancer patients to help in addressing the side effect, which arise from treatments like chemotherapy, radiation. The herbal medicine with its low toxicity and minimal side effects Ahmad *et al.* (2017, 196) are being used to minimise the harmful side effects of the drugs Iqbal *et al.* (2017, 1130).

A trusted source of information

Another important finding, was that cancer patients use CIK because the information was got from trusted parties like one particular respondent who said that:

“I have a friend who is a doctor, he has on several occasions pointed out herbs for me to use to address some of the illnesses brought on by cancer or the effects, I look around for the herbs and if I can't find it I request one of my daughters to buy it from Nakasero market.”

The study also revealed that CIK is used to complement the conventional treatment, as noted by one respondent; *“I have leukemia and instead of chemo the doctor prescribed Livic. I do use some herbs in boosting and stabilizing my platelets but this does not mean I stopped using Livic”.*

This shows that cancer patients use conventional and herbal medicines concurrently in the management of the illness.

Availability of herbs

The study further revealed that the readily available herbs promote the use of CIK, as noted by one respondent; *“Most of the herbal plants are readily available around my home, for some that I don't have, I normally ask around the village.”*

The use of CIK is enhanced by the accessibility, availability, and affordability of traditional medicine. This agrees with a study carried out in Nigeria Oladele, Alade, and Omobuwajo (2011), which reported that the rural population embraces traditional medicine because of the inaccessibility and unaffordability of orthodox medicine. It is further supported by Ahmad *et al.* (2017, 196) that African plants have unlimited availability throughout the year.

Increased interest

Lastly, the study showed that CIK of late is receiving a lot of attention as noted by one respondent that;

"The public interest is increasing because the trends are growing. With recent studies and scientific improvements where we see drugs coming out of plants, and other countries embracing herbal medicine like Japan, Korea, China, even in Europe. This is a wake-up call for African countries to start embracing theirs."

This supports Segun, Ogbale, and Ajaiyeoba (2018: 68), who noted that over the years, herbal medicine has gained wide acceptance because of the publicity associated with herbal medicine events. Additionally, many studies are substantiating the importance and utilisation of plants in the treatment of diseases like cancer Aremu, Ncama, and Omotayo (2019: 8). Lastly, the growth of traditional medicine in the market has led patients to these services Farooqui *et al.* (2016: 324).

Factors hindering access and utilisation of CIK in Uganda

The study revealed that the following factors hindering the access and utilization of CIK in Uganda:

Poor documentation

This was one of the factors hindering access and utilisation of CIK as observed by one of the respondents:

"...in Uganda we have a challenge of documenting most of our practices, for IK, many of the people who possess this knowledge look at it as an economic investment inherited from their parents and want to keep it in the family, they would not want to share their information."

This shows that most CIK is not utilised by the would-be recipients mainly because it is accessible to just a few people who might even die with it. There is a need to preserve this knowledge in the form of documentation so that it can reach wide coverage. This is in line with a study carried out by Urso *et al.* (2016), who opined that there are many indigenous plants with high therapeutic and medicinal potential but are not utilized because they have not been fully researched and documented.

Unavailability of CIK

The findings revealed that CIK, which has been documented is not readily available as one respondent noted that; *"...here our IK collection is not readily available to the public, it is meant for paid-up members apart from a few publications posted on our website"*. According to George State University (2019), open access comes with advantages such as increasing visibility and the impact of the research and promoting easier access to information for everyone. Besides, infrastructural challenges are also inhibiting access to the documented CIK as noted by one respondent that; *"My organization has always been funded but most of these funders pulled out, if only we could get a funder who can help us build an infrastructure that will aid information access especially in this."*

The improvement of IT infrastructure would enhance the dissemination of CIK especially with the application of trending ICTs. This agrees with Zhang, Wang, and Duan (2016, 17) who noted that data and information can effectively be generated, stored, analysed, disseminated, and used with the rapid development of Information and Communication Technologies (ICTs).

Perception

The respondents identified the perception people attach to IK as one of the reasons for non-use. A particular respondent commented that;

"Many people have been convinced that IK is witchcraft, this has made them shy away from IK practices for fear of being associated with witchcraft...but if you are taking tea with mujaaja or rosemary, you are using traditional medicine."

And another one added that; “...the whites termed the use of traditional herbs as witchcraft and too ancient and this grew over time; people have been made to believe so”

The terminology “traditional medicine” is the reason why people have a bad perception of IK. This agrees with Che *et al.* (2017, 27), who reported that during colonisation, the Christian missionaries derogatorily labeled African traditional healers as “Witchdoctors” practicing “Witchcraft.”

Lack of government support

A particular respondent noted that;

“The Ministry of Health (MoH) has notably streamlined herbal medicine practice in the health system, although it has been recognised under primary healthcare. Herbalists have tried to organise themselves, civil societies like THETA have come out to give support but without the government’s support.”

This is supported by World Health Organization (2019) Traditional Medicine Strategy 2014-2023 key goals, which emphasises member states to harness the potential contribution of traditional and complementary medicine to wellness, health, and people-centered health care.

CONCLUSION

The study concludes that the non-use of CIK was mainly due to insufficient documentation, unavailability of the documented CIK, poor perception of people towards the use of CIK and non-government support.

RECOMMENDATIONS

1. The government of Uganda through the Ministry of Health (MoH) needs to streamline traditional medicine into the health system like what other countries have done so that the people can freely benefit from the opportunities it comes with and also to be able to freely discuss with doctors about the various herbal medicine without fear of being rebuked.
2. Organisations, researchers, and traditional healers need to carry out more public sensitisation about what IK is or is not. This will stop the mentality of treating herbal treatment as witchcraft and it will be embraced even by those who detest the practice of witchcraft.
3. More organisations with a similar vision like THETA should engage in research and promote documentation of the available CIK practices to improve access and thereby enable long-term preservation. There is also a need to embrace the Open Access movement. This way the vital CIK will be freely and easily accessible to cancer patients and their caregivers.

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INVESTIGATION ON THE USE OF TRADITIONAL MEDICINE BY MZUZU UNIVERSITY STAFF MEMBERS

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ABSTRACT: *There is general recognition of the use of traditional medicine alongside synthetic medicine to cure different diseases in primary health care at the global level. In Africa, particularly in sub-Saharan Africa, 80% of the population uses traditional medicine to cure different diseases. In line with this trend, the researchers noted a steady increase in the use of traditional medicine among staff members at Mzuzu University, Malawi. This trend is contrary to the general belief that most 'educated' people have a negative attitude towards the use of traditional medicine as a solution to their health problems. This observation prompted researchers to investigate the use of traditional medicine among staff members at Mzuzu University in Malawi. The study used the social survey design, which used a questionnaire. Participants were purposively selected using snowball sampling to identify respondents of the study. The study revealed that some staff members use traditional medicine. Furthermore, findings show reasons such as promoting health, curing diseases and preventing diseases. Sources of information such as friends, colleagues and neighbours and family were frequently used in promoting knowledge about the use and awareness about traditional medicine. The study concludes that the use of traditional medicine is not only restricted among the rural population but also the literate population in higher education institutions. The study recommends that the Government of Malawi should formulate a policy, which will recognise traditional medicine in primary health care. The study also recommends libraries to develop collections on traditional medicine and continue documenting indigenous knowledge.*

KEYWORDS: *tradition medicine, indigenous knowledge, health solutions, Mzuzu University, Malawi.*

BACKGROUND TO THE STUDY

There is general recognition of the use of traditional medicine alongside synthetic medicine to cure different diseases in primary health care at global level Habtom (2018, 7); Nascimento, Medeiros, and Albuquerque (2018, 1); Oliver (2013, 1); Xue, Zhang, Lin, Da Costa, and Story (2007). In Africa, particularly in sub-Saharan Africa, 80% of the population uses traditional medicine to cure different diseases. Statistics have equally revealed that the world trade on traditional medicine is above 60 billion dollars annually Tilburt and Kaptchuk (2008). Some of the reasons for the high use of traditional medicine in Africa are long distance travel to the nearest health centres, the unavailability of medicines in hospitals, health workers' attitudes towards patients, patients related factors such as the inability to pay for health care charges and social-cultural beliefs that put traditional medicine as superior over conventional medicine Mwaka, Okello and Orach (2015, 15). However, in a study conducted by Habtom (2015) in Eritrea, the findings revealed that despite the presence of health care and free medical facilities, patients still used traditional medicine.

In Malawi like many other African countries, the use of traditional medicine has been attributed to long distances to health care facilities, expensiveness of medicines and inaccessibility of medicines in hospitals Simwaka, Peltzer, and Maluwa-Banda (2007, 155). Simwaka et al. (2007, 155) state that although the use of traditional medicine is attributed to the challenges that the poor face in their bid to access health facilities, researchers have noted that university staff is widely using traditional medicine. The reasons behind this use

of traditional medicines in Malawi are not known among people who are close to facilities and who can afford to buy modern medicines.

Moreover, Mwaka et al. (2018, 10) state that there is need to carry out studies in order to document this information so that policy makers, as well as health professionals, can adapt the traditional medicine into the health facilities.

Therefore, the researchers carried out this study to contribute to the general welfare of primary health care in Malawi.

AREA OF THE STUDY

The study was carried out at Mzuzu University which is the second largest public university in Malawi. It was created under the Act of Parliament of 1997. Its mandate is carrying out teaching, learning and research. The university has six faculties which are namely, Humanities and Social Sciences; Science, Innovation and Technology; Health Sciences; Environmental Sciences; Education; and Tourism and Hospitality.

The University has a library which has the responsibility of promoting traditional medicine through developing a collection which should be accessible to all users.

STATEMENT OF THE PROBLEM

The World Health Organization's (2013, 55) strategy calls for all governments to promote and regulate traditional medicine in order to provide choice for users to decide whether to use traditional or modern medicine. However, traditional medicine lacks policy regulations and as such it still remains unrecognised by the Government of Malawi and the health professionals Simwaka et al. (2007, 160). In addition, The Pharmacy, Medicines and Poisons Board issued a statement warning users of traditional medicine to stop using them claiming that they are poisonous since they lack dosage specifications Malawi News Agency (2018, 1).

On the other hand, traditional medicine is widely being accepted in the Malawian community where 80 percent of the population uses it Simwaka et al. (2007, 156). In addition, the researchers have noted that some staff members at Mzuzu University are using traditional medicine. The differences in perception by Malawi Government and people in communities in Malawi on the use of traditional medicine, prompted the present researchers to study the use of traditional medicine at Mzuzu University and specifically to ascertain the use of traditional medicine among staff members, establish the purposes for which traditional medicine is used and also to determine the sources of information for staff who use traditional medicine.

PURPOSE OF THE STUDY

- To investigate use of traditional medicine by staff members at Mzuzu University

SPECIFIC OBJECTIVES

- To determine extent of use of traditional medicine among staff members at Mzuzu University
- To ascertain reasons for use of traditional medicine among members of staff at Mzuzu University
- To find out sources of information of traditional medicine among staff members at Mzuzu University

SIGNIFICANCE OF THE STUDY

The study helps to create awareness on the importance of disseminating information about traditional medicine which is being used to cure different ailments by especially people working in institutions of higher learning. The study also highlights the recognition of traditional medicine among the learned community who are finding it to be an alternative to conventional medicine.

LIMITATIONS OF THE STUDY

This study has limitations since it purposively selected its respondents to participate in the study. Therefore, the study findings cannot be generalised to all staff members in the university.

LITERATURE REVIEW

Literature clearly shows that traditional medicine is emerging as an alternative to conventional medicine in both developed and developing countries WHO (2013, 18). Estimates show that half the population of industrialised countries use traditional medicine while in the Africa nearly 80 percent of the population use traditional medicine for primary health care Habtom (2018, 7). A study carried out by Habtom (2018, 6) reveals that 57 percent of modern and medical traditional practitioners support the idea of combining modern and traditional therapies for certain types of diseases while 53 percent of modern medical practitioners agree to collaborate with traditional medical practitioners in carrying out research about certain diseases which the traditional system claim to provide healing. In Malawi, the use of traditional medicine has been reported by Simwaka et al. (2007, 155) who found that 70% of Malawians use traditional medicine while pointing out that the Government was taking time to recognise the traditional medicinal system.

The main reasons for using traditional medicine include curing diseases as well as protecting and promoting health physically, emotionally and mentally Habtom (2018, 12). Furthermore, the use of traditional medicine is associated with factors such as being cheap, where modern health facilities are not available and being effective in the treatment of various diseases Kassaye et al. (2007, 129-130). According to Simwaka et al. (2007, 55), the use of traditional medicine is associated with the high cost of medicines and inaccessibility of modern health facilities. According to Kassaye et al. (2007, 127), not much information is available to support policy formulation for enhancing the usage of traditional medicine. Mahish, Mahobia, and Yadav (2016, 174-178) conducted a study in India among the literate population and found that most of the literate populations were aware of and used traditional medicine just like the rural populations.

In another landmark study which Habtom (2018, 12) carried out in Eritrea among traditional medical practitioners to ascertain their perceptions on traditional medicines, findings also showed that major sources of knowledge for traditional medicine use are families which transfer the knowledge from one generation to another. Dambatta and Aliyu's (2012, 33) findings corroborate the findings of Habtom (2018) that most traditional medicine knowledge is tacit and is based in the minds of family members and is mostly difficult to transfer to other people. Chidimma and Tom's (2018, 371) findings revealed that respondents in the study highlighted word of mouth, radio, television, internet, newspaper, billboards and fliers as sources of information which promoted traditional medicine use. Mahish et al.'s (2016, 174-178) study found out that most of the literate population became aware of traditional medicine through television (39.13%) trailed by periodicals (30.43%), newspapers (26.08%) and seminars (21.74%).

METHODOLOGY

The study adopted a social survey to "obtain information about people's actions, knowledge, intentions, opinions, and attitudes by means of self-report, that is, study participants respond to a set of questions" Polit & Beck (2010, 294). Polit and Beck (2010), mention that surveys can be used in different topics and for many purposes. The study employed snow ball sampling which enabled the researchers to identify respondents

who would in turn identify other respondents to participate in the study Sharma (2017). The study identified five respondents who were known by the researchers to have used traditional medicine. Five respondents assisted the researchers to identify four participants who in turn identified 11 participants to participate in the study. The identified respondents were given questionnaires to complete.

FINDINGS

The study had 100 percent response rate since all 20 respondents answered their questionnaires and returned them to the researchers.

Characteristics of respondents

Table 1: Gender of respondents N=20

Gender	Frequency
Male	15
Female	5

Table 1 above shows that there were 14 males and five females who participated in the study. These findings reveal that the study was mostly dominated by males when compared to women who participated in the study.

Table 2: Level of education of respondents N=20

Qualification	Frequency
Certificate	6
Diploma	5
Bachelor's degree	4
Master's degree	5
PhD	0
Total	19

As shown in Table 2 above, there were more respondents with certificates (6) followed by Diploma (5) and Master's degree (5), while those with Bachelor's degrees were four. These findings show that respondents had different qualifications from Master's degree to certificates level and that no one with a PhD participated in the study.

Use of Traditional Medicine

Respondents were requested to tick yes or no if they use traditional medicine. Responses are as indicated in the table below.

Table 3: Use of traditional medicine N=20

Response	Frequency
Yes	14
No	6
Total	20

Table 3 above reveals that the majority of the respondents use traditional medicine as indicated by 14 (70%) respondents, while 6 indicated that they do not use traditional medicine. The information in this table reveals that most of the respondents use traditional medicine.

Table 4: Frequency of use of traditional medicine N=20

Period	Frequency
When unwell	6
Often	4
Sometimes	4
Never	4
Daily	1
Total	18

As indicated in table 4 above, more respondents indicated that they use traditional herbs when they are unwell or sick as represented by 6 (30%) respondents, followed by those that use it sometimes and often as represented by 4 (20%) respondents, while 4 (20%) respondents indicated that they have never used traditional medicine. On the other hand, 1 (5%) of the respondents indicated that they use traditional medicine on a daily basis.

Reasons for Using Traditional Medicine

Respondents were asked to tick several responses in order to indicate their purposes of using traditional medicine.

Table 5: Purposes of using traditional medicine N= 20

Purpose	Frequency
For health promotion	9
For disease prevention	7
Cure	11
Never used	5

It can be noted from table 5 above that respondents' purposes of using traditional medicine was for curing illnesses, promotion of health, and disease prevention, while others indicated that they have never used traditional medicine. These findings reveal that most respondents used different types of traditional medicine for different purposes.

Table 6: Attitude towards use of traditional medicine N = 20

Attitude	Yes	No	Don't Know	Sometimes
Herbs have less side effects	12			
Cheaper using herbs	10	1	2	Not always
Herbs are safe	9	2	1	
Easier to access herbs than medicines	9	1	1	
Plants work better than pills	8	2	1	
I am accustomed to using herbs	5	3	1	
I feel uncomfortable using herbs	3	6	1	
Doctors or pills can't make me cure my illness	2	2	2	1

From table 6 above, users of traditional medicine had a positive attitude towards the use of traditional medicine as compared to modern medicine. Users stated that herbal medicine has less side effects, it is cheaper to use herbs, herbs are safe, and it is easier to access herbs than modern medicine. These findings show that there is higher preference of traditional medicine to modern medicine among staff members of the university.

Sources of information for users of traditional Medicine

Table 7: Sources of information for users of traditional medicine N = 20

Sources of information	Frequency
Friends/Colleagues/Neighbours	17
Family	13
Social media (Facebook/WhatsApp)	12
TV/radio	10
Health practitioners	6
Books	6
Web	5
Attended Workshop	0

As can be seen in table 7 above, the most widely used source of information for users that use traditional medicine at Mzuzu University is friend/colleagues/neighbours as indicated by 17 (85%) respondents, followed by family as indicated by 13 (65%) respondents, and social media as indicated by 12 (60%) respondents, while TV and Radio was the fourth most used source of information for traditional medicine users. This was followed by books and health practitioners with 6 respondents (30%) indicating each and the remaining sources of information was the web with 5 (25%) respondents indicating this source. From the finding, it is noticeable that nobody attended a workshop to get information about traditional medicine. This finding shows that the users of traditional medicine share information to each other using peer groups, family members, social media, TV and Radio.

DISCUSSION OF THE FINDINGS

Gender of respondents

The study established that there were more men as compared to women who participated in the study. This finding is similar to the one by Fonge et al. (2012) whose participants were dominated by males as compared to women. This suggests that women are underrepresented in economic activities as compared to men. This can be attributed to increased presence of men in economic activities when compared to women who in most cases fewer especially when it comes to employment in higher learning institutions.

Qualifications

The study further revealed that the participants who participated in the study had different qualifications. This shows that participants with different qualifications reported to have used traditional medicine. These findings are contrary to the general belief that only rural people access traditional medicine as also educated people from higher learning institutions use traditional medicine.

Use of traditional medicine

This study revealed that the majority, as represented by 14 (70%) of the respondents use traditional medicine, while 6 (30%) indicated that they have never used traditional medicine. This reveals that the use of traditional medicine is not restricted to rural people only, but this is also prevalent to urbanites as represented by

those from the university setting. These findings are in agreement with the findings by Mahish et al. (2016, 174-178) who found out that there was high use of traditional medicine and awareness among the literate population in India. This finding, therefore, should inform policy makers that even the educated members of the population use traditional medicine in their daily lives. A study by Xue et al. (2007) in Australia revealed a high usage of traditional medicines among users who were aged 18-34, female, employed, well-educated, had private health insurance coverage and had higher-than-average incomes.

Reasons for using traditional medicine

Traditional medicine is widely recognised for healing different diseases. Similarly, the study among other reasons established that respondents used traditional medicine for promoting health, for curing diseases, and for preventing diseases. It was also interesting to note that respondents expressed high preference for traditional medicine. Among the reasons that were cited include the fact that herbal medicine has less side effects, it is cheaper to use herbs, herbs are safe, and it is easier to access herbs than modern medicine. These findings are in agreement with Habtom (2018) who found out that in Eritrea, most respondents found traditional medicine to be more convenient if it was to be used alongside modern medicine.

Sources of information for users of traditional medicine

The effective use of traditional medicine requires that users be aware of the traditional medicine. However, traditional medicine users have information sources from the household level as reported by Dambatta and Aliyu (2012, 33) and Habtom (2018, 12) who found out that most of the traditional medicine information is found at household level and this is rarely shared. However, this study established that respondents indicated that they got information for using traditional medicine from colleagues, friends or neighbours, and this was followed by family members, followed by social media and then TV/Radio. This is partly in agreement with Chidimma and Tom (2018) who found out that there were several sources of information which assisted users to get awareness about traditional medicine. The findings seem to suggest that there is information sharing among staff members on the use of traditional medicine.

CONCLUSION

The study concludes that the majority of the staff members as represented by 14 (70%) respondents who participated in the study use traditional medicine. Secondly, the study established that staff members use traditional medicine for various reasons such as preventing diseases, promoting health and curing diseases including high preference of staff members to traditional medicine as compared to modern medicine. Finally, the study noted that there is a lot of information sharing among the members of staff which is one way of promoting the use of traditional medicine.

RECOMMENDATIONS

- The government should take steps to recognise traditional medicine since it is being used even among the literate population in higher learning institutions
- Libraries should increase the development of library collections which can promote the use of traditional medicine to many members of the university community
- Libraries should take an active role of documenting much traditional medicine information which still remains tacit among traditional healers so that such information can help in curing diseases that can be effectively healed if there is adequate traditional information.

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INDIGENOUS KNOWLEDGE MANAGEMENT: ROLES OF PUBLIC LIBRARIES AND ARCHIVES IN PRESERVING AND PROVIDING ACCESS TO INDIGENOUS KNOWLEDGE (IK) IN NAMIBIA: CASE STUDY OF “PRESERVE NAMIBIA INDIGENOUS KNOWLEDGE” PROJECT

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ABSTRACT: Namibia has rich indigenous knowledge systems; however, such information is not properly documented and as a result it is not accessible to wider audiences especially researchers and users of public libraries and archives in general. There are various individuals and institutions in Namibia researching on indigenous knowledge, however the resulting research papers and reports are stored in the individual institutional repositories, thereby making it difficult for public members to have access to such information. In addressing the gap of inaccessibility of indigenous information, the Directorate of Namibia Library and Archives Service embarked on a project entitled, “Preserve Namibia’s Indigenous Knowledge”. This project was funded by the National Commission on Research, Science and Technology (NCRST) with the aim to contribute and enrich the documentation and preservation of indigenous knowledge in Namibia. The project was also aimed at introducing advanced systems to improve and enable easy access to indigenous information. This paper highlights the results of the Preserve Namibia’s Indigenous Knowledge project and the importance and roles of public libraries and archives in documenting, managing, preserving, and facilitating access to indigenous information. It also presents practical examples on how public libraries and archives can initiate programmes and involve indigenous communities in the development of libraries services and documentation of indigenous information as well as introducing systems to enhance access to indigenous information.

KEYWORDS: indigenous knowledge, Namibia, indigenous information.

INTRODUCTION

Indigenous knowledge a body of knowledge that is unique to a given culture or society, and forms the basis for decision making in areas such as agriculture, health care, food preparation, education and natural resources Warren (1991, 1).

Indigenous knowledge plays a vital role in agriculture, animal and human health, natural resources management, education and other activities in Namibia. Most community members especially in rural areas are still using traditional methods of farming, processing food, animal rearing and medicinal needs. Such knowledge as articulated by various researchers is strengthening Namibia’ potential to compete with other countries in supplying natural products and creating sustainable economic opportunities for rural communities.

It is documented that most of the indigenous information in Africa, including Namibia, is not sufficiently documented, and it is mostly learnt and shared through word of mouth and observation. It is also noted that the knowledge harnessed by indigenous people in Namibia is not accorded the same importance as scientific knowledge. The unavailability of documented indigenous information has made it difficult for researchers and wider users of libraries and archives to research and enhance this knowledge and make it accessible to wider audiences. There is a great concern that the indigenous knowledge of many countries in Africa might get extinct if sustainable programmes to document and preserve knowledge are not put in place.

Considering the unavailability of documented indigenous knowledge in Namibia, the Directorate of Namibia Library and Archives Service (NLAS) observed a gap between scientific and indigenous knowledge in all the public libraries countrywide. To help address this gap, NLAS, through the assistance of the National Commission on Research, Science and Technology (NCRST), embarked on a project titled “Preserve Namibia’s Indigenous Knowledge” during the year 2015.

The aim of project was improve the documentation and preservation of indigenous knowledge in Namibia. The goal of the project was to contribute to the preservation of indigenous knowledge by recording documentaries of indigenous activities as well as to introduce advanced systems to improve and enable easy access to indigenous information. The project envisioned in the long run, to assist communities to learn and embrace their cultural heritage, use cultural methods that are familiar to the indigenous people, and to introduce innovative projects that will enhance productivity, and aid in generating income.

NAMIBIA LIBRARY AND ARCHIVES SERVICE NETWORK

The Directorate of Namibia Library and Archives Service oversees and centrally procure resources for all 65 public libraries countrywide. Its mandate among others is to collect and disseminate information through access to books, e-resources and other educational materials, provide free internet and basic computer training as well as promote awareness of and preservation of cultural heritage. The Directorate’s performance outcome has been positive in terms of procuring and proving access to global information, however, the area on the preservation of cultural heritage and promoting access to indigenous information has been neglected and this motivated the Directorate to initiate the Preserve Namibia’s Indigenous Knowledge project.

IMPLEMENTATION OF THE PROJECT

Preserve Namibia’s Indigenous Knowledge was funded by the National Commission of Research Science and Technology for a period of two years, from 2014/2015 and 2015/2016. The project plan was to identify, with the assistance of community members, critical activities that might be at risk of extinction, or those that are critical to the community members and needed to be recorded, documented and preserved for future generations. The project used the action research method to collect data. The first step of the initial stage of the project focused on planning and the project team drew up a project plan and schedules, and identified the sites to be piloted for phase one and phase two of the project. The second step involved identifying and working with community leaders to identify activities to be recorded and documented. The project team members held meetings with Traditional Authorities where the processes of the project were discussed and agreed upon. The Traditional Authorities and community leaders assisted the project team with the identification of skilled and knowledgeable community members to assist with the provision of actual information to be recorded. The third step was involved hiring a technical team comprising of professional photographers and sound technicians to assist with the production of the documentaries and capturing of still pictures. The project team also identified a project review team that to review all the processes and ensure that activities were being carried out as planned. The review team was also tasked to review the actual products or documentaries before they were finalised.

The second stage focused on preparing for the fieldwork. In the first step during this stage the Ministry of the Education, Arts and Culture wrote intent letters to the Traditional Authorities to obtain authorisation to implement the project activities in their areas. After the approval was granted by the Traditional Authorities, the project team prepared for the fieldwork. As the project plan was to document various activities step by step, with the idea that the final products would assist the public members and equip them with the skills and ability to perform those activities by themselves, the technical team together with the participants prepared the scripts well in advance which ensured that all steps are documented and clearly explained.

RESULTS

The output of the project was the production of documentaries and this was done in collaboration with the community leaders, elders, experts and community project coordinators. The identification of the activities to be documented was done with the assistance of the community members, who determined the importance of the activities and the value they have to the community members. In addition, the technical team was tasked to produce high quality documentaries to be used for TV broadcasting and DVDs distribution. The accompanying publications were also to be published, and easy reference systems like websites, and a Facebook page have been created. The information produced through this project is made accessible at libraries and archives for researchers, scholars, tourists and the general public, and it is to be preserved for future generations.

Through this project, 21 high quality documentaries have been produced from five regions, namely, Oshikoto, Oshana, Omusati, Ohangwena and Hardap. Sixteen (16) documentaries on Ovawambo indigenous food, drinks, and the making of traditional utensil were produced, as well as five (5) documentaries on Nama culture, namely the importance of fire, the use of animal skins, traditional medicine, perfume from the plants as well as powder from stones were recorded.

The study found that there are still opportunities to capture and document valuable indigenous information as knowledgeable community members are willing to share their skills. Nevertheless, the project is labour intensive, costly and it requires skilled and experienced personnel to record information with lasting value. The cost and intensity of the project has been observed as a serious challenge to the entire process of documenting and preserving indigenous knowledge in Namibia.

The findings also show that there is an urgent need to continue documenting indigenous knowledge and create innovative systems to enhance access to indigenous information as there is a threat of extinction. Libraries and archives also need to aggressively address the issue of the promotion of access to indigenous knowledge as most of the community members have developed an interest to learn about their culture and heritage, however, platforms for the community members to showcase and learn about their cultures need to be created.

EXPECTED NATIONAL BENEFITS

This project is expected to empower and increase the level of self-efficacy and self-determination of local communities as well as to increase cultural pride and motivate local communities to solve local problems using local skills and increase local participation in the national development processes. Given the availability of resources, this project is anticipated to cover all the 14 regions in the country and thus ensure comprehensive documenting of Namibia's indigenous knowledge.

CONCLUSION

The immediate recommendations from this project is for the institutions with interests in the preservation of indigenous knowledge to further recognise the importance and value of safeguarding crucial knowledge from the communities and make it accessible to wider audiences.

ACKNOWLEDGEMENTS

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DEVELOPING A FRAMEWORK FOR WEB ARCHIVING OF INDIGENOUS KNOWLEDGE SYSTEMS (IKS) IN SELECTED REPOSITORIES IN SOUTH AFRICA

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ABSTRACT: Indigenous Knowledge is a very important knowledge and developmental tool in Africa. There is a growing trend in the digitisation of heritage materials in Africa but while there is consensus on the importance of digitising IK in Africa, there are issues with ensuring long-term preservation so that digital information is permanently secured and protected. The purpose of this paper, therefore, is to discuss the Indigenous Knowledge Systems efforts in Africa. The scope of this paper is the digitisation of IKS in South Africa and how Web archiving can be adopted in ensuring the trustworthiness of IKS in academic institutional repositories. This paper adopted literature review and web content analysis to collect relevant information and make an inference. The paper, therefore, shows that South Africa is one of the few countries in Africa that has invested immense effort in the use of technology and digitisation of IKS. However, there is a need to consider issues related to the long-term preservation of these digital materials. There is currently a lack of policy and digital preservation frameworks, especially in Africa.

KEYWORDS: indigenous knowledge, digitisation, web archiving, digital preservation, repositories.

BACKGROUND

According to Fela Kuti:

"Africa has to improve by its own methods... Africa has not been able to contribute its own knowledge to this universe, but we have knowledge in Africa... All these things need to be in the education system of African counties." (ReelingInTheYears66 2018).

This statement highlights the importance of Indigenous Knowledge (IK) as a key tool for development in Africa. IK is the collection of interrelated practices that are peculiar to a group of people and it influences the way of life of a local people (deniyi and Subair (2013, 2). It is the "basis for local level decision making in healthcare, education, and a host of other activities in rural communities" Anyaoku, Nwafor-Orizu, and Eneh (2015, 34). The Tassa irrigation system in the Niger Republic and the Gacaca community-based judicial system in Rwanda Brehm, Uggen, and Gasanabo (2014, 335); Ezeanya-Esiobu (2017) are good examples of how African Indigenous Knowledge Systems (IKS) has been applied successfully.

In 2004, recognizing the importance of Indigenous Knowledge, the South African government adopted the national Indigenous Knowledge Systems Policy which was a platform for recognizing, affirming, developing, and protecting IKS in South Africa. The Department of Science and Technology (DST) initiated the National Recordal System (NRS) through this policy framework to coordinate and standardize the capture, storage, maintenance, and dissemination of science and technology-related data on IKS in South Africa were formulated.

PURPOSE OF THE PAPER

The purpose of this paper is to highlight the Indigenous Knowledge Systems (IKS) preservation efforts in South Africa and how Web archiving can be used to ensure the trustworthiness of digital materials through the management of Trusted Digital Repositories in academic institutional repositories in South Africa.

METHODOLOGY

This paper used a qualitative research method that is anchored on the interpretivist paradigm. It largely used literature review and web content analysis to assess the current state of digitisation of IKS in South Africa.

DIGITISATION OF INDIGENOUS KNOWLEDGE SYSTEMS (IKS)

One of the most important factors in ensuring long-term access to heritage materials is preservation Graham (2003, 224). In recognition of its importance, the International Federation of Library Associations and Institutions (IFLA) stated that libraries and archives are required to be involved in the collection, preservation, and dissemination of indigenous and local traditional knowledge resources (IFLA 2002). Libraries are also expected to consider the use of digitisation in preserving IK to ensure they do not become extinct Sraku-Lartey, Acquah, and Djagbletey (2016).

Several countries like Venezuela, India, and China have managed to compile digital databases, inventories, or registries of traditional knowledge over many years Nair (2006, 224-225); Swanepoel (2008). Digitisation initiatives are usually driven by a variety of motives with preservation and access being the most common Swanepoel (2008). To ensure access to digitized IK, there are initiatives to ensure that IK is accessible online. Such initiatives include the:

- Traditional Knowledge Digital Library (<http://www.tkdlib.res.in>);
- Korean Traditional Knowledge Portal (<http://www.koreantk.com>);
- Chinese Traditional Medicine Database System (<http://www.megabionet.org>);
- Seni Tradisi Indonesia (<https://www.piknikdong.com>); and the
- Smithsonian Centre for Folklife and Cultural Heritage (<https://folklife.si.edu/>).

In Africa, there are initiatives such as the:

- African Indigenous Science and Knowledge Systems (<http://africahistory.net/>); and
- Elimu Asilia - Kenya's Indigenous Knowledge Online (<http://www.elimuasilia.org/>).



Figure 1: Traditional Knowledge Digital Library (TKDL) website

INDIGENOUS KNOWLEDGE SYSTEMS (IKS) IN THE SOUTH AFRICAN CONTEXT

In South Africa, the Ulwazi IKS Programme and the Digital Innovation South Africa (DISA) projects are examples of digitisation projects on IK available online Greyling and McNulty (2012); Pickover (2008, 193). The Ulwazi Programme in particular “operates as an integral part of local public library and information services in the eThekweni Municipal Area (EMA) in the province of KwaZulu-Natal in South Africa, using both conventional and the latest mobile technologies” Greyling and McNulty (2012). The DISA project, on the other hand, is a non-profit collaborative project which is funded by Andrew W Mellon Foundation and has been able to attract heritage and research stakeholders including academic institutions Pickover (2008, 193).

However, this paper focuses on DST’s NRS initiative. The 2004 IK policy laid the foundation for the NRS project which is an initiative of DST. It coordinates and standardizes the capturing, storing, maintenance, and dissemination of science and technology-related data on IKS in South Africa. The NRS is developed in phases and the first phase focuses on the African Traditional Medicine (ATM) and Indigenous Food (IF) for implementation because they are at the risk of Intellectual Property exploitation and bio-piracy. This is like India’s TKDL which also emanated from the attempt to document various medical formulations to save them from piracy. Through this NRS initiative, the National IKS Management System (NIKMAS) was developed to support, on a national scale, the recordal, management, and protection of IK and the mitigation of the risks associated with Intellectual Property and biopiracy. NIKMAS serves as the information management engine of the NRS, and it is accessible at www.nrs.dst.gov.za.



Figure 2: National IKS Management System (NIKMAS) website

Moreover, IKS Documentation Centres (IKSDCs) have been created in different academic institutions across the 9 provinces in South Africa to cater to 50 communities. The University of KwaZulu-Natal (UKZN) is the main hub in South Africa and it also maintains an IKS website accessible at www.iks.ukzn.ac.za.



Figure 3: UKZN IKS website

The UKZN hub in collaboration with some academic institutions like the North-West University (NWU), University of South Africa (UNISA), University of Limpopo (UL), and the University of Venda (Univen) partners as the virtual IKS Centre known as the DST-NRF Centre in IKS (CIKS). It is managed by the NRF Directorate of Research Centres and Centres for Excellence (RCCE). The CIKS is expected to promote, protect, and preserve IKS, and this is to be achieved through research, postgraduate training, community engagement, networking, IKS curriculum studies, knowledge brokerage, and service rendering. Its focus areas are traditional medicine, food security, and biodiversity, and environmental management. The CIKS is also in strategic partnership with institutions within and outside South Africa like the University of Zululand, University of Fort Hare, University of Namibia, University of Nottingham, University of Western Cape, University of Bayreuth, the Innovative Pharmaceutical Association South Africa, KwaZulu-Natal Provincial Department of Social Development, Food and Agricultural Organization of the United Nations (South Africa), among others.

Apart from being responsible for the collection and organizing of information materials, the IKSDC in partnership with the communities involved also actively engages in the production of information that is shared, disseminated, and distributed. The IKSDC also has the responsibility of providing services to the various communities, national government, local government, and the public in terms of the captured IKS in the NRS. Despite links with repositories with academic institutions in South Africa, the NIKMAS has the responsibility of providing a single access point to IK captured in different points in the NRS initiative with links to other resources and databases which contains IK information managed in various institutions or government departments. Apart from the publicly available IK, NIKMAS also keeps IK that is yet to be in the public domain. The stored IK are confidential but accessible through application for limited confidential access. The UKZN IKS website also requires user login and password for access.

ISSUES WITH DIGITAL RECORDS

The long-term preservation of these digital materials is saddled with problems of technological obsolescence, lack of awareness, financial sustainability, policies, legislation, security, and privacy Adu and Ngulube (2017); Biyela et al. (2016, 12). In addition to these issues, media degradation, and bad records management all threaten the survival of digital information Dryden (2009). According to Hockx-Yu (2006, 235), digital preservation is a complex process with several unresolved technical, organizational, and managerial issues making digital preservation a challenging task, especially for those managing institutional repositories. The issues of ensuring long-term digital material preservation to permanently secure and protect digital information for integrity, authenticity, and future access are not well researched Kalusopa (2018, 168); Ngoepe, (2017, 35). Issues related to policy and digital preservation frameworks are major problems in Africa Kalusopa and Zulu (2009, 106); Mutula (2014, 369).

The urgency and importance of paying attention to issues of trust online have been repeatedly emphasized at the international level Duranti (2010, 52); Duranti and Rogers (2014, 211); InterPARES (2011); Solodovnik and Budroni (2015, 252). For instance, hacking prohibits us from being able to access our trust in online records and data Duranti and Rogers (2014, 203). The issue of trustworthiness deals with components of digital records such as authenticity, accuracy, reliability, and authentication.

Apart from the trustworthiness of digital records, several studies have demonstrated that the ephemeral nature of the web makes web materials highly vulnerable to loss, degradation, and decreased access Davis (2010); SalahEldeen and Nelson (2012, 126); Antracoli et al. (2014, 156-157). Within a year, materials on the web retain about 20% in their original form, and the average lifespan of a webpage can be as short as 44 days (Sutton 2004). This means that about 80% of the materials on the web are likely to disappear or lost to the alteration within the first year. The half-life of URLs of online academic journals on the other hand is about 4-5 years Slania (2013, 112); Kumar and Prithviraj (2014, 37). Although this seems longer than the 44 days on an average website, there is a need to note that web contents are still vulnerable to loss and alteration after some time. However, studies have proven that the problems associated with vanishing URLs and long-term access to information on the web can be solved through different web archiving tools Kumar and Prithviraj, (2014, 36); Kumar and Kumar (2013); Habibzadeh (2013, 460).

Web archiving is considered as any form of deliberate and purposive preservation of materials on the web Brügger (2011). The Web archiving technology “enables the capture, preservation, and reproduction of valuable content from the live web in an archival setting, so that it can be independently managed and preserved for future generations” Pennock (2013, 1). That is, Web archiving is a form of digital preservation of web contents. Many academic institutions such as the Universities of Winnipeg, University of Manitoba, University of Columbia, Drexel University, the University of Texas at Austin, the University of Pennsylvania among others are involved in Web archiving projects. For example, The University of Texas at Austin also has a Latin-American Government Collection which includes full-text archives of official documents, original video

and audio recordings of key regional leaders, thousands of annual and “state of the nation” reports, and a collection of Latin-American elections and political parties Donovan and Haberle (2017).

CONCLUSION

This paper has been able to highlight the digitisation efforts in different countries focusing on the IKS initiatives in South Africa. South Africa has taken major steps and still making serious efforts to ensure the preservation of IKS using technology and digitisation. The DST’s NRS project has archived a lot in the preservation of IKS while there are continuous and ongoing projects in this area.

However, there is a need to consider problems related to long-term digital preservation to ensure that digital information is permanently secured and protected for integrity, authenticity, and future access which are currently not well researched. There is currently a lack of policy and digital preservation frameworks, especially in Africa. Therefore, there is a need to develop Web archiving frameworks for digitized IKS accessible online to create and ensure Trusted Digital Repositories (TDRs) in academic institutions in South Africa. The TDRs should be Open Archival Information System (OAIS) compliant, and there is a need to incorporate how the web archives can be integrated with other digital collections for future research.

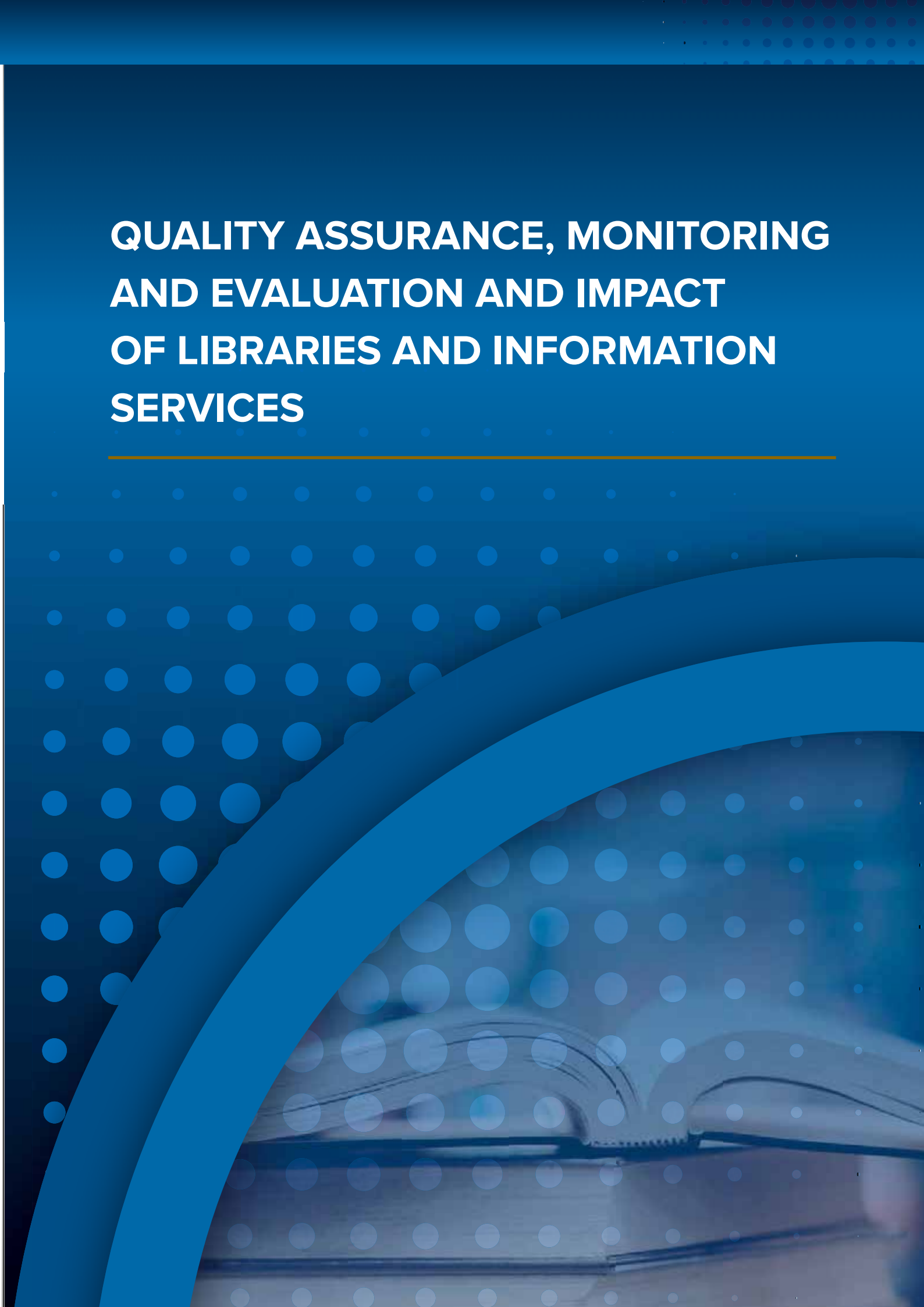
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QUALITY ASSURANCE, MONITORING AND EVALUATION AND IMPACT OF LIBRARIES AND INFORMATION SERVICES



DOES QUALITY ASSESSMENT MATTER IN AN ACADEMIC LIBRARY? A CASE STUDY OF THE UNIVERSITY OF NAMIBIA LIBRARY

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ABSTRACT: *Reliable tools for measuring service quality and demonstrating the impact of services are becoming more and more important in library sector development. Measuring quality is not only an administrative factor. In-depth quality assessment is also needed for a library to inclusively identify and respond to current and emerging needs of its stakeholders and various user groups. In this context, the paper analyses quality assessment methods used in the University of Namibia (UNAM) Library from 2012 – 2019 with the main focus on the international standardised customer satisfaction LibQUAL+ survey, carried out in 2012 and 2014. The paper provides an analytical assessment of the use of LibQUAL+ at UNAM library, describing challenges, benefits and outcomes of the use of the method. The authors conclude that LibQUAL+ proved to be a very informative tool providing critical information for strategic planning. The use of a scientifically developed standardised tool had the additional advantage that the institution's management trusted the results. The paper further discusses the practical implications of how the results of LibQUAL+ informed strategic planning and improvement of services, presents an analysis of the reasons for discontinuation the use of LibQUAL+ instrument, and concludes with a brief description of complementary methods that can be used to assess aspects that customer satisfaction-based methods do not cover, namely external quality reviews and benchmarking. The purpose of the paper is to provide an analytical view of challenges and benefits of quality assessment processes in one academic library for the benefit of strategic planning processes in other libraries*

KEYWORDS: *quality assurance, LibQUAL+, customer satisfaction surveys, service quality, academic libraries.*

INTRODUCTION

Demonstrating quality and accountability is an integral part of higher education institutions. Higher education institutions are currently competing aggressively through competitive advantages and high quality to attract students, prominent academics and funding. The assessment of service quality is essential in providing evidence on the effectiveness of educational plans and improvement programmes Cardona and Bravo (2012). Economic realities in higher education funding systems have also brought in new requirements for accountability. International developments and requirements have resulted in many countries establishing national and institutional quality assurance agencies responsible to monitor and evaluate the quality and performance of higher education institutions (HEIs). In Namibia, the Namibia Qualifications Authority (NQA) is responsible for setting up and administering the National Qualifications Framework (NQF), while the National Council for Higher Education (NCHE) is responsible for accrediting academic programmes and higher education institutions.

Academic libraries provide critical services to the parent institutions, supporting teaching, learning, research, innovation and resource mobilisation activities. They are also required to demonstrate the value and quality of their services by aligning their mission, vision and strategic initiatives to those of the mother institution. Atkinson (2017) The conventional roles of academic libraries have transformed through the advancement of information and communication technology (ICT), which changed, and continue to change, the way information is published, accessed and used. It also changed the modes of learning, teaching, assessment and the communication of research. As a result, reliable tools for measuring service quality and demonstrating the impact of services has become more important in library sector development. Measuring quality is, however, not only an administrative function. A more in-depth objective for a library's quality assessment is to inclusively identify and respond to current and emerging needs of its stakeholders and various user groups. The effectiveness and quality of academic library services rely on close interrelationships between various entities of the university, such as library staff, academics, students and other professional support staff.

This paper analysed quality assessment methods used at the University of Namibia (UNAM) Library from 2012-2019, focusing on the international standardised customer satisfaction survey, LIBQUAL+, carried out in 2012 and 2014. The purpose of the paper is to provide an analytical assessment of the use of LIBQUAL+ at the UNAM Library, describing challenges and benefits in the process of collecting and analysing the data and the results and outcomes from the use of the instrument. An analysis of the reasons for discontinuation the use of LibQUAL+ instrument is also presented. The paper concludes with a brief description of complementary methods used to assess aspects that customer satisfaction-based methods do not cover, namely external quality reviews and benchmarking. The goal of the paper is to provide an analytical view of the challenges and benefits of quality assessment methods in one academic library. It took on the form of a case study based on library quality assurance processes at UNAM.

The paper is based on data provided by LibQUAL+ survey results during assessments carried out at the University of Namibia Library. These overall and campus based reports are the result of surveys carried out in 2012 and 2014 Cook, Heath, Thompson, Green, Kyrillidou, and Roebuck (2012); Mitonga (2013); Cook, Heath, Thompson, Kyrillidou, Roebuck and Yeager (2014); Yule, Uutoni and Niskala (2016); Niskala, Gorases, lilonga, lipinge, Leonard, Mumanyi, Mwiya, Ngandu and Ngula (2018), as well as reports of the library's quality review organised and supervised by the university's Centre for Quality Assurance and Management (CEQUEM) from 2018 to 2019 University of Namibia: CEQUEM (2018); Niskala et al. (2018); University of Namibia library and CEQUEM (2019) and a benchmarking exercise in 2019 Ndinoshiho, Mumanyi and Leonard (2019). To this can be added the authors' own experiences as active members of the library's quality assurance teams on data analysis and reporting, training workshops and meetings between library staff and management as well as consultative presentations and discussions with stakeholders and the UNAM's quality assurance unit, CEQUAM.

THE CONCEPT OF SERVICE QUALITY IN ACADEMIC LIBRARIES

Evaluation of service quality in libraries is not a new phenomenon. It has been a topic of analysis for decades Ali and Raza (2017). Different measures can be used to evaluate service quality. In the library context, traditional quantitative measures such as collection size, numbers of visitors, issuing and returning statistics, budget size, quantity of staff are used as a basis to measure service quality Morales, Ladhari, Reynoso, Toro and Sepulveda (2011); Gothani and Van der Walt (2019). However, these input-based measures have been assessed to be inadequate to measure service quality. This created a need for libraries to develop and adopt more diverse and in-depth methods to evaluate quality, including the stakeholder's perspective of service quality Sahu (2007).

The recent developments have brought service quality characterisation to focus on the overall assessment of service by either a customer or any other stakeholders to pass judgement as to whether the service met their expectations or not Eshghi, Roy and Ganguli (2008). In addition, Morales et al. (2011) define service quality as a gap analysis between users' perception of actual received services and the expectations about the service. A negative gap indicates that the service performance is below the level of expected service, while a positive gap is an indication that the service performance has fulfilled or exceeded the expected service Morales et al. (2011). With this, measuring service quality moved away from a service input perspective and focus now on service quality as perceived by stakeholders. Quantitative and qualitative methods have, therefore, been developed to address gaps in the evaluation of service quality. These include tools such as SERVQUAL, LibQUAL+ +, SERVPERF, E-SERVQUAL (E-S-QUAL), E-RecS-QQUAL and Lib WebSQ that are mainly used for quantitative assessment of service quality. To complement the quantitative measures, evaluation tools such as external quality reviews/peer reviews, accreditation, benchmarking and library standards are used to provide a comprehensive view of service quality.

In this context, the accreditation of programmes and institutions are critical quality assurance processes for academic institutions. However, observed that librarians are not fully integrated into the quality assurance and accreditation of programmes in higher education institutions Popescu (2017). Studies that investigated the involvement of librarians in these programmes revealed that the librarians' involvement in these evaluation processes in higher education institutions is just a formality. They are not fully engaged in the processes Bowker (2017); Wu and Senior (2016). Both studies observed the need for the improvement of proactive library participation in faculty collaboration and reporting for accreditation and programme reviews.

Atkinson (2017) emphasised the need that service quality measurements of academic libraries should encompass activities such as strategy and planning, collaboration, engagement with customers, management and leadership. Hiller and Kyriallidou and Self (2007) found that there may be serious weaknesses in quality assessment processes in relation to actual impact to decision making and service improvement. Their findings emphasize that leadership direction and support combined with customer-centred organizational culture are the critical foundations for efficient service quality assessment culture in libraries.

SERVICE QUALITY EVALUATION TOOLS: LIBQUAL AND SERVQUAL

The literature review conducted for this study indicated that LIBQUAL and SERVQUAL are currently the primary tools used to evaluate service quality in library and information services. SERVQUAL, developed by Parasuraman, Zeithaml and Berry (1985) is an accepted model of service quality evaluation that has been thoroughly tested and widely adopted as a reliable assessment tool Trevedi and Bhatt (2019, 147). According to Parasuraman, Zeithaml and Berry (1991) SERVQUAL originally consisted of ten dimensions to cover important issues when assessing service quality. After a revision, only five dimensions remained: tangible, reliability, responsiveness, assurance and empathy. These measures were improved to include a three-level rating consisting of the desired level, the minimum level and the perceived level Parasuraman, Zeithaml and Berry (1994). The application of SERVQUAL in libraries provided insight into customers' intellectualization of what a service should deliver and how well the service meets their expectations Gothani and Van der Walt (2019); Marimon, Mas-Machuca, Berbegal-Mirabent and Llach (2019); Mwiya, Siachinji, Bwalya, Sikombe, Chawala, Chanda and Kaulungombe (2019). Despite its popular application, some scholars observed shortcomings at the conceptual and operation level Marimon Mas-Machuca, Berbegal-Maribent, and Llach (2019); Buttle (1996). In the library context, it was observed that the five dimensions of SERVQUAL are not comprehensive for the library environment and additional dimensions of quality that were not covered by SERVQUAL model were recommended (Cook and Thompson 2000). This critique led to the development of a new tool called LibQUAL.

LIBQUAL+ is a web-based survey instrument that evolved from a conceptual model based on the SERVQUAL instrument. LibQUAL+ measures library users' minimum, perceived and desired level of service across three dimensions: affect of service, information control and library as a place Association of Research Libraries (2019). The three dimensions represent key areas of library service quality and are described as follows:

- **Affect of service** measures the quality of the staff, assessing the interpersonal dimensions of library service, such as empathy, responsiveness, assurance and reliability as well as the knowledge, skills and professional expertise of the staff.
- **Information control** measures library service quality in terms of the scope, content and access to information resources: adequacy of print and electronic collections, easy-to-use access tools; ICT technologies; convenience and ease of navigation on the library website; timeliness; availability of modern equipment; self-reliance when accessing information and ICT facilities.
- **Library as a place** measures library buildings and library space, assessing how the physical environment is perceived both in pragmatic, utilitarian, and symbolic terms encompassing aspects of the library as a "safe haven", that is a comfortable, inviting and reflective space that inspires study, learning and research.

LibQUAL uses the gap theory of service quality to ascertain what the users expect from the library service as well as how they perceive the quality of the service received. It conceptualises service quality as the service gap, which is the difference between the expectation of service quality from an excellent service provider and the perception of service quality from the current service provider.

Standardised customer satisfaction survey models such as SERVQUAL and LibQUAL have been widely used by academic libraries to measure their value and user satisfaction. Longitudinal studies on the implementation of LibQUAL surveys in the USA and Europe support the functionality of the instrument for the identification of improvement needs, strategic planning and benchmarking with other libraries but also identify shortcomings that would need to be addressed. Dennis, Greenwood and Watson (2013); Greenwood, Watson and Dennis (2011); Voorbij (2012); McCaffrey (2013). Scholars such as Dahan, Taib, Zainudin and Ismail 2016; Lange, Miller-Nesbitt and Severson 2016 used service quality surveys to inform policy formulation. Dahan et al. (2016) also customized a new measuring tool for service quality and the perspectives of library users. The LibQUAL survey model appears to serve as a guide for effective decision-making regarding administration and resource allocation to ensure the attainment of the library's vision and mission.

According to the Association of Research Libraries (2019), LibQUAL has since 2004 been used as a quality assurance instrument in 25 higher education and research institutions in five African countries: Egypt, Malawi, Tanzania and Namibia with one university in each country, and the rest in South Africa. In 11 of the institutions the survey has been carried out once in others twice or multiple times. Published case studies reflect either satisfaction with the instrument Moon (2007) or limitations of LibQUAL, which have led to the development and use of a customised user satisfaction survey complemented with qualitative methods Becker, Hartle and Mhlauli (2017). Gothani and Van der Walt (2019) adopted SERVQUAL to investigate the level of service quality at Aga Khan University in Kenya. Their findings supported the value of the instrument to identify shortcomings and plan improvements.

THE UNIVERSITY OF NAMIBIA: INSTITUTIONAL PROFILE

UNAM is one of the two public universities in Namibia established by an Act of parliament, University of Namibia Act, Act No. 18 of 1992, governed as a semi-autonomous higher education institution and funded through government subsidy and tuition fees.

UNAM has grown since its establishment geographically, in student numbers and as an academic institution. In 1992, when it was founded, the institution started with about 3,600 students on one campus with a limited number of undergraduate programmes. Since then, the university has progressed into a multi-campus higher education and research university which offers 27 diplomas, 58 undergraduate degrees, 58 masters' and 44 doctoral degrees. UNAM is the largest national institution of higher education in the country, with 12 campuses and seven regional distance education centres countrywide. Student enrolment has been increasing steadily to the current +30,000 students. UNAM employs 1549 academic and 952 administrative staff.

UNAM's new strategic plan for 2019-2024 emphasises the role of research and innovation, internationalization and alternative financial flows to secure sustainability and relevance to the society and to be able to tackle complex 21st-century challenges and technologies University of Namibia (2019).

THE UNAM LIBRARY

The UNAM library functions as an academic library, as well as a national information centre and is open to the public. It provides services through campus libraries at all UNAM's 12 campuses. The library also maintains collections in the university's seven regional centres which support the university's open and distance education programmes and which, in addition to digital library resources, brings access to physical library collections into almost all of the 14 regions (provinces). UNAM library is also responsible for UNAM's institutional records management function and hosts the institutional records centre and archives. The library staff consists of 35 professional staff (librarians and archivists) and 68 semi-professional staff – library and archives assistants – of which the latter also attained either diplomas or degrees in library or information studies or related fields. This makes the staff component academically well qualified.

The library functions with a reasonable annual book and e-resources/periodicals budget and aims to ensure relevant and up-to-date academic library information resources to support teaching, study, innovation and research in the diverse fields of study and research at the institution. In 2019 the overall book collection consisted of +300,000 volumes against more than 180,000 titles. Access to global electronic resources is in our view currently at international level. The diversity of resources covers all subject areas and allows the use of the latest global information sources for research and teaching. Requested and identified new resources are evaluated annually and compared to existing sources. To achieve this, the library has since 2010 evaluated and gradually motivated and ensured budget increases to increase its subscriptions from about 5 to +20 global and regional electronic information resources and identified accredited credible open sources resources. Current subscribed scientific and professional databases include Emerald, Springer Link, Scopus, Science Direct, Taylor & Francis; Wiley, Ebsco-host, SA E-Publications, Juta Law, MIMS, Cochrane systematic reviews, Hein Online, IEEE, Knovel engineering database and limited access to Research4Life databases (See <http://www.unam.edu.na/library/e-resources>).

WHY DID UNAM LIBRARY ADOPT LIBQUAL+?

International and national quality assurance requirements in higher education led UNAM to establish the Centre for Quality Assurance and Management (CEQUAM) in 2010. During the institutional discussions leading to the establishment of CEQUAM the library management realised the need to study quality assurance methods and tools that would apply to academic libraries. Such methods and tools were deemed necessary to contribute meaningfully to the institutional quality assurance and accreditation processes as well as to be able to align the library's services and procedures with the strategic direction of the institution. Without scientifically acknowledged quality assessment tools the library would not be in the position to provide reliable data for strategic planning as a contributor to the strategic objectives of the institution. It was also realised that in the new environment of accountability and quality measurement, the library would need

reliable data to demonstrate its impact and the gaps in its services and facilities that may need financial and human resource investment.

In 2010-2011 the library established a team led by Chenjerai Mabhiza, the head of the User Services Department, to identify and evaluate tools for library quality assurance processes. As a result, the international LIBQUAL+ survey instrument, maintained by the Association of Research (ARL) Libraries in USA, was identified as a reliable tool to measure library quality from the point of view of all stakeholders that use or might need to use UNAM's libraries, whether physically or digitally. The main reason for adopting LibQUAL+ was that it was a scientifically developed tool to specifically assess library service quality, based on a market research assessment evaluation tool, SERVQUAL, which is used in other ambiguous areas to assess quality.

As part of considerations supporting the decision to use LibQUAL+ it was recognised that a library is clearly an ambiguous service from customers' point of view, and it is often difficult for a library's clientele to assess what to expect from library services and resources. It is equally difficult to determine whether what they are getting is what they were expected to get. That is specifically true in developing countries, where the library systems are often scarcely resourced and not widely available. In Namibia there is a public library network, but it covers mainly urban areas. Most school libraries are limited to storeroom type facilities with irrelevant donated book collections. Against this background it is quite probable that library users would not have library experience that could provide a basis for assessing the quality of the academic library services. This ambiguity lead to situations, where library services can receive very high satisfaction ratings in surveys, even when realistic observation and complaints would have indicated that customers were not satisfied. The strength of LibQUAL+ was that it was developed through scientific analysis and testing to inclusively cover the essential dimension of library service. The validity of the tool was also supported by CEQUAM. UNAM library subscribed to LIBQUAL+ and has carried out two surveys using this instrument in 2012 and 2014.

IMPLEMENTING THE LIBQUAL+ SURVEY AT UNAM

UNAM Library conducted the first LibQUAL+ customer satisfaction survey in 2012, considered it a pilot and limited it to the main campus Cook et al. (2012); Mitonga (2013). This paper here focusses on the 2014 survey.

The 2014 survey started in mid-August and was planned to run for one month but continued until the end of the academic year in the beginning of December to reach representative response rates. The survey targeted the whole population of UNAM. Response rate statistics could be followed through the ARL LibQUAL administrative system. The survey was promoted using posters, leaflets and postings through student portal and staff email list. When it was realised that the initial response rate was however very low, the library's LibQUAL team mobilized the library staff from different campuses to develop and apply motivational methods, including promotional stands in the faculty areas, personal emails to academic and administrative staff and collaboration with lecturers for students to be allowed and encouraged to fill in the survey during computer lab classes. At some campuses, cool drinks and sweets were added as additional incentives. The overall response rate reached 11%, meeting the established 10% response rate considered representative and satisfactory. Some campuses reached a 30-50% response rate. The response rate of one campus as well as that of postgraduate students and academic and administrative staff fell below the target, but due to the lower overall number of the population, were still considered representative. (See Figures 1 and 2). The total number of respondents was 2,363 (n=20,764): 2,213 students (n=19,506), 98 academic and administrative staff (n=1,765) and 57 library staff (n=110). In the LibQUAL+ survey model, the questionnaire is also filled by library staff to assess self-perceptions of the quality of the service. Staff data is analysed separately to not affect the customer satisfaction results.

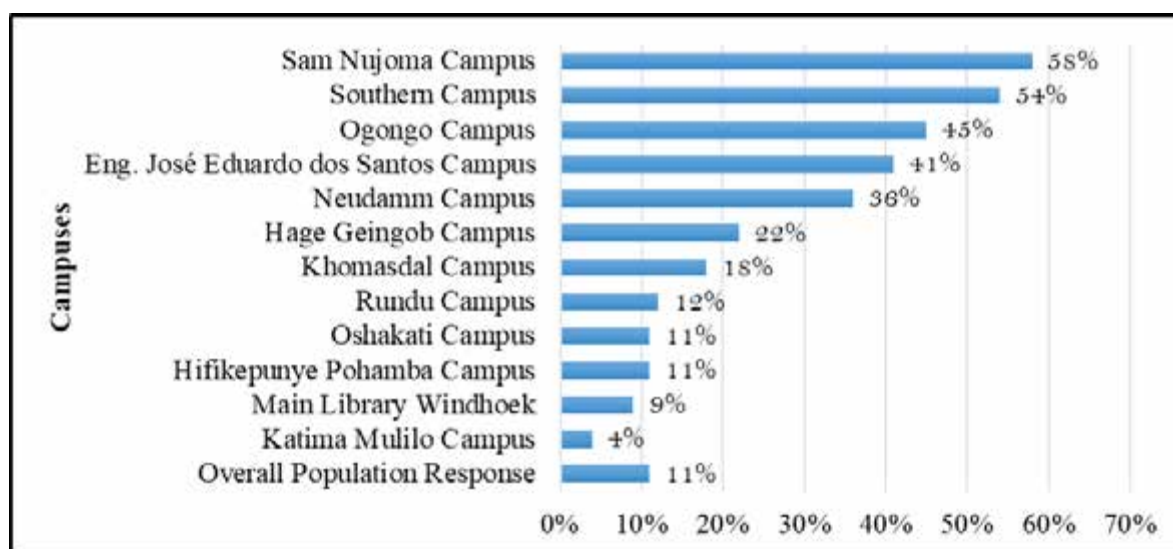


Figure 1: LibQUAL 2014 survey response rates per campus

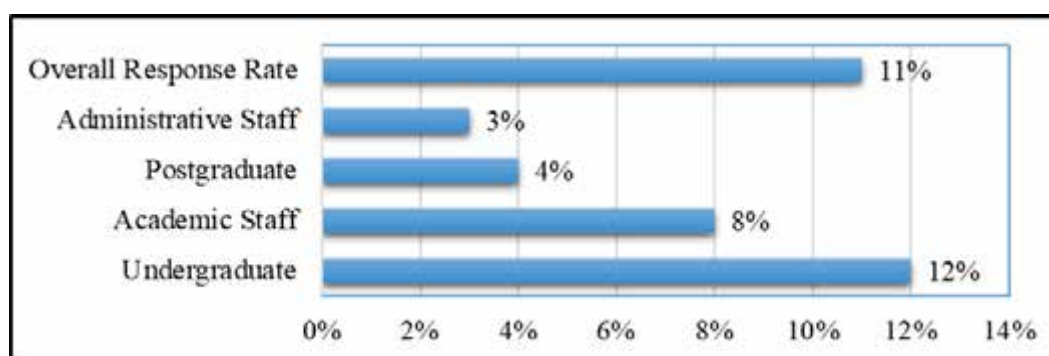


Figure 2: LibQUAL 2014 survey response rates per academic stakeholder

SUMMARY OF THE FINDINGS OF THE UNAM LIBRARY 2014 LIBQUAL SURVEY: “UNDERGRADUATE LIBRARY”

The data used in the description of findings is based on the 2012 and 2014 UNAM library LibQUAL+ ARL reports and customised local reports with additional analysis of the qualitative data. Cook et al (2012); Cook et al. (2014), Mitonga (2013); Yule et al. (2016).

In the 2012 survey, the alarming finding was that all the three main service dimensions of the library services as defined by LibQUAL+, were rated below the minimum level of acceptable service quality. In the LibQUAL+ terminology the adequacy means, meaning the gap between minimal required service level compared to the actual service level, was below zero for all three dimensions of library service. The UNAM library service had thus overall been rated below the minimal acceptable level. Consequently, the library management set up the objective to reach at least an acceptable level of service in all aspects of services.

According to the 2014 results, customer satisfaction ratings improved bringing the overall rating in all three library service dimensions just above satisfactory. Upon more detailed observation the adequacy means, for all except four of the standard 22 questions and two of the five local questions, was at satisfactory level: above zero.

Analysis of results from different users' groups, however, revealed that the targeted satisfactory level of service quality was reached in the ratings by undergraduate students, indicating that the library was meeting their needs relatively well. Postgraduate students and academic staff assessed all dimensions of library service significantly below the minimum level of acceptable quality.

LIBQUAL+ uses radar charts to demonstrate the overall satisfaction ratings based on the adequacy mean (difference between the minimal acceptable level and the perceived actual service level in each question) and superiority mean (difference between the optimal desired level and the actual level of service). The respondents' minimum, desired and perceived levels of service quality are plotted on each axis of the radar charts. The resulting "gaps" between the three levels are shaded in blue, yellow, green, and red. A radar graph shaded blue and yellow indicates that users' perceptions of service fall within the "zone of tolerance": the distance between minimum expectations and perceptions of service quality indicating satisfactory level of service is shaded in blue, and the distance between their desired and perceived levels of service quality is shown in yellow. If the distance between users' minimum expectations and perceptions of service delivery is represented in red, it indicates a negative service adequacy gap score meaning service quality below minimal acceptable level. Green shading indicates high, above desired level of service. Association of Research Libraries (2014). The radar charts in Figures 3 and 4 below demonstrate the clear difference between the overall library service quality as rated by UNAM undergraduate students and academic staff.

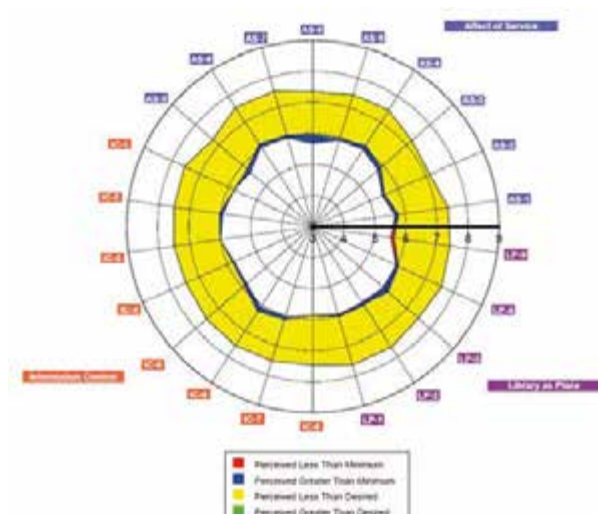


Figure 3: UNAM library LibQUAL 2014: undergraduate students (Cook et al 2014, 46)

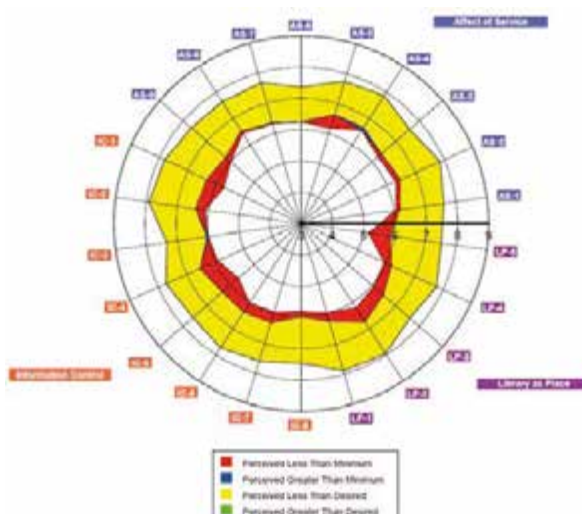


Figure 4: UNAM library LibQUAL+ 2014: Academic staff (Cook et al 2014, 74)

The undergraduate's consistent blue (dark) colour line demonstrates the overall satisfaction rating as slightly above the minimal required level. That applies to all questions except for the question indicating lack of group workspace on library buildings. Unfortunately, this overall rating excludes five local questions of which also two subject specialist assistance and print/scan/photocopy facilities were rated below the minimal acceptable level. The results indicated clearly that the library service, in the view of undergraduate students, is at a satisfactory level, even if not at the optimal desired level. This can be seen in the area shaded in yellow (light) on the gap between actual and desired level of service (Figure 3).

The second radar chart, Figure 4, demonstrate the service quality assessment by academic staff and is dominated by red (dark), meaning the perceived level is less than the minimum level of acceptable service quality in all dimension of library service: attitudes and skills of staff, collections, ICT tools and buildings. Equally, all areas reflected by the five local questions were rated below the minimum acceptable level. The

lowest rating was given to capacity/lack of capacity for subject specialist assistance. The same below minimum acceptable level of services in all aspects was indicated by postgraduate students.

It must be mentioned that charts in Figures 3 and 4 reflect the overall results from all campuses, while there were significant variations between campuses. On one campus also the perceptions of undergraduate students were below the acceptable service level in all dimensions of library service and on another campus, the academic staff's perceptions were at a satisfactory level. From three of the 12 campuses responses were only received from students.

The conclusion drawn from the LIBQUAL+ 2014 survey was that UNAM libraries functioned at a satisfactory level for undergraduate students, but did not respond to the needs of postgraduate students and academics. This key finding challenged the library's management to respond to the library service requirements of academic staff and postgraduate students. An analysis of the responses from the one free text question included in the survey did not provide any specific reason for the low-quality experience of these user groups. That placed the need for additional methods on the table.

Evidence on discrepancies of service level at different campus libraries was another significant finding of the 2014 survey. It was identified as another key issue to be further analysed and addressed.

In the UNAM data analysis and reporting process, a lack of expertise in using qualitative analytical tools made it difficult to make use of the data collected from the one open question where respondents can raise any pertinent issues. After both surveys, a research consultant was appointed to analyse and report the findings. The results were rewarding and provided rich information, including new information that the normal survey questions did not highlight.

In addition to the above mentioned two major findings namely generic dissatisfaction to library services by lecturers, researchers and postgraduate students and differences in service levels between campuses, the following areas summarised from both quantitative and qualitative data needed improvements:

- A major finding correlates with McCaffrey's 2013 observations that one of the areas where LibQUAL+ provides valuable information is the assessment of the physical library environment. The importance of a library as a conducive study and research space for the UNAM communities was quite evident from both sets of data.
- In relation to library buildings, the findings raised the issues of increasing student numbers, which had not been reflected in the library space and lack of conducive places for working in groups. Other explicit problems specified in the qualitative data included deficiencies in air-conditioning and toilet facilities and noise in the library.
- Inconvenience and security problems caused by the rule to not allow library clients to bring their bags into the library was frequently mentioned.
- Minor issues raised by users like not allowing headphones and water bottles in the library were immediately solved by adjusting these rules. In the main campus, toilet facilities were also improved immediately by reducing the number of staff toilets and in this way providing more public toilets.
- ICT related problems consisted of the following specific issues: Insufficient number and low quality of public use computers and low and irregular internet connection preventing the efficient use of electronic resources. Frequently mentioned were also problems in scanning/copying/printing facilities, e.g. clumsy payment systems; log-in based printing system preventing outside users to print/copy/scan; slow maintenance of copy machines; scanning not available for students.
- In relation to library collections qualitative data clearly indicated lack of adequate provision of prescribed textbooks as a common problem. Comments did not provide specific issues to explain below satisfaction ratings on electronic collections and journals from academic staff and postgraduate students.

ADOPTING LIBQUAL SURVEY FINDINGS FOR PRACTICAL SOLUTIONS AND STRATEGIC PLANNING

While planning the presentation and discussions of results with the university's management, campuses and generally user communities, it was realised that the presentation formats provided by ARL reports do not directly speak to the user groups. That is why the library's LIBQUAL+ team transferred the data into graphical charts. In that process, the dimensional distribution of the LibQUAL format was also amended. This was not based on scientific testing, but on practical assessment of how to provide specific results that can assist to identify problems and improve issues more specifically.

"Affect of Service" questions assessing the library staff provided significantly different ratings when divided into questions that reflect on the one hand customer-oriented attitudes and practices and on the other hand professional competencies. Staff can appear to be very helpful but a lack of required expertise problematize complicated assistance. Extracting the professional skills aspect from the overall staff quality dimension provided useful information for follow-up actions like training and mentoring needs.

Questions in the "Information control" dimension logically reflect satisfaction of two significantly different aspects of library service: firstly, the quality and relevance of collections and secondly, ICT tools and devices including support for independent library use, which in these questions focussed on ICT based tools.

Dividing the LibQUAL+ survey's three dimensions to five dimensions helped, in our view, to plan the required strategic actions to improve library services and assess users concerns much better than the three-dimensional approach. In presentations and discussion on results, we also replaced the LibQUAL+ theoretical concepts for service dimensions with generic terminology like customer care and professional skills instead of "Affect of Service". Instead of "Information Control" we used two dimensions - "Collections/Library Resources" and "ICT (equipment and internet connectivity, and tools for independent library use)", to facilitate discussions.

Figure 5 provides a summary of the quantitative results of undergraduate and postgraduate students and academic staff presented in this locally applied format of five dimensions of the library services including ratings for the five "local questions". The satisfaction rating by undergraduate students indicates acceptable levels of library service as values above zero except for professional skills, which does not meet the minimum acceptable level. This is quite a serious problem for the library, which is, in essence, the professional information service entity of the university. Ratings by postgraduates and academic staff are below zero (0), thus below minimal acceptable level of quality of service in all five dimensions. A lack of adequate collections is felt most seriously by postgraduate students and a lack of professional expertise are experienced most seriously by academic staff.

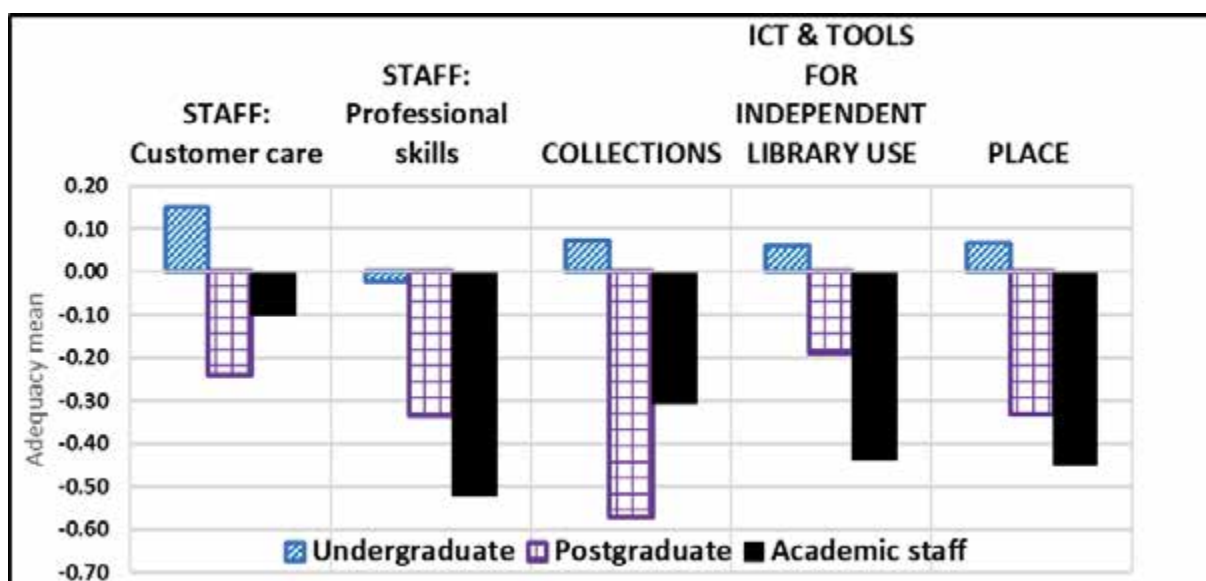


Figure 5: Satisfaction rating (adequacy mean) comparison between undergraduate students, postgraduate students and academic staff according to the 5-dimensional library service format (Questionnaire - see annexure 1).

The LibQUAL+ results were presented to library staff, management, academics, and students using a reformulated graphical representation formats in addition to radar charts. This approach proved fruitful and created a lot of discussions, including new information on specific problems as well as suggestions for improvements.

Findings were communicated to the UNAM academic communities through many platforms including relevant university committee meetings and consultative meetings at most campuses. Library staff meetings were organised to make sure that the results and action plans are known and internalised. Wider distribution of results, using the posters and social media, as motivation for participation in future surveys indicating that surveys have a real impact, was planned. The message that was to be communicated was: "This is what you asked, and this is what we did". In the end it was not carried out due to staff constraints.

IMPROVEMENTS BASED ON THE LIBQUAL+ SURVEY

LibQUAL+ survey results combined with the results of consultative engagements were developed into a detailed improvement plan Niskala et al. (2018, 105-122) which has been used as reference in the library's strategic plans since 2015. It was replaced with the self-improvement plan based on the results of the external quality review in 2019 University of Namibia library & CEQEM (2019).

Some of the plans were probably over-ambitious and have taken long to progress. An additional obstacle was created by the continuing national economic downturn since 2016, which has significantly reduced government's funding to the university. Following is a summary of improvements that have been implemented related to findings from the LibQUAL + surveys.

"AFFECT OF SERVICE": USER-ORIENTED SERVICE CULTURE AND PROFESSIONAL SKILLS

The 2014 LibQUAL+ survey found that the subject specialist services for academics and postgraduate students were seriously below satisfactory level. The library used benchmarking as a mechanism to learn from other institutions on skills needed for serving academics and postgraduate students. The Cardiff University and UNAM's Phoenix collaboration provided an opportunity for capacity building on information literacy

instructing and systematic reviews. Four library staff were also provided with an opportunity for professional internship at Cardiff University library from three to four weeks focusing on the collaborative development of new services. Both authors of this paper have been involved in the development of research support services, a new service area at UNAM library that is addressing the needs of both UNAM management and academics. A new position, a research support librarian, was established and filled in 2018.

The main intervention before the 2014 survey had been addressing the low rating in customer care, supported by very explicit qualitative data on lack of helpfulness by library staff, with customer care and emotional intelligence training reaching almost all library staff. This aspect clearly improved in the 2014 survey findings supported by observations on the ground. However, according to the observations and un-systematic interviews by the authors of this paper establishing a truly customer-oriented service culture throughout UNAM libraries remained a challenge.

“INFORMATION CONTROL”: COLLECTIONS

An analysis of the complaints about lack of textbooks revealed real gaps as well as weaknesses in the acquisition processes. These aspects have since been addressed followed by the prioritization of textbooks in acquisition processes. The library collection should now cover all titles mentioned in course outlines as prescribed textbooks. Collection Development Policy took the results and recommendations related to library resources from the LibQUAL+ surveys into account, providing an up-to-date user-focussed framework for collection development.

The indication about the lack of adequate electronic resources and journals was, upon further analyses, not compatible with UNAM's comparatively high quality of electronic resource subscriptions coverage and was interpreted to mostly reflect a lack of promotion and information literacy competencies in the use of changed provision of journals from print to electronic, both by academics and students. A technical problem was also rectified upon analysing the reasons for this result by changing the off-campus access mode which required that a user had to activate an e-proxy link by selecting “off campus” even if a user is on campus. This was especially a problem for the satellite campus. To address possible problems in the use of e-resources subject librarians have been encouraged to proactively approach lecturers and researchers to establish that they are aware and know how to use relevant resources. In relation to students, the library has started the formal process of incorporating into all curricula embedded information literacy (IL) instruction for first-year students and for both undergraduate and postgraduate students, who are starting their research projects, to replace the ever changing, negotiated and ad-hoc IL systems.

Discussion related to the dissatisfaction of academic staff related to library resources brought about the realization that it could take up to two years to receive library material from the suppliers. To address this, the library conducted a supplier performance assessment and established a defined delivery timeframe attached to an order together with an efficient claiming system after placing an order. These actions have sped up the ordering process by 50%, decreasing waiting for stock from an average of 6 months to a year to about two months.

“INFORMATION CONTROL”: ICT AND TOOLS FOR INDEPENDENT LIBRARY USES

Complaints concerning the photocopying, scanning and printing machines in the library across campuses were verified to be based on real problems that affected academic performance. This is an outsourced service at UNAM and the library took an active stand in direct high-level negotiations with the service provider. This resulted in an increased number of photocopying and printing facilities across campuses and improvements in the maintenance service. Scanning for students proved to be a technically solvable problem, one that the library management was not aware of before the survey. Deficiencies still exist, but new tenders for a service

provider, which is now in process, hopefully, will include and fulfil requirements presented by the library based on the customers' requirements of service quality.

Replacing out-of-lifespan public use computer stock took time due to financial constraints. In 2020 finally all UNAM libraries received new PCs for all library IT training rooms and public use computer areas. The quality and speed of internet connectivity have been improved significantly in all campuses. These improvements have been greatly supported by the evidence from the LibQUAL+ survey on the importance of the library ICT facilities to students.

“LIBRARY AS A PLACE”

In relation to space, the plans for new buildings and extensions with diversified areas for research and study had to be set aside due to national economic downturn affecting the university's funding deeply and, in essence, freezing most capital projects since 2016. Addressing increasing student numbers with additional study space was, however, provisionally addressed by moving shelving closure and securing a storage area so that no additional space would be needed while collection grows. The centralised print journal collection in the main campus was also significantly reduced to create space, although the support was not fully secured due to concerns about its historical value.

Conducive space for postgraduate students and researchers was addressed with very positive feedback from users by establishing modest but functional “Research Commons” facilities in two campuses. A dedicated “Research Commons” area is also in progress on a third campus.

Further analysis of the reasons for noise having been considered as a major problem leading to the realisation that collaborative work had become a common way of studying. UNAM library buildings consist of large halls with limited provision for discussion rooms. Coinciding with economic constraints, the situation proved to be challenging, but a functional solution was implemented in the multi-storey main campus building by zoning the floors to discussion and quiet study areas.

Library management agreed with students that the tradition of requiring users to leave their bags outside the library in diverse systems of bag counters contributed to security problems and was, in fact, very uncomfortable. The plan to change the system by improving security through CCTV camera systems with effective monitoring has taken long. One library has, since a few years ago, been covered with an effective CCTV system and allows users to bring along their bags. Two smaller libraries do that, anyway, trusting the small size of population. The main campus CCTV system was completed in 2020 – and negotiations with the university's security department continue to make arrangements to allow users to keep their bags when entering the library.

WHY DID UNAM DISCONTINUE USING LIBQUAL+

In the process of presenting the LIBQUAL+ data, it was clearly noticed that using a standardised scientifically recognised quality framework tool was highly regarded by the institutional management, especially the quality assurance and strategic planning units as well as other academic stakeholders. It provided a tool to get institutional support for actions recommended by the results of the survey. This aspect strongly supported the continuation of the use of the instrument as the main tool to assess library service quality. The results of the LibQUAL+ surveys were also acknowledged by the library management to be very informative and relevant.

It was apparent, however, that there was a problem understanding LibQUAL+ data and reporting formats and making use of them for management information and planning. It proved to be challenging and time-consuming. The main problem emerged, however, when presenting the results of the questionnaire. Only a

small core team in the library understood the methodology and the formats of the quantitative results in the ARL LibQUAL+ reports. This situation raised adversity amongst library staff and made it difficult to motivate them to act upon the results and to prepare for the planned next survey. It was a challenge to reformulate the results into a format that would be easy for the library staff and university management to understand without additional interpretation. As we could not find a suitable model from the literature, we ended up using graphical presentations replacing the radar charts and other tools in the ARL reports. This approach provided positive feedback but caused delays that challenged the impact of the survey as a quality assurance method. At the same time, the dearth of competencies to analyse the qualitative data led to additional substantial delays in presenting the results. That, of course, is not related to LibQUAL alone, but a customer satisfaction survey is required to include at least one open-ended question to ensure sure that unexpected issues can be raised.

After additional analytical work, adjusting reporting to more a familiar format of presentation and incorporating qualitative data meaningfully into reporting and consultations, the attitude towards the survey amongst the library staff changed to positive and there was real action in implementing the improvements based on the results. The follow-up process to write comprehensive base-line campus-based customer satisfaction reports based on the identified five-dimensional formulation of findings, however, proved to be too time-consuming for the limited number of staff, who had mastered the LibQUAL+ methodology. Only four detailed campus reports were completed.

When it was time to plan for the next survey for 2016, the mistrust in the tool was still profound amongst library staff and management. The discussions during the preparation of the next survey questioned the questionnaire: repetitions of questions, ambiguity and difficulties to interpret the questions in an environment where English is the second language. One of the areas of mistrust was, from the very beginning, whether the gab theory logic of rating the minimum, perceived and desired levels of service on a scale of 1-9, could be understood by respondents. The study by Natesan and Aerts (2016), to assess whether library users distinguish between minimum, perceived and desired levels of service quality supported the validity of this aspect of the LibQUAL instrument, but also indicated the need for further research. According to the interpretation of the library's LibQUAL team, practical evidence appeared to support the same interpretation, demonstrated by the fact how well especially the campus level detailed LibQUAL+ findings concurred with observations and information from other sources like un-official and official complaints and commendations and suggestion box comments. In the minds of the UNAM library LibQUAL team, comparing findings with practical experience and observations translated to trust in the instrument.

However, even with general recognition of the informative value of the results, main contra-arguments continued about the overall challenge of understanding the survey methodology and understanding and communicating the survey results.

The additional factor, which might have been overcome if there was general support for continuation, was the cost of the survey instrument. LibQUAL+ requires an annual membership fee, which was reasonable, but the cost increased significantly when a multi-campus university like UNAM required 12-13 campus-specific reports. The 13th report would be to combine data that reflect the service quality in the regional centres to make the findings meaningful by indicating significant differences between campuses.

These challenges resulted in the decision to discontinue using LibQUAL+ as a library service quality assessment instrument in 2016. It was to be replaced with a customised survey instrument that would be easier to manage, focusing on locally relevant issues. The library's management opted for developing and employing a Likert scale, customised customer satisfaction survey. It was agreed that in developing the localised survey scientific research on dimension that form the content for library satisfaction would be used and the survey would be formulated based on dimensions identified in the LibQUAL research as components of library satisfaction: staff (customer care and professional skills and services); library resources; ICT applications

and tools to support independent library use as well as space/physical facilities. The key problem that would be overcome this way would be time and human resource constraints and that survey results would be presented as management and information source much sooner and without need for additional time-consuming interpretation.

UNAM LIBRARY'S CUSTOMISED CUSTOMER SATISFACTION SURVEY

The pilot questionnaire for a localised customer satisfaction survey was developed by a team of the library's User Services Department and administrated as a web-based survey in 2017 and 2018. Main dimensions learned from the LibQUAL literature and problematic areas as found during earlier surveys of LibQUAL by UNAM formed the basis for the questionnaire. The formulation and principles of how to incorporate and weigh dimensions identified by LibQUAL development and other related studies proved to be challenging. While the benchmarking results from the 2014 LibQUAL+ survey were recognized as very informative and reliable, the results from the customized pilot surveys did not manage to provide comparable data to measure the changes when compared to the baseline. Additional problems were that the response rates in these surveys were too low especially at the campus level, to be considered representative. The experiment was repeated the following year but not continued after that.

Lack of a specific library quality assurance tool posed a serious problem due to the fact that customer satisfaction rating is used as the key indicator of service quality in the institutional balance scorecard to monitor strategic planning at UNAM. The library is required to provide satisfaction ratings for the internal stakeholders of the academic community as evidence of its contribution to the strategic objectives of the university. After discontinuing to conduct customer satisfaction surveys, the library has settled on a few library focussed questions in the annual institutional stakeholder satisfaction survey.

WHAT ELSE HAS UNAM LIBRARY DONE TO ASSESS QUALITY?

The UNAM library has after LibQUAL surveys been part and applied other quality assurance methods used by higher education institutions observed to be important to maintain relevance, identify service gaps and address user needs.

LIBRARY AND THE ACCREDITATION OF PROGRAMMES AT UNAM

UNAM library plays an integral role in the programme accreditations and reviews. Although the national higher education accreditation agency, the National Council for Higher Education, does not set specific criteria of what is expected from the library, usually the library provides a detailed report of what that library has in its collections, facilities and services, which presents an opportunity to identify gaps in the collections and services required for the specific programmes. Through this process, the library gets input concerning gaps in resource and services in specific subject fields and addresses them as part of an accreditation review report monitoring process.

QUALITY REVIEW AND BENCHMARKING

While recognizing the informative nature and strategic importance of the customer satisfaction survey, the UNAM library has also identified and succeeded in using other tools to identify and measure quality aspects, especially in areas where measuring customer perceptions does not appear to be successful.

Under the leadership of the UNAM Centre of Quality Assurance and Management (CEQUAM), the library underwent a full-scale Quality Review by an external panel in 2018. The review was carried out by a panel comprised of both national and international experts in all aspects of library management and service, including library services, procedures and administration, library ICT solutions and archives and records management. The panel concluded, that in general both academic staff and university management,

expressed satisfaction with the library's services and operations. The review noted, however, that satisfaction reflects traditional library services, while there appear to be lack of flexibility and innovativeness in addressing new emerging service and skills areas. Specifically mentioned were the needs to develop research support services, bibliometric skills and address issues like research impact evaluation and the improvement of records management by urgently introducing an electronic records management system. Other key issues identified included the need to review the library's staffing structure to reflect the changes in the higher education environment and the trends in academic libraries. Improved academic qualifications of library assistant-level staff is also not reflected as more professional job content and description. The need to improve the library's digital presence and the extension and transformation of library facilities to reflect increasing student numbers as well as the changing learning, teaching and research modalities were also identified. The importance of the quality review proved to be, in essence, the identification of requirements to respond to new trends in the higher education environment, scholarly publishing, research evaluation and funding and academic library development, which do not come about in customer satisfaction surveys, which by their nature reflect problems in the existing reality.

The library, in collaboration with CEQUAM, developed a 3 to 10-year self-improvement plan based on the results of the Quality Review, which has now become the main point of reference for strategic planning. It incorporates the previous results of customer satisfaction surveys as part of sources of information for the Quality Review. (University of Namibia and CEQUEM 2018; University of Namibia Library and CEQUEM 2019).

In the process of practical implementation of the Quality Review findings, the library management realised that while the review identifies needs for new service and operational areas, it does not provide practical tools on how to implement them. The viable next steps appeared to be benchmarking visits as well the continuation of international collaboration to share and learn from the experiences of other libraries and to be able to implement key service issues identified in the library quality review. The benchmark learning and capacity development programme was organised with three universities in South Africa: the University of Cape Town, Stellenbosch University and Cape Peninsula University of Technology. The benchmarking focused on the following areas: research data management, digitization processes and infrastructure, institutional repository workflow and impact tracking, bibliometric analysis and research performance and impact analysis, research trends analysis and tools, library publishing services and research support services. The key impact of the benchmarking is that the UNAM library, in collaboration with the University of Cape Town library, established a publishing platform for UNAM published journals using the experiences gained from benchmarking, followed by locally relevant new solutions and capacity building programmes.

CONCLUSION

The purpose of the paper was to analyse and describe library quality assurance processes employed at the University of Namibia, with the focus on the use of LibQUAL+, an internationally recognised standardised tool to measure service quality in libraries.

LibQUAL+ proved to be a reliable tool that can provide very informative comprehensive data that can be used to inform strategic decisions, policy development and resource allocations. Our observations corroborate with the conclusions made by Dahan et al. (2016) and Lange, Miller-Nesbitt and Severson (2016) that LibQUAL provided meaningful findings used to implement strategic improvements and inform policy development. However, it was also observed that findings of customer satisfaction surveys like LibQUAL+ cannot be used as the only tool to measure the quality of services. Qualitative measures such as focus group discussions, quality reviews by external panels of experts and academic programme accreditation reviews should be used to provide data that cannot be collected from surveys. We observed that the LibQUAL+ survey could not be used as the only means of measuring service quality as based on customer views on existing services it does not provide data on new trending issues in HEIs and librarianship. Our conclusion further corroborates with the recommendation made by Atkinson (2017) that reliable library service quality data is important for

strategic planning, change management and leadership. It is also evident from our experience that a key aspect to succeed in quality assessment is the research capacity of the library, having competencies and provision of time to conduct evidence-based research, analyse data and write and share research reports.

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Appendix 1: UNAM Library LibQUAL 2014 questionnaire: Core and local questions

Affect of service		Re-formulated dimension
1	Library staff who instill confidence in users	Customer care: User oriented service culture
2	Giving users individual attention	
3	Library staff who are consistently courteous	
4	Readiness to respond to users' enquiries	
5	Library staff who deal with users in a caring fashion	
6	Willingness to help users	
7	Dependability in handling users' service problems	
8	Library staff who have the knowledge to answer user questions	Professional skills and competencies
9	Library staff who understand the needs of their users	
Information control		
1	The printed library materials I need for my work	Collections
2	The electronic information resources I need	
3	Print and/or electronic journal collections I require for my work	
4	Making electronic resources accessible from my home or office	ICT & support for independent library use
5	A library Web site enabling me to locate information on my own	
6	Modern equipment that lets me easily access needed information	
7	Easy-to-use access tools that allow me to find things on my own	
8	Making information easily accessible for independent use	
Library as a place		
1	Library space that inspires study and learning	Library as a place
2	Quiet space for individual work	
3	A comfortable and inviting location	
4	A haven for study, learning, or research	
5	Space for group learning and group study	
Additional local questions		
1	Availability of subject specialist assistance	Professional skills
2	Access to archives, special collections	Collections
3	Efficient interlibrary loan / document delivery	Collections
4	Helpfulness in dealing with users' IT problems	ICT & support for independent library use
5	Providing me with the printing/ photocopying/ scanning technology I need for my work or study	

MONITORING AND EVALUATION OF PUBLIC LIBRARIES: A CASE OF PUBLIC LIBRARIES IN NAMIBIA

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ABSTRACT: *This paper looks at the monitoring and evaluation of public libraries and examines a case of public libraries in Namibia regarding measuring the impact and identifying service gaps and the relevance of public libraries in the communities they serve. The study focus was on public libraries' impact on individuals, communities and social development. A survey was employed to collect data from respondents. Data was collected through hard copies and online questionnaires, to determine the effectiveness of library services. The findings reveal that libraries provide patrons with assistance regarding several activities, such as job applications and developing their CV writing skills, libraries assist learners with their homework, and offer ICT-related services.*

KEYWORDS: *public libraries, ISO 16439, impact, evaluation.*

INTRODUCTION

Public libraries are under increasing pressure by users to create, demonstrate and present value to society, so that community members visualise public libraries at the intersection of vibrant communities and a strong democracy. In the library context, the Lyon Declaration IFLA (2014) identifies marginalised groups being the dominant users of public libraries, which should present activities, provide information, and develop literacy and other basic skills. Now, more than ever before, libraries are urged to shift away from providing services at the library, and rather focus on the impact of such services on community members. This has become important for libraries, because, as contributors to national development, libraries need to offer services and programmes that can benefit and change people's lives. Therefore, measuring the impact of libraries on communities has become an emerging field for public libraries in Namibia.

PUBLIC LIBRARIES IN NAMIBIA

Namibia Library and Archive Service (NLAS) is the custodian of a public library network of 62 public libraries and three regional libraries. National norms and standards have been introduced in public libraries, however, little information regarding performance and impact assessment exists to determine the effectiveness and efficiency of public libraries in the country. At a national level, NLAS collects monthly statistics from all public libraries. In addition, detailed reports of annual statistics are compiled for the Ministry of Education, Arts and Culture. Both methods capture sufficient information on the real impact of activities and programming of public libraries.

Since independence in 1990, the Ministry of Education, Arts and Culture, through the Directorate of NLAS, has made concerted efforts to build or refurbish libraries in economically disadvantaged communities, with the main purpose of providing access to information, creating a culture of reading, and providing access to equitable information and services – free of charge – such as scanning, lending of books and access to electronic devices and the internet. Photocopying, faxing, emailing and other services are offered at minimal cost to community members. Public libraries serve as information hubs, with the aim of improving the level of knowledge and skills, and the livelihoods, of community members, therefore, it has become important for libraries to select and organise needs-based resources and materials that meet user requirements. Libraries in Namibia also support cultural and social activities, clubs, youth forums and groups for the elderly

through the services and programmes they offer, like homework helper, writing clubs, short-story writing, chess competitions and Girl Guides, which are programmes that can enhance the lives of youngsters in communities. Farmers, health workers and small business enterprises are empowered with knowledge and skills to advance their professional status through information communication technology (ICT) training.

Community members value the library as a place that offers a space to find joy and personal growth through learning and expert assistance, relevant resources and research tools, content sharing and creation, and cultural enrichment, thus, the future of public libraries should not only reflect the diversity of its communities, but libraries should also become leaders of practicing inclusion at all levels.

The importance of libraries is reflected in the Lyon Declaration on Access to Information and development, which emphasises that “Access to information supports development by empowering people, especially marginalised people and those living in poverty” IFLA (2014). This statement emphasises how important it has become to demonstrate the value of libraries to communities. Consequently, it has become necessary for libraries to enrich the cultural identity and expression of community members, and now, more than ever, libraries must ensure accountability, transparency, participation and skills development of staff members and community members.

THE PURPOSE OF THE EVALUATION

NLAS envisions a future in which public libraries serve as the intersection of vibrant communities and a strong democracy. This can only be realised if the ever-expanding value of public libraries is acknowledged and accepted. The following objectives are set for public libraries:

- To strengthen and enhance their contributions to communities;
- To define and support the transition of public libraries, so that they are more responsive to and reflective of community needs;
- To provide learning opportunities for community members, especially the youth and entrepreneurs;
- To increase awareness and the effectiveness of public libraries through advocacy by using manuals/ guidelines to create new tools in support of future advocacy efforts; and
- To promote continuous professional development for effective and efficient service delivery in libraries.

Library statistics that are collected as indicators of development and that may be used to achieve aspects of impact include the number of registered users, the number of ICT users, and usage and user statistics, measured over time. Statistics may show whether and how frequently particular individuals visit the library and access electronic resources or attend training sessions. When the numbers of users increase, it might be deduced that value or impact is being derived from these activities.

Information literacy is defined by ISO 16439 (ISO 2014, 50) as,

more wide-ranging than knowing how to use a library, but an aspect of lifelong learning that refers to attributes of people who are able to find, assess and use information wherever it may be located. This includes the skills for using information technology to access and retrieve information.

Information literacy is one of the commonest ways libraries can make an observable impact on the knowledge or competencies of users. In order to determine the impact, ISO 16439 (2014) recommends that tests, whether standardised or designed for a specific purpose, should be done before and after any training that is presented, to establish whether a measurable difference in knowledge or skill has been achieved.

IMPACT ASSESSMENT METHODOLOGY

Objectives of assessment

The scope of this paper is to discuss the link between planned activities and outputs and direct outcomes related to increasing access to information and knowledge, thereby assisting to eradicate poverty, as set out in the United Nations' Sustainable Development Goals. The paper will also give an indication of the benefits of the services and programmes offered by libraries that could bring about change and enrich people's lives, and help to encourage interventions that teach learners and youth community member's new skills and techniques for finding, evaluating and using information, to improve learning and personal development. These library services can contribute to fighting poverty and inequality in communities.

Surveys and questionnaires are the preferred method of assessing the impact of library services. This information was gathered through hard copies and online, and the data gathered was used to determine the effectiveness of library services. The survey contained a series of specially designed questions, with the aim of eliciting responses from respondents in relation to the benefits they received as a result of visiting the library. The questions were designed to cover the following areas:

- How do users acquire information, skills and knowledge?
- How is their work, learning and study supported?
- What are the benefits of the quiet, safe and comfortable place, where patrons can meet and communicate with others?
- What are the most popular services that are used in public libraries?

Best practices in monitoring and evaluation advise a focus on impact, rather than outcomes. Similarly, the modern library should not assess its value based on the number of services provided or the number of people who walk through the doors, but rather investigate the true, long-term, substantive impact the library has on the lives and livelihoods of community members Lipton (2012). Impact assessment theory is valuable for measuring the performance of public libraries worldwide Streatfield and Markless (2009a, 2009b); Huysmans and Oomes (2013); IFLA (2014).

ISO 16439 (2014, 13) defines the library's impact as "the influence of libraries and their services on individuals and/ or on society". Impact may be experienced by individuals or by the community at large ISO (2014, 14).

Effects of library impact

The impact of libraries can be divided into three main areas:

- a) Impact on the individual;
- b) Impact on the community; and
- c) Social impact.

For all three areas, the impact concerns change in individuals, groups of people, and society, and can generate economic value.

Impact on the individual

In many cases, it is the physical provision of resources and services that user's value in libraries. These resources and services could be those that are excessively expensive or unobtainable for many Namibians, such as internet access, computers, assistance in finding or applying for jobs, and a safe, quiet space. Public libraries offer a wide range of services, which include books and materials for recreational reading, reference books, study material and homework assistance for learners.

People do not always realise the role libraries play in stimulating local economies. Though patrons do not pay for library services, libraries play a key role in providing free internet, a workspace for telecommuters, assistance for people looking for employment opportunities, and even career and interview training. According to a survey done in Namibia, all 20 piloted libraries indicated that libraries assist their patrons with job applications and developing their CV writing skills, and assist learners with their homework. ICT facilities enable users to access information, print documents and receive and send documents electronically. One example provided by the survey is that patrons were assisted with the drafting, completing and sending of application forms for job vacancies, within a short space of time.

Other benefits the library provides relate to the social connection that is created between the visitor and the information professional, as well as other community members. This indicates that libraries are making a difference on the level of social cohesion.

Through the reading programme, many learners have learnt how to read with understanding and fluency. These programmes and services are seen as complementing collections and enabling library services to target specific groups to improve their social wellbeing. These activities include storytelling by elderly members of the community, spelling bee competitions, reading programmes, and cultural games that contribute to mental welfare and development. Libraries play an important role in developing a reading culture amongst Namibian children. Public libraries provide learners with the opportunity to immerse themselves in books, audiobooks and online resources. Every year, public libraries and school libraries address the issue of reading during an annual Readathon. According to statistics, more learners participate in this event every year. Teachers share success stories related to the value of the support librarians and public libraries in Namibia provide. A primary school teacher testified thus about the life-changing scenarios that libraries are valued for:

In a class of 40–45 learners, it is very difficult to attend to each and every learner and having so many slow learners in one class makes it impossible to attend to all. One particular learner could not read at all and was struggling to recognise the simplest words. The learner joined the library and during the course of the year her reading skills improved tremendously and she passed her grade with an average C Symbol.

The impact of public libraries on individuals is demonstrated by improvements in people's skills and competencies, changes in their attitudes and behaviour, increased success in their studies, or in research activities and output, and possibly also in enhanced career prospects and improvements in individual wellbeing.

At present, 40 public libraries in Namibia offer basic ICT training to community members so that they can improve their ICT skills. ICT services in libraries empower people, and can unlock a world of super-fast globalised communication and information networks. The question is, however, whether technology and ICT skills can solve the problem of poverty? Development requires a multi-layered approach that enables people to access their rights through influencing policy makers, and developing new methodology, tools and resources. Information and communication are at the heart of the process. People gain power through information, and effective communication can be seen as the key that can enable people to become more active participants in the development of their communities. Libraries have a collection of success stories about unemployed youth who joined the library for basic ICT training and, after training, establishing their own small businesses, or were appointed in promotional positions. These stories testify about the impact of such training on personal development. Entrepreneurs continue making use of the library, as a benchmark for their businesses.

Impact on the public library/community

Public libraries are essential components of communities. They provide not only books and banks of computers, but are still places where individuals gather to explore, interact, empower themselves and visualise. As front-line institutions that address the needs of and focus on a wide range of populations with particular needs, including seniors, veterans, and immigrants, and homeless, poor and illiterate members of society, the social impacts of libraries are mainly regarded as a function of public libraries. These impacts include increased experience of social inclusion and cohesion; participation in information and education, for example, free access to information; free internet access; support in education; increased awareness of local cultures (for example, through exhibitions) and the acknowledgement of cultural diversity. Libraries are esteemed providers of literature and sources of the printed word, which has the power to shape culture into transformation. Libraries countrywide connect people with ideas. Handicrafts, such as needlework, crochet, cooking, and knitting, and book discussions are well-known activities that bring users together to share their learning processes and moments of triumph.

Social impact

Many families and teachers rely on the library, as a partner, to provide important preschool reading and learning. Libraries cater for people with special needs and support them in developing a sense of equity and access. Libraries participate in providing information and education through early literacy services that contribute to long-term economic success. Libraries have expanded beyond their traditional story-time services, and are engaging in high-impact strategies with community partners. The support libraries provide through information on local culture and history, via exhibitions and trade fairs, is valued by communities.

Mobile library services are implemented by three regional libraries, to develop and improve the quality of life of citizens in remote areas. Mobile services involve a suitably equipped and reinforced vehicle/bus that visits schools and designated community points on a regular schedule with a resource collection that may be borrowed by learners, teachers, and community members. Users may access the internet free of charge during visits.

Libraries support cultural diversity among community members, by encouraging them to maintain their cultural heritage. Regular displays, role playing and games with children of different cultures are popular events that showcase the impact of libraries on society. These activities, in return, ensure that children know their past, experience their present moments and know where they are going.

RECOMMENDATIONS

- Access to knowledge by visually impaired Namibians, and the role libraries can play, should be investigated. It will be essential to obtain information from a representative sample of community members. Special sensitivity will be required, since obtaining such information can be mistaken as discrimination. These participants could be invited to participate in investigations about their perceptions of the usefulness of the library.
- Needs assessments have to take into account future projections relating to the most disadvantaged communities, which have few or no resources? This measurement will blend in with the vision of libraries on equitable access to information for all regardless of status, education, race or religion. Users travel long distances to access information and other resources. Mobile library services are limited because of financial constraints, but they need to be reorganised to provide sufficient services.
- Public libraries have an urgent need for technical support from regional technicians.
- The evaluation results confirm that public libraries are optimally used for seeking information, to borrow books and access internet and ICT programs. However, opening hours are not sufficient. Patrons want to visit libraries at more convenient times. The assessment recommends giving special consideration to opening later in the day – mornings are not particularly busy – and staying open a little later, to improve access.

In this rapidly changing digital era, public libraries must contribute to changing communities; if they do not, then they are not doing the work they are supposed to do. That is why librarians need to take up the initiative to strengthen and empower communities and support the cultural lives of members of society.

CONCLUSION

Library services positively influence the skills and competencies, attitudes and behaviour of library users. The benefits that community members experience from using library services can be assessed in terms of knowledge gained, improved information literacy, academic or professional success, social inclusion and increases in individual wellbeing. Libraries facilitate development, not only by honouring people's right to information, but because they offer space, access to ICT and a connection with and access to cultural heritages.

ISO 16439 is a useful tool for suggesting approaches to doing impact assessments and it has demonstrated that it can serve as a guide to finding objective evidence on how to ensure that users are fully utilising and accessing information and other learning resources in public libraries. To quote a library user: "Libraries are safe havens to explore the world through the eyes of a book".

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THE IMPACT OF BASIC ICT SKILLS TRAINING ON THE LIVELIHOOD OF COMMUNITY MEMBERS: A CASE STUDY OF OSHANA REGIONAL LIBRARY

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ABSTRACT: One of the national strategic initiatives of the Library and Information Sector in Namibia for 2011 was for community libraries to offer information and communication technology (ICT) literacy training for community members. This plan became a reality in 2012 through the Libraries for Development project, which was the result of development cooperation between Finland and libraries in Namibia and Tanzania and ran from 2012 to 2014. The main purpose of the project was to contribute to poverty reduction strategies of the partner countries, in line with the United Nations Millennium Development Goals. The objectives of the project were to create a sustainable model for ICT access through community/public libraries; to build capacity of library personnel through training in ICT skills; and to empower library personnel to teach community members basic ICT skills. The project targeted members of the general public, particularly out-of-school and unemployed youth, owners of small and medium enterprises (SMEs), health workers and farmers. Oshana Regional Library started to offer basic ICT training to community members in August 2014, and this training continues to date; the library had trained 2 273 community members by March 2019. This study was conducted to investigate and determine the impact made by ICT training on the livelihoods of library ICT training graduates. An online survey guided by a problem statement and three sub-questions was conducted. The study revealed commendable impacts by the training on the livelihoods of the graduates, who varied from individual community members to owners of SMEs. The findings also show that 89% of the graduates attained general livelihood changes after attending the ICT training at Oshana Regional Library.

KEYWORDS: information communication and technology skills, social impact, livelihood, community members, basic information communication and technology training.

INTRODUCTION

Oshana Regional Library started offering basic information and communication technology (ICT) training in August 2014, as part of the Libraries for Development project initiative, which was part of development cooperation between Finland and Namibian and Tanzanian libraries, and which ran from 2012 to 2014. Today, individual libraries, including Oshana Regional Library, still present this type of training. The main purpose of the project was supporting poverty reduction strategies of the partner countries, in line with the United Nations Millennium Development Goals. According to Mchombu (2015, 4),

the objectives of the project were: to create a sustainable model for ICT access through community/public libraries; to build the capacity of library personnel through training in ICT skills; to empower library personnel to teach basic ICT skills to community members.

The project target groups were the general public, particularly out-of-school and unemployed youth, owners of small and medium enterprises (SMEs), health workers and farmers.

In Namibia, general community members were trained, and they continue to be trained, though there is a special focus on end-user groups, namely, entrepreneurs involved in SMEs, women and unemployed youth.

Currently, this type of training seeks to achieve Sustainable Development Goals (SDGs), particularly goals 1 and 5. Hence, in addition to providing basic ICT training, the Oshana Regional Library conducts and facilitates ICT training sessions that are tailor-made for SMEs, and the majority of the beneficiaries are women and unemployed youth.

SDG 1 relates to ending poverty in all its forms, everywhere, while SDG 5 advocates for the achievement of gender equality and empowering all women and girls United Nations (2019a; 2019b). In the context of this study, the ICT training offered by the Oshana Regional Library could impart ICT skills to youth and women, to enable them to be employed or start businesses, and improve their livelihoods.

PROBLEM STATEMENT

By March 2019, Oshana Regional Library had trained a total of 2 273 community members in basic ICT skills, of whom 1 707 were women and 566 were men, quite a large number, which the library lists as an achievement. However, the question remains: What impact does the training have on the livelihoods of community members?

The survey results by Mchombu (2015, 5–6) on the impact of ICT training on community members reports some notable general impacts on SMEs and youth. However, these general findings applied to the whole of Namibia, and referred to the period soon after the implementation of the ICT training at Oshana Regional Library.

Based on this background, this study was conducted to investigate and determine the impact of the ICT training offered by Oshana Regional Library on individual graduates' livelihoods.

The questions explored during this study were the following:

1. How did the ICT training affect the livelihoods of the trained SME owners, women and unemployed youth?
2. What value did the ICT training add to inputs and outputs of individual SMEs?
3. What other effects of the ICT training directly or indirectly benefit the unemployed youth's personal development and livelihoods?

LITERATURE REVIEW

The researcher identified very limited literature on the specific topic of this study, which focuses on Namibia-related key sources.

The Libraries for Development impacts assessment survey conducted by Mchombu (2015, 6) assessed the impact of ICT training on community members, in Namibia, and reveals the following: of SME owners, 24% indicated that, after the training, their businesses improved; 54% of youth indicated that, after the ICT training, they were able to search for information on education independently – 39% searched for health information and 14% for governance and civics-related information. Mchombu also points out that 92% of the respondents indicated that their ICT skills had improved.

Mcharazo et al. (2017, 8), in their evaluation report about the impact of the Libraries for Development project, indicate that the majority of the beneficiaries of the ICT training confirmed that the training had improved their chances of being employed and, in Namibia, 27% of these beneficiaries started further education after training.

In Namibia, an SME is described as a “sector of business organisations composed of small business enterprises with full-time employees ranging from 6 to 100 employees” Kambwale, Chisoro, and Karodia (2015, 82).

Ogbokor and Ngeendipi (2012, 5–7) indicate that SMEs play a major role in the economy of Namibia, because SMEs provide employment, contribute to the transition of agriculture-led economies, and add value to the country's gross domestic product (GDP). In Namibia in 2005, the contribution of SMEs to the GDP stood at 12% and the contribution to employment at 20% Stork (2010, 14).

ICT is regarded as a crucial enabler for achieving the SDGs, particularly in low-income countries. For example, ICT can help to end poverty by providing possibilities to improve the productivity of millions of people, so that they can provide for themselves and their families better. ICT can enhance gender equality and empower women, by giving women and girls access to information that is of importance to their productivity Earth Institute and Ericson (2016, 17–18).

According to the MDR/NIDA consultancy report of 2011, which is based on the Namibia Library and Information Sector strategic assessment study, one of the national strategies of libraries in Namibia is the concept of “one-stop service libraries”, which advocate ICT literacy for community members in order to support the development of ICT skills MDR/NIDA (2011). This envisaged dream of the Library and Information Sector in Namibia has become a reality through regional libraries, of which Oshana Regional Library is one that offers basic ICT training to community members. What remains is to assess the impact of this noble practice.

RESEARCH METHODOLOGY

The study was a qualitative survey conducted online through a Google Form-designed, self-administered questionnaire.

The targeted population was 150 library ICT training graduates who had attended the ICT training at Oshana Regional Library from August 2014 to March 2019, and for whom we had email addresses. The research targets were randomly selected from the list of 300 email addresses obtained from the Oshana Regional Library's email address list, oshanalibraryict@gmail.com, to which graduates also submitted their final test results. A quota sampling method was applied to end with 150 email addresses, to which the questionnaire was sent; each year from 2014 to 2019 was represented by 25 email addresses.

FINDINGS

Response rate

Response or return rate refers to “the number of people participating in a survey divided by the number of selected in the sample, in the form of a percentage”, or the percentages of questionnaires sent out that are returned Babbie (2011, 261).

The study produced a low return rate of 25%, possibly because of limitations related to time and access to the internet, and because ICT graduates did not all have smartphones. Only 37 questionnaires, out of the 150 that had been sent to the target population, were returned. The researcher termed the return rate of this study as satisfactory. According to Fryrear, (2015), “generally, the external surveys receive on average 10–15% response rate as compared to an average of 30–40% or more response rate for internal surveys”. The response rate may be lowered by influencing factors, such as using unreliable contact information, a population that is seldom targeted for research or little incentive to respond.

Survey results and analysis

Demographics of respondents

The majority of respondents were women, as 24 of the 37 questionnaires completed and returned were from women and 13 were from male respondents. Eighty-nine per cent of the respondents were youth, because 33 of the 37 respondents were aged between 20 and 35 years, 2 were teenagers (17–20 years) and 2 were young adults (35–45 years). No respondents were older than 45 years.

Twelve of the respondents were students, another 12 were employed, nine were self-employed (SMEs), three were unemployed and one was a learner. Table 1 summarises the demographics of the respondents.

Table 1: Demographics of respondents

Demographic factor		No.
Gender	Male	24
	Female	13
Age	17–20 years	2
	20–25 years	14
	25–30 years	11
	30–35 years	8
	35–45 years	2
	Older than 45 years	0
Occupation	Learners	1
	Students	12
	Unemployed	3
	Employed	12
	Self-employed	9
TOTAL		37

Value of basic ICT Training to SMEs

Section B of the study questionnaire enquired about the value of the basic ICT training for SME inputs and outputs. The two questions of the section were meant to be answered only by owners of SMEs who had attended the ICT training.

Question 1 of this section was formulated to assess the level of ICT skills improvement of the respondents in six listed aspects of individual SME business inputs, namely, *downloading of online forms (e.g. SME certification), designing and printing of quotations and invoices, designing and printing of promotional flyers and posters, sending business communication through email, usage of MS Excel formulas for business calculations and marketing the business on social media*. The answer options were four-point intervals of a Likert scale, which were significantly improved, improved, somewhat improved and not improved.

On average, 56% of the respondents this section indicated that there had been a significant improvement in their ICT business inputs (listed as six aspects in question 1 of section B) after attending the basic ICT training at Oshana Regional Library. In total 67% of the respondents indicated that their business inputs had improved, none of the respondents selected the option “not improved”, for any of the six aspects listed. Figure 1 presents the results of Question 1 of Section B.

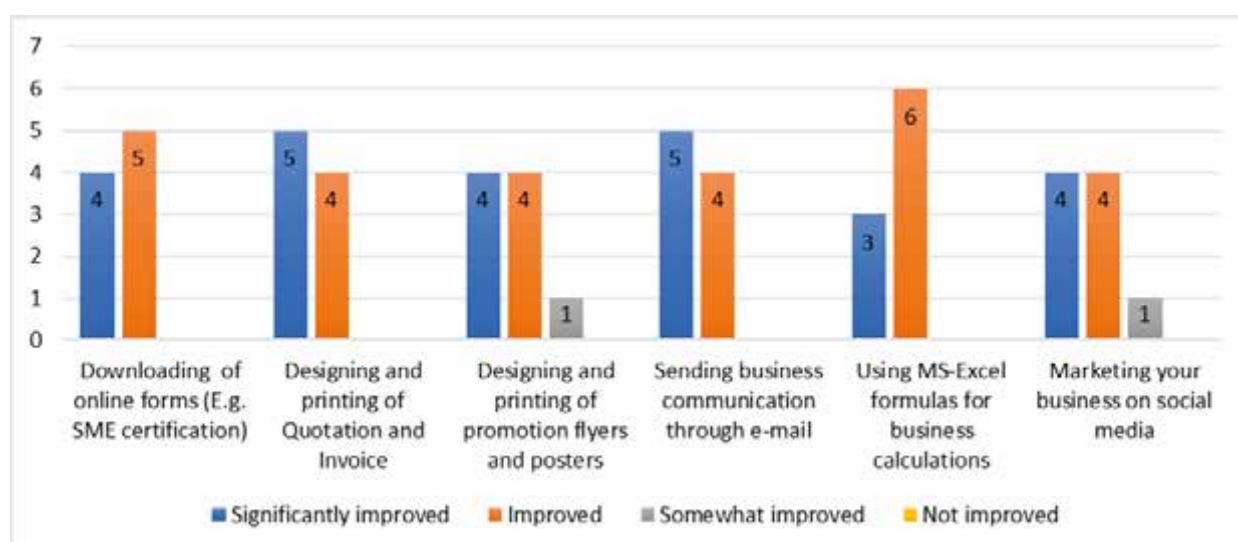


Figure 1: Level of ICT skills improvement on SME business input

Effects of basic ICT training on SME business outputs

Question 2 of Section B of the questionnaire required the respondents to indicate which of the three listed business outputs of their respective businesses increased after attending basic ICT training at Oshana Regional Library. Respondents were also given the option to indicate, if applicable, other outputs that were not listed. The listed business outputs were *profit*, *revenue* and *customer referrals*. The question was designed to allow respondents to choose more than one output, and 17 respondents answered this question.

Revenue is defined as the income that a company generates before any expenses are deducted, while profit is a net income on the income statement Boyte-White (2019).

Half (50%) of respondents to this question indicated that their profit increased after they had attended the ICT training, 31% recorded an increase in customer referrals, and 19% reported that their revenue had increased. No respondent selected the “others” option.

The Table 2 represents a summary of respondents who were entrepreneurs to Question 2 of Section B.

Table 2: The effects of basic ICT training on SME business outputs

Business outputs	Number of entrepreneurs
Profit increased	9
Increase in customer referrals	5
Revenue increased	3
Other benefits	0
TOTAL	17

General impacts of ICT training on the livelihoods of graduates

Section C of the questionnaire had three questions to assess the general impacts of the ICT training on the livelihoods of the graduates of the Oshana Regional Library free basic ICT training.

Question 1 asked respondents to indicate whether they *strongly agree*, *agree*, *disagree* or *strongly disagree* with the four listed statements in Figure 3.

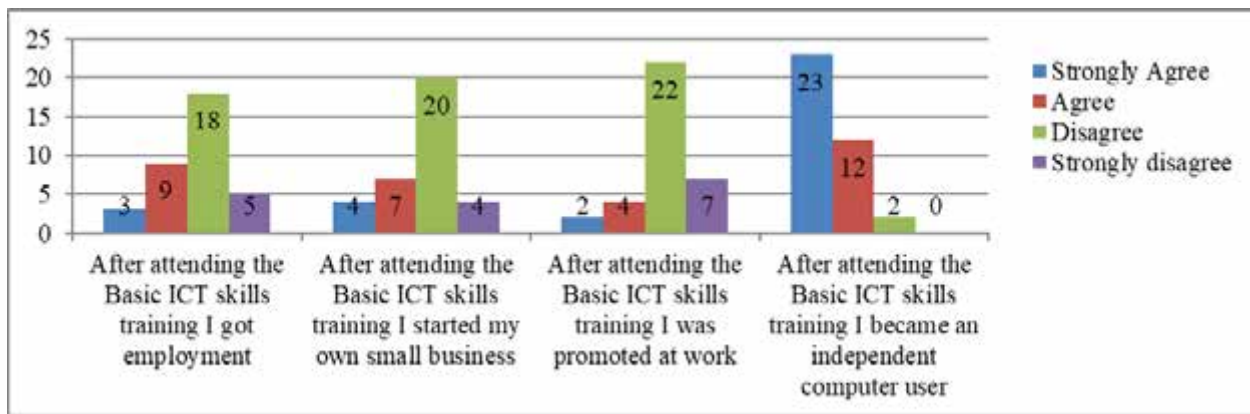


Figure 2: Livelihood changes of respondents after basic ICT skills training (n=37)

Question 2 of Section C was formulated to assess how well the individual ICT graduates learned the five different ICT applications offered by Oshana Regional Library. These ICT applications are *MS Word*, *MS Excel*, *MS PowerPoint*, *Social Networking*, and *Internet and email*. The respondents were required to indicate their individual skill levels after the training on a five-point Likert scale, namely, *excellent*, *good*, *fair*, *poor* and *very poor*. Figure 4 summarises the responses of the respondents to Question 2.

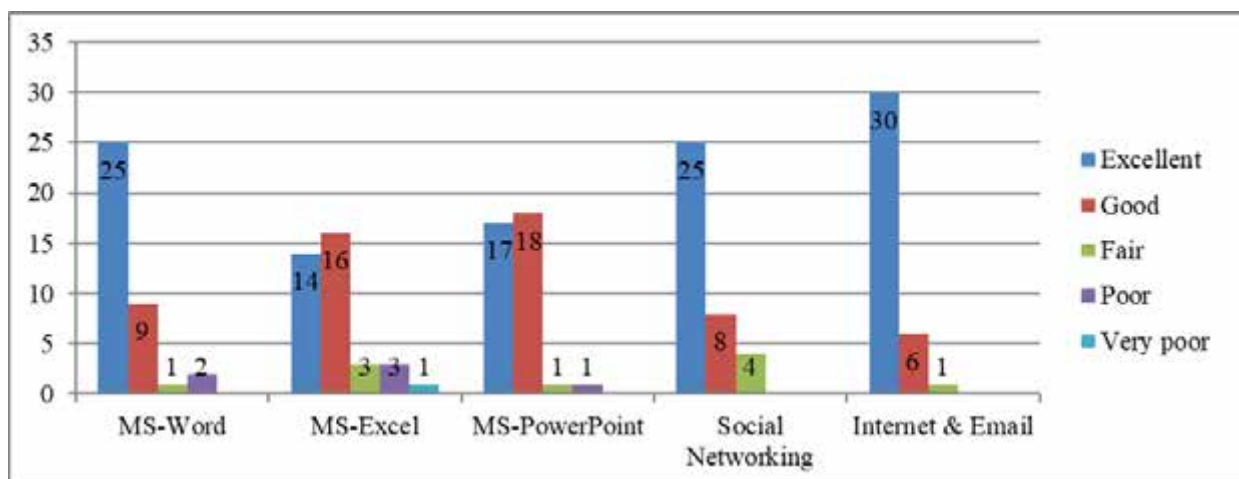


Figure 3: Respondents' current level of skills in the trained ICT applications (n=37)

Question 3 of this section was an open-ended question formulated to assess the general impact of the ICT training on the lives of individual basic ICT graduates. The respondents had to indicate 'yes' or 'no' for changes, and if the answer was yes, they could describe the specific change/s they had experienced. The "yes" option was chosen by 89% (33) of respondents; some of the changes they specified are below. Only four respondents said "no". The pie chart in Figure 5 shows the proportion of respondents that indicated that their lives had been impacted by the basic ICT training course.

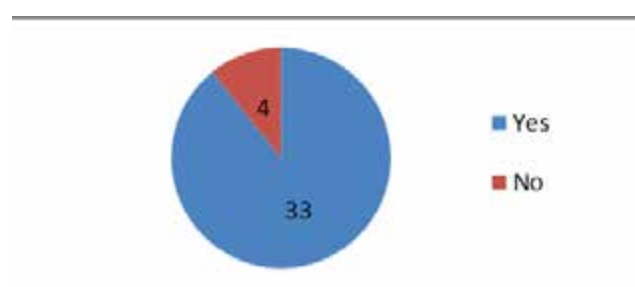


Figure 4: Question 3: Whether respondents' lives had been impacted by basic ICT training (n=37)

The general changes specified by the 33 respondents vary widely, though they correspond with or are related in the context. Below are some verbatim comments given by respondents who had indicated that their lives had been impacted by basic ICT training (Part 2, Question 3).

It becomes easy for me to operate my PC during the study
As a student, it is now very easy for me to do my daily schoolwork activities and submit on time
It became easy for me to apply online for further studies on my own
I never know how to create an email or to send an email message, now I know
It helped me to do better in the practical computer interviews
I became an independent user and got employed at one company
Now I can use the computer better and also apply the skills to my business, it saves time and books since now everything I type and save in the computer
Now I can apply to different institutions online without any difficulties
It changes my life like I never knew how to create email or sending, now I know how to create folders and save documents in the folders
I never know how to do a presentation, now I can do it myself

General comments about basic ICT training

Question 4 of Section C was formulated for respondents to give general comments on the basic ICT training and the general impact of this training on individual respondents' personal development. Below are some of the general verbatim comments of respondents.

Yes I now acquired more skills and I often use my leisure time to teach people in my community

I had a good experience with the training, the instructors are very good teachers
I strongly believe that learning computers at Oshana Library helps me a lot and I'm so blessed for that

Oshana library changes our lives of using computer and now we are dealing with technology

I am digitally empowered and enhanced my ICT skills after I attended this noble program, so the program should continue persistently

"The certificate that you are giving to trainees should indicate the level of the score...i.e. how many a trainee scored

It is for free and very useful and helpful

Now I can make my business cards, birthday cards or wedding cards

I understand personally that Oshana regional Library is improving the standards of the youth that do not have computer skills

I am strongly recommending that ICT Training at Oshana Library should continue as it benefits the communities

A big compliment to the Oshana Regional Library, it improves life standard and creates job opportunities

DISCUSSION

The study revealed that SME owners who had attended ICT training at Oshana Regional Library attained and recorded a significant improvement in their business inputs. These gains were reported by an average of 56% of respondents, who indicated improvements in the six assessed business outputs, namely, downloading of online forms (e.g. SME certification), designing and printing quotations and invoices, designing and printing promotional flyers and posters, sending business communication through emails, using MS Excel formulas for business calculations, and marketing the business on social media. Generally, the findings are that the ICT skills acquired by the SME owners through training at Oshana Regional Library helped them to improve their business inputs; this was confirmed by 67% of the respondents.

Regarding gains in business outputs, the study reveals that the ICT skills acquired by SME owners from Oshana Regional Library's ICT training had a good impact on their business profit, resulted in more customer referrals and improved impact on revenue.

The study also revealed that most of the ICT graduates' livelihoods changed after they had attended the ICT training at Oshana Regional Library. For example, respondents indicated the following changes: "After attending the Basic ICT skills training I became an independent computer user" = 95%; "After attending the Basic ICT skills training I got employment" = 32%; "After attending the Basic ICT skills training I started my own small business" = 30% and "After attending the Basic ICT skills training I was promoted at work" = 16%.

It is also evident from this study's results, as indicated in Figure 4, that this training helped the graduates to enhance their ICT skill levels on the six ICT applications they were trained in.

Overall, the study found that 89% of the graduates experienced some general livelihood changes after attending the ICT training at Oshana Regional Library, as indicated by individual respondents' specified changes and general comments.

CONCLUSION

Based on the findings of this survey, which was guided by the problem statement and three sub-questions, the study concludes that the ICT training offered by Oshana Regional Library had commendable impacts on the livelihoods of the ICT graduates. This conclusion is reached because ICT training significantly impacted the individual SME owners' inputs (improved by 56%) and outputs (improved by 67%).

The contribution of the ICT training to the livelihoods of women and youth is evident because youth constituted 89% of the respondents in this study, while women were 67% of the total respondents.

The results of the study also show that the livelihood changes of the ICT graduates varied. Some reported personal development, others business achievements and greater life sustainability, and so on. Some respondents indicated that they were promoted at work, some started their own businesses, and some were employed. Most of all, 95% of the respondents indicated that they became independent computer users.

RECOMMENDATIONS

Based on the findings and conclusion, the study recommends the following:

- That ICT training should continue, and the content of the course or training manual should be updated regularly to match the latest Microsoft applications and internet updates.
- Oshana Regional Library should consider introducing intermediate and advanced level ICT training, as a follow-up for their mass basic ICT training graduates.
- Regular user assessment should be conducted for SME owners' ICT training needs.

- The exam results of individual trainees should be printed on the back of the certificate, to motivate the graduates.

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THE ROLE OF HUMAN RIGHTS AND DOCUMENTATION CENTRE ON THE ACADEMIC PERFORMANCE OF UNDERGRADUATE LAW STUDENTS AT THE UNIVERSITY OF NAMIBIA

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ABSTRACT: *The Human Rights and Documentation Centre (HRDC) serves the central mission of creating and cultivating a sustainable culture of human rights and democracy. It is a semi-autonomous component of the Faculty of Law of the University of Namibia (UNAM) and it supports staff and students in terms of their information needs. The purpose of the study was to determine the role of the University of Namibia's HRDC on the academic performance of undergraduate law students at the University of Namibia. The study employed a mixed research approach by using questionnaires and structured interviews to collect data. The target population was the undergraduate law students and staff members of the HRDC. A structured interview was conducted with one of the HRDC staff as the key informant, on the other hand survey questionnaires were used to collect quantitative data from students. Purposive sampling technique was employed in selecting the sample size of 1 key informant from the staff members, and convenience sampling technique to come up with a sample size of 50 undergraduate law students who used the centre. The study findings revealed that the collections found in the centre were relevant, helpful and very supportive in support of the academic performance of students. Students found the collections to be old and the centre's operating hours to be a hindrance for students to fully utilise the centre. The study recommends marketing and user advocacy to raise awareness of the library services. The study further recommends that the centre should update its collections more often and adjust their operating hours to accommodate most students.*

KEYWORDS: *academic libraries, academic performance, undergraduate law students, Human Rights Documentation Centre.*

BACKGROUND AND PURPOSE OF THE STUDY

An academic library in any academic setting plays a central role in teaching and learning. Its activities may help or impede the process of learning and teaching. Wong and Webb (2011, 362-363) state that library usage contributes positively to students' academic performance and, therefore, to the university's effectiveness. In addition, Biagini (2012) indicates that students at every grade achieve greater academic success when they have access to a library. The mere fact that a library service is being used does not mean that the service makes a difference or has a positive impact on the user. This has significant implications for Special Library and Information Services for information services, which have to constantly review their added value in line with their needs and wants.

Special libraries have a role to play, especially the Human Rights Documentation Centre (HRDC) which also functions as an academic library. The HRDC as a special library is mandated to process, collect and document human rights issues in Namibia and the whole Southern Africa, in close partnership with the Faculty of Law. As written by Ruppel (2010, 132), the Human Rights Documentation Centre (HRDC) under the University of Namibia is a semi-autonomous documentation centre or library which operates under the Faculty of Law and is mandated to serve the information needs of the Faculty of Law students and staff. The Human Rights Documentation Centre (HRDC) has since its inception supported the Faculty of Law with academic information,

as well as the training of law students in human rights. HRDC plays a major role on the provision of academic and scientific discourse and exchange of ideas Ruppel (2010, 133-134). From this perspective, the HRDC's role as a special library is acknowledged in an academic set up at the University of Namibia (UNAM). Since HRDC is a research centre, students utilise the centre to supplement information on their academic desires such as research projects, assignments, moot court cases and preparation for examinations, etc.

PROBLEM STATEMENT

According to HRDC (2018), the user services statistics for 2016 showed that 660 (93%) undergraduate law students used the centre. The user service statistics for 2017 also revealed that 580 (80%) of undergraduate law students used the centre, showing a decrease of 80 (12.1%) in the number of students from the Faculty of Law who utilised the centre. The decrease and the downtrend on the user statistics in the number of undergraduate law students who used the centre raised red flags on whether the services and collections offered at the centre were still effective in terms of satisfying the students' academic needs in order to boost their academic performance.

Research objectives

The main objective of the study was to determine the role of the University of Namibia's Human Rights Documentation Centre on the academic performance of undergraduate law students at the University of Namibia. This was however supported by the following sub-objectives:

1. To identify services offered by the HRDC to the undergraduate law students;
2. To examine how the services offered at HRDC related to academic performance of undergraduate law students; and
3. To determine how effective was the collection in terms of improving the academic performance of undergraduate law students.

Significance of the study

The study was aimed at highlighting the services offered by the HRDC and their relevance to the academic performance of undergraduate law students. It also projected more light on whether the collections and the services offered had an impact on the academic performance of undergraduate law students. The findings of the study are useful to the management of the centre to take corrective measures and making informed decisions regarding the day to day operations of the HRDC.

Literature review and theoretical framework

The review of literature surrounding the role of HRDC on students' academic performance brings out discussions on various trends which have emerged within the African and global context. Ruppel (2010, 135) states that the HRDC organises and conducts training programmes for the broadest variety of target groups, and prepares and disseminates information on human rights and related issues. Sukla, Singh and Mishra (2013), lament that as information providers, libraries of all types, and documentation and information centres should be the main beneficiaries of the enormous amount of Internet resources that can be used to enhance the quality of services. The library service is tailored to a very specific area and supports that special interest. Although the library staff may have a different view of how students perceive the library, the majority of the students perceive the library as having great value for their education and of having a beneficial impact on their academic pursuits Malatji (2017, 3). Basheer and Razzaq (2012, 15) posit that a good library that is adequately staffed, resourced and funded could lead to higher students' achievement regardless of the socio-economic or educational levels of the parents. Information services in special libraries are often tailor made, and they are dependent on the needs of the parent organisation Special Library (n.d.).

Malatji (2017, 75) reported that lack of resources, non-attendance of information literacy programmes by students, lack of research support, and an inadequate infrastructure, hinder the library's contribution to students' achievement outcomes. Zhong and Alexander (2007, 419) articulated that academic improvement in schools should be regarded as a shared responsibility and therefore the proactive approach in considering libraries as key stakeholders towards academic improvement is definitely a move in the right direction.

The HRDC makes contributions to legal education in respect of human rights in Namibia through its academic programmes and project outputs. The HRDC aims to foster academic exchange towards excellence in research with various renowned institutions of tertiary education around the globe Ruppel (2010, 134). However, the framing literature supports the idea that students' perception towards the collections and services offered in many academic libraries impact their academic performance Alhabi and Middleton (2011); Zhong and Alexander (2007); Valenza (2010).

In any tertiary institution, the library is considered as the nerve centre, and as such a very crucial facility of the institution Jubb and Green (2007). They further note that, user satisfaction of the library resources therefore becomes very pivotal in the achievement of the institutional goals. Adeniran (2011, 210) argues that the existence of an academic library is justified by its level of user satisfaction with its resources and services. Malatji (2017, 64) study revealed that students at the Tshwane University of Technology, Polokwane Campus, have positive perceptions of the library and that they are satisfied with library services. The study further concluded that lack of research support and an inadequate infrastructure hinders the library's contribution to students' achievement outcomes. Meanwhile, Alhabi and Middleton (2011, 87) conducted a study on the relationship between academic library usage and educational performance in Kuwait. The study aimed in examining perceptions of University library usage to consider facts that influence education achievement of academic library users. The study findings showed that only a minority of library users' educational achievement improved through library usage.

The constructivist learning theory provides a sound theoretical framework for this study. According to Ertmer and Newby (2013, 60), constructivism is a theory that equates learning with creating meaning from experience. Learning environments like the library play a fundamental role in students' learning. For this reason, this study adopted to use the constructivist learning theory to investigate students' perceptions of the role of the library in their studies. Academic libraries have the potential to contribute to students' academic achievements. However, this can be clearly uncovered through students' perceptions of the role of the library in their studies. The application of the theory in the study helped in determining the subjective and shared ideas that students have with regards to the HRDC, the constructed ideas, and how they influence their use of the library.

RESEARCH METHODOLOGY

This study employed a mixed methods research approach by using questionnaires and structured interviews to collect data. Creswell (2014) defines mixed methods research as an approach to inquiry involving collecting data from both quantitative and qualitative approaches, and integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone (Creswell 2014). The study, therefore, used both approaches to gather detailed and comprehensive data. The population of the study included all undergraduate law students and the HRDC staff. Undergraduate law students were chosen because they were active users of the centre as opposed to post graduate students who used other libraries by virtue of being not full-time students in the Faculty of Law. Library staff members were chosen as they had experience in providing library services to the Faculty of Law students.

To obtain a representative sample of the target population of undergraduate law students who use the HRDC, a convenience or accidental sampling technique was used to select 50 undergraduate law students. Purposive sampling which is a non-probability sampling was used to select one library staff from the population of 2 library staff members. Questionnaires were distributed to the undergraduate law students that use the centre. In this study, the information was collected through self-administered questionnaires distributed personally to the respondents by the researcher. A structured interview was conducted with one of the HRDC staff as key informant. Data collected through interviews was used to validate and ensure trustworthiness of data collected through questionnaires. Moreover, the researcher ensured the validity of the consistency of the data by checking that the questions asked were derived from themes emanating from the objectives of the study.

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Frequency of using the centre

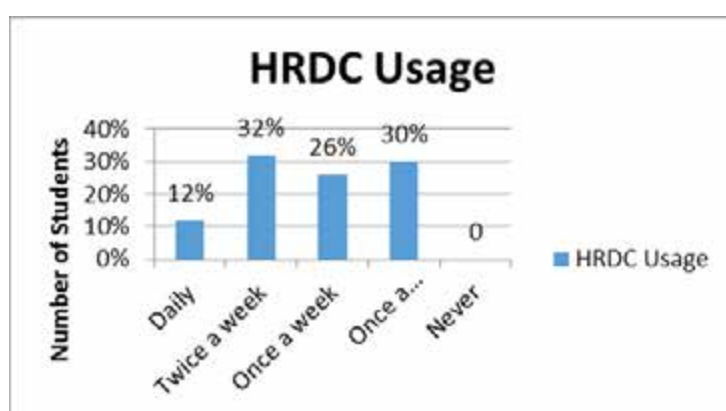


Fig 1: Frequency of usage

With regards to the usage of the centre, Figure 1 shows that none of the respondents indicated that they do not use the centre, whereas 6 (12%) of the respondents used the library every day and 16 (32%) used the centre twice per week. Moreover, 13 (26%) respondents used the centre once a week and 15 (30%) used the centre once a month. The key informant also mentioned that the majority of students used the centre twice a week, some students come to visit the centre once a week while a least number a small number of student came to the centre daily. The literature shows that however, until a larger percentage of students become aware of these services, the role of these factors in academic success cannot be fully evaluated Zhong and Alexander (2007).

Service offered at HRDC and academic performance

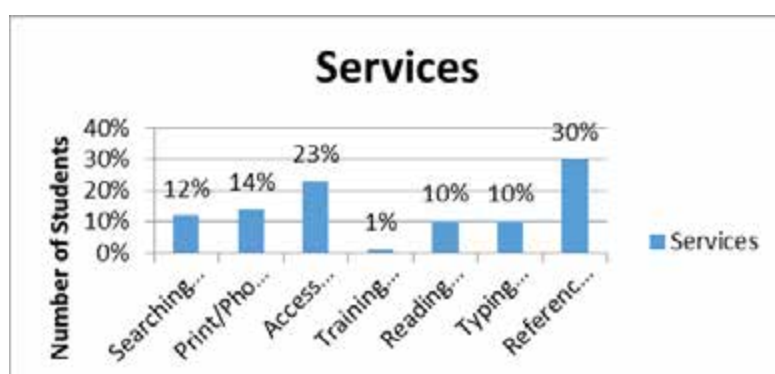


Fig 2: Services

The results indicate that 22 (12%) of the respondents when visiting the centre come to search the library databases and, 24 (14%) uses the photocopying and printing services while 43 (23%) of the respondents come to access internet, whereas 1 (2%) respondent comes to the centre to attend training services (e.g. orientation). The results further reveal that 10 (20%) of the respondents visit the centre to read daily newspapers, 10 (20%) for typing services and 30 (30%) respondents visit the centre to use reference services. Based on the analysis, it was concluded that students value the centre's reference services and accessing internet as the majority of the students visit the library to read their personal notes.

Services usage

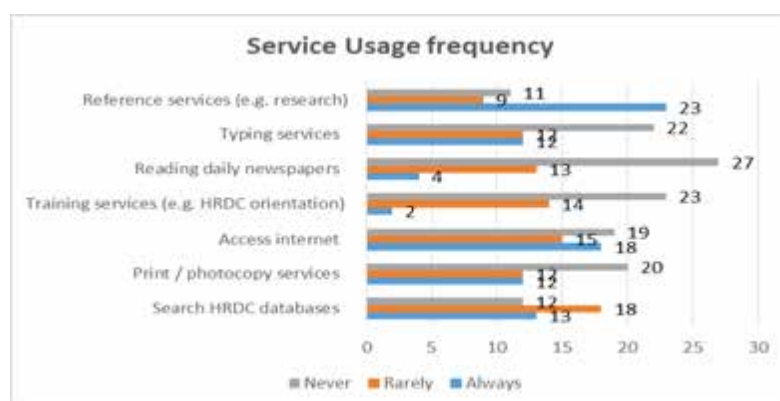


Figure 3: Service usage frequency

The graph reveals that 13 (30.9%) always search the HRDC database while 18 (42.8%) rarely use search the HDRC databases and 12 (28.5%) never searched the HDRC database. The results also revealed that 12 (27.2%) always use the Print/ photocopying services while 12 (27.2%) rarely use the service and 20(45.5%) never use the service. In terms of accessing the internet, 18 (34.6%) respondents always come to access internet, 15 (28.8%) rarely come to access the internet, while 19 (36.5%) never visit to access internet. In terms of training services, 2 (5.2%) of the respondents always come for training services, 14 (35.8%) rarely come for training services and 23 (58.9%) never come for training services. In terms of reading daily newspapers, 4 (9.2%) respondents come for daily newspapers always, 13 (29.5%) rarely use daily newspapers, and 27 (61.3%) never use the daily newspapers. Meanwhile, in terms of typing services, 12 (26.1%) respondents always come for typing services, 12 (26.1%) rarely come for typing services, and 22 (47.8%) never come for typing services. In terms of reference services, 23 (53%) respondents always use the reference services, 9 (21%) of respondents rarely use the reference services, and 11 (26%) never use the reference services.

Results from the key informant revealed that most of the students come to consult reference materials that are found in the library. Students also greatly visit to come access the internet, to search HRDC databases, and to use photocopy and print services. Student turn up in small numbers for the following services, typing services, daily newspapers and the least services to be used by students was training services.

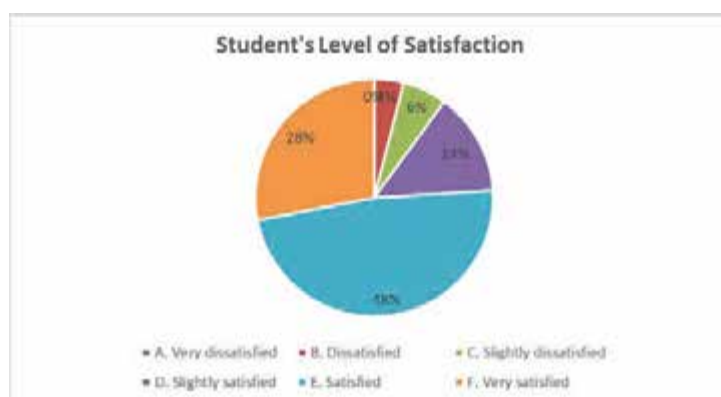


Figure 4: Student's level of satisfaction

The results presented in Figure 4 reveal that 14 (28%) respondents were very satisfied by the services offered by the HRDC, 24 (48%) respondents were satisfied, 7 (14%) were slightly satisfied, 2 (4%) respondents were dissatisfied, while 3 (6%) respondents were dissatisfied. Meanwhile, there was no record of a respondent who was very dissatisfied by the services offered by the HRDC. The key informant revealed that the services offered to the undergraduate law students has a great influence on their academic performance because it helps them finish their assignments and to find resources pertaining to their research. Services such as typing, printing and photocopying help students to prepare their work in advance because not all students have their person laptops to do their assignment at home, hence helping to boost the academic performance of students. The findings also revealed that students have indicated their satisfaction with the services offered by the HRDC in adding value to their academic performance hence giving the correlation between the two variables.

Effectiveness of the collection in support of academic performance

The HRDC has collections emanating from the human rights discipline which are not limited to books, journals, law reports, DVD collections, pamphlets, newspaper clippings, reports and cases. The centre also has electronic collections such as e-books, cases and journals. Collections are updated whenever there are new collections received or acquired by the centre. Students find the collections within the centre to be relevant. Complimented by the results from the key informant, collections within the HRDC are relevant to those that are doing human rights related modules or researching about human right resources because the collections are special and focused to the human rights field only.

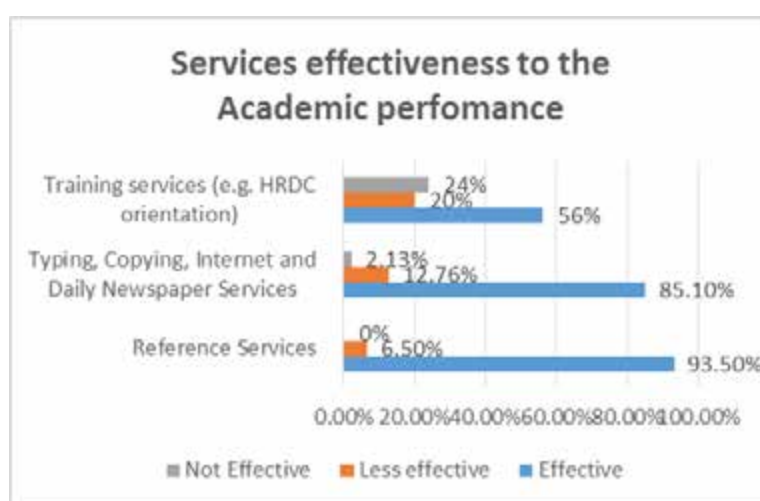


Fig 5: Services effectiveness to the academic performance

Figure 5 shows that in terms of reference services, 93.50% of users indicated that the service is effective, 6.50% have indicated that the service is less effective. In terms of typing, printing and daily newspaper services, 85.10% respondents indicated that the service was effective, 12.76% of respondents indicated that the service was less effective, while 2.13% respondents indicated that the service was not effective. In terms of training services, 56% respondents indicated that the service was effective, 20% of the respondents indicated that the service was less effective and 24% of the respondents indicated that the service was not effective. To determine whether the collections in the HRDC supports the academic performance of students, respondents revealed that the collections offered by the HRDC support their academic performance. Students further justified their options on whether the collections are in support of their academic performance or not. Most of the responses from the respondents who indicated with a yes were that the HRDC provides relevant materials towards their courses and research projects. This was further acknowledged in Ruppel's (2010, 133) report that the HRDC made contributions to legal education in respect of human rights in Namibia through its academic programmes and project outputs as well as foster academic exchange towards excellence in research with various renowned institutions of tertiary education around the globe.

Table 1: The extent to which the HRDC meets the information needs of students

(Scale: 0 = Not at all, 1 = To a small extent, 2 = To some extent, 3 = To a moderate extent, 4 = To a great extent, 5 = To a very great extent) (n = median)

	Service	0	1	2	3	4	5	Median
1	Search HRDC databases	7	1	3	15	9	6	n=3
2	Print / photocopy services	5	3	5	4	12	12	n=4
3	Access internet	2	1	5	6	13	16	n=4
4	Training services (e.g. HRDC orientation)	14	0	9	4	4	3	n=2
5	Reading daily newspapers	9	2	9	9	5	6	n=2
6	Typing services	13	0	2	3	11	11	n=4
7	Reference services (e.g. research)	7	0	5	6	9	17	n=4

Table 1 shows that the respondents' information needs were met to a great extent by the services such as print / photocopy services (n=4), accessing the internet (n=4), typing services (m=4), and reference services (n=4). The respondents in terms of their information needs were only met to a moderate extent by searching HRDC databases (n=3). However, the respondents were only met to some extent when it comes to the training services (n=2) as well as reading daily newspapers (n=2). The key informant revealed that the HRDC also provides adequate materials that are of great usefulness to research and student purposes in terms of learning skills. In terms of certain modules such as Human rights, Customary law etc., it is the best place to come and search for relevant materials for their studies, hence boosting the academic performance. Results from students also revealed that they use the collections to gain much information and sometimes the collections are the only sources they have access to, and they cannot be found in other places such as the Main UNAM library.

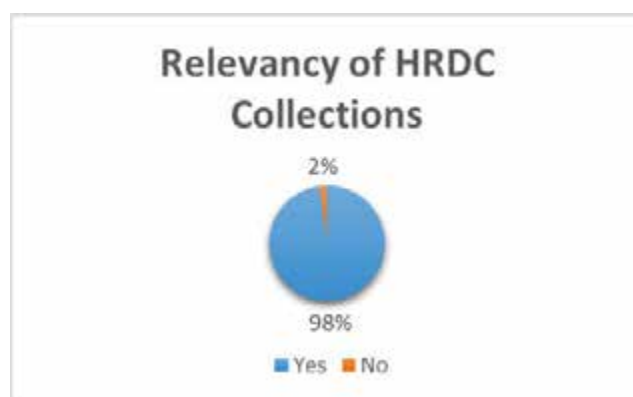


Figure 6: Relevancy of HRDC collections

Figure 6 indicates that 49 (98%) of the respondents indicated that the collections found in the HRDC are relevant, while 1 (2%) of the respondents indicated that the collections are not relevant. On the other side, some respondents justified that most students are not aware of the collections that the HRDC offers, thus they do not use it often and it only favours some. The study findings therefore suggest that marketing and advocacy of the centre need to be done thoroughly for all students to be aware of the services and collections that the centre offers. The study also found out that the collections in the HRDC are effective in adding value to the academic performance of those students that are looking for information in the field of human rights. Students find the collections helpful in adding value to their academic performance with only a few that did not find the collection helpful to their academic performance. Furthermore, more students find the collection to be old and fairly adequate for their utilisation.

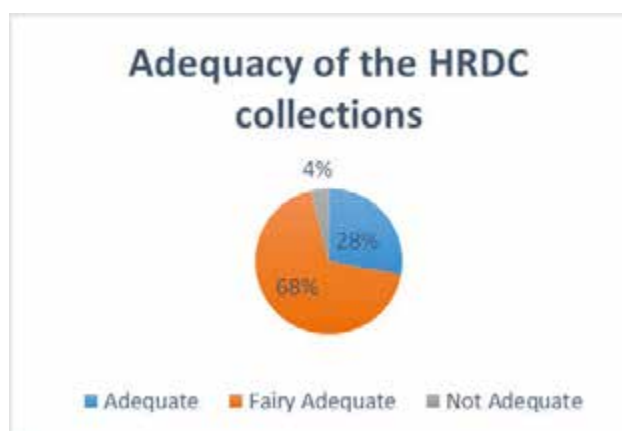


Fig 7: Adequacy of the HRDC collections

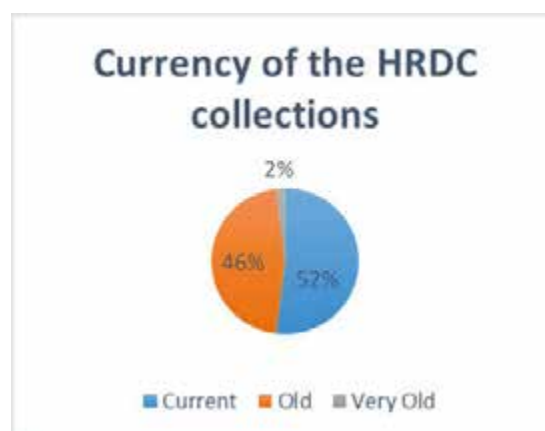


Fig 8: Currency of the HRDC collections

Figure 7 shows that 68% of the respondents find the collection to be fairly adequate, 28% find the collection to be adequate and 4% of the respondents find the collections not to be adequate. Results from Figure 8 present the currency of the HRDC collection and it reveals that 52% respondents find the collection to be current, 46% find the collection to be old and 2% find the collections to be old. Overall, most of the respondents gave their view that the HRDC adds to the academic performance. The respondents also suggested that since it's a research centre, it should provide updated materials on human rights, journals, and other relevant materials that will be helpful for students to do their researches effectively. Furthermore, respondents indicated their dismay on the materials that are old, and that more training is needed for students to know how to use the database and to search the OPAC as well as marketing of the centre to the whole population of the student in the faculty because some don't know anything about the services the centre offers. The framing literature supports the idea that students' perceptions towards the collections and services offered in many

academic libraries impact their academic performance Alhabi and Middleton (2011); Zhong and Alexander (2007); Valenza (2010).

Theoretical application to findings

The outcomes of the role of the HRDC on the academic performance of students can relate to the constructivist learning theory. The findings of the study showed that the students used the HRDC. The collections and services offered by the centre have positively affected their academic performance. With the few challenges that the students are facing in accessing the services and collections at the centre which are inadequate operating hours, old collections and inadequate resources, there is still a room to change. This will help students in structuring their own learning experiences and thus the importance of how students relate their new experiences to existing knowledge becomes vital.

Summary of findings

The study revealed that the students utilised the services differently; some services are being used more often such as reference services, access to the internet and searching the HRDC databases, while some services are utilised less by students which are typing, printing, copying and daily newspaper services as well as training services. Most students were satisfied with the service with only a few that were not satisfied with the services offered. The study points out that most of the students don't know the existence of some services offered at the HRDC such as the e- resources (HRDC databases, Juta Online).

The study revealed that the student information needs were met to a moderate extent by a few services such as reference services, accessing the internet and searching HRDC databases. The study showed that only a few services that are offered by the HRDC are effective in adding value to their academic performance such as the reference services, accessing the internet and searching the HRDC databases. Students were not satisfied with the working hours of the centre, which are hindering them in utilising the services as they are supposed to.

The study revealed that the collections found in the centre were relevant and helpful in support of the academic performance of students. In addition, the study revealed that the students find the collection to be very supportive when it comes to their academic performance because it helps them to find relevant information for their academic work. It was also revealed that the HRDC provides adequate collections that are of great usefulness to students, and this is in terms of certain modules such as human rights, customary law, etc. However, the study revealed that the collections within the centre were old and fairly adequate for students' utilisation.

CONCLUSION

Based on the findings of this study, most students were satisfied with the service with only a few that were not satisfied with the services offered. Students were not satisfied with the working hours of the centre that are hindering them from utilising the services as they are supposed to. Collections found in the centre were relevant and helpful in support of the academic performance of students. In addition, the study revealed that the students find the collection to be very supportive when it comes to their academic performance because it helps them to find relevant information for their academic work. The collections and services offered by the centre have positively affected their academic performance. With the few challenges the students are facing in accessing the services and collections at the centre which are inadequate operating hours, old collections and inadequate resources, there is still a room to change. This will help students in structuring their own learning experiences and thus the importance of how students relate new experiences to existing knowledge becomes vital. The HRDC has done much to play a major role in the student academic success but still a lot needs to be done in order to provide quality services that can have positive effects to the students.

RECOMMENDATIONS

The study recommends the following:

- Marketing of online services and other low utilised services should be done extensively and this might improve their usage and the use of other services in the centre.
- Since the majority of students have not attended any training session and library orientation, training should be done each semester rather than once in a year, to ensure that students attain the necessary skills to enable them to make effective use of the centre and its services rather than only using the library for printing, photocopying, typing and internet services.
- Opening hours should be extended to the weekend or late hours for students to have a lot of time to work on their academic work by fully utilising the services.
- The center must update it's collections on human rights, journals, and other relevant materials that will be helpful for students to do their researches effectively.
- The library collection needs to be developed, extended and kept current to allow students to have a variety of choices in their use of centre collections. Furthermore, this will also help in keeping students abreast of developments taking place in the field of human rights.

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THE ROLE OF SCHOOL LIBRARIES IN PROMOTING STUDENTS' ACADEMIC PERFORMANCE IN TANZANIA: A CASE OF SELECTED SECONDARY SCHOOLS IN DODOMA MUNICIPALITY

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ABSTRACT: To achieve and ensure inclusive and equitable quality education that focuses on students' academic performance while promoting lifelong learning, the government of the United Republic of Tanzania is committed to improving school infrastructure. This has been reflected in various education development projects such as Primary and Secondary Education Development Plans of 2002-2006 and 2004-2009 respectively. However, from the researchers' observation, much effort of such plans has been pressed in the construction of laboratories and manufacturing of benches for primary and secondary schools. A sample of students and teachers/ library staff was drawn from the selected secondary school in Dodoma municipality, Tanzania. Interviews and survey questionnaires were used to collect data which were analysed thematically through the content analysis technique and later by SPSS where descriptive statistics was used. The findings of this study show that respondents had a positive attitude on the importance and usefulness of the library in achieving academic goals by the schools and students, and they as well believed that the presence of libraries could assist in improving students' academic performance and achievements. However, there are many others than the lack of laboratories and benches that affect students' performance in schools. One of the challenges is lack of well-equipped school libraries and trained librarians. As observed in most schools which had libraries, the services in such libraries were rendered by untrained librarians, resulting in ineffective library services delivery in schools. This was irrespective of its recognized essentiality in the performance of students. The conclusion made is that school libraries are a good driver and an essential tool for student's good performance and lifelong learning skills.

KEYWORDS: academic performance, library services, lifelong learning, reading habit, secondary school libraries.

INTRODUCTION AND BACKGROUND TO THE STUDY

Experience shows that in recent years especially after the implementation of the Secondary Education Development Plan (SEDP) in Tanzania, many secondary schools were established. However, the established schools lacked the most important and required facilities like laboratories, desks and libraries which results in the massive failure among secondary school students in their final examinations, specifically from 2013 to 2017. Many reasons for such mass failure have been identified and mentioned through various media but nothing related to library services provision has been mentioned. Since the independence of Tanganyika in 1961, the independent government has taken various initiatives and programmes to improve and raise the quality of education. The Vienna Convention of Human Rights which emphasises reducing the illiteracy rate and providing access to basic education to all fuelled these efforts. It is from that context that the government of Tanzania established and started the implementation of Education for All (EFA) under the Arusha Declaration of 1967. The EFA implementation was also taken and translated under the Universal Primary Education (UPE) programme which emphasises much on 'education for self-reliance' of which the primary education was made compulsory for all (United Republic of Tanzania 1999). Although the programme

was silent on the provision of library services in schools, by that time schools were not registered unless they fulfilled basic requirements including having library services in place.

All the mentioned government efforts aimed at translating the Universal Declaration of Human Rights of 1948 under Article 26 (1) which states that everyone has a right to education. Therefore, the government of Tanzania enacted many policies and strategies to strengthen the quality of education that is provided in schools specifically by creating conducive environment for school education. Among the strategies included is the establishment of rural and village libraries with well-equipped resources to facilitate studying and raising the reading culture of students in Tanzania. There were also adult literacy programmes which were implemented to support UPE. During that time, secondary and higher education were given only to a minority and they were considered less of a priority in terms of public resource allocation. Thus, the purpose of education was to provide students with the basic knowledge and skills for life rather than being a preparation for further academic studies. Although literature shows that up to the early 1980s the literacy rate of Tanzanians reached 80% as compared to today's situation, some years later other people considered UPE as a major cause of the deterioration in the quality of education at all levels in Tanzania (Leshabari and Masesa 2000). The reason(s) for such consideration is because during the time of UPE, the government and its responsible department of education vested many efforts on basic education than the other higher levels of education. Also, some of the policy and programme implementers wrongly translated the notion of 'education for self-reliance' by placing much emphasis in field works/manual activities among students than being in the classroom and libraries for self-study.

In 1963, the government of Tanganyika enacted the Tanganyika Library Services Board Act which empowered the Tanganyika Library Services Board (TLSB) to oversee the development of libraries in the country. The aim was to respond to the Universal Declaration of Human Rights of 1948. According to the Tanzania Library Service Board Act of 1975, among other functions of the Board are to promote, establish, equip, manage, maintain, and develop libraries; to provide efficient library services in both urban and rural areas; to advise the government and parastatal institutions on all matters relating to library services; to plan and co-ordinate library services in the United Republic of Tanzania and to carry out research in development of library services. Furthermore, the TLSB has the power to register all or any category of public libraries in Tanganyika and later Tanzania and provide the form of and the fee for such registration. Also, the Board has the power to prohibit employment of any person as a librarian of any public library unless such person holds a degree, diploma or other awards specified in the by-laws. Furthermore, the Board may require such schools and other educational institutions to establish and maintain libraries in such manner and of such standards as may be prescribed in by-laws from time to time.

The education policies of Tanzania, starting with the Education Policy of 1995 and later the Education Policy of 2014 are silent on the presence, absence and/or the standards of school libraries. Such situations have been the same even in various strategies like the Secondary Education Development Plan (SEDP) which aimed at improving the environment for proper delivery of education. In 2004, the government of Tanzania in collaboration with the World Bank for Funding launched the SEDP, covering five years (from 2004 to 2009). The plan's ultimate aims were to overhaul secondary quality and equality education across the country. However, SEDP had no provisions for school libraries. It is from this context that one can ask the validity of the famous statement that the 'library is the heart of any learning institution'; that if the success of any learning institution depends on the presence of a library, what about the success of secondary schools in Tanzania?

Basically, the purpose of a library in any learning institution is to assist the academic community in using the available knowledge and technology to transform the practices in various matters and improve their academic lives. There are about seven criteria to use in assessing what should be called the school library. First and foremost, the library should be administered and supervised by a full-time librarian with at least diploma level of education in Library and Information Sciences. Second, the library should have a sufficient number

of staff with at least diploma level of education in library and information studies and their responsibilities should be to organise and maintain the library collection as well as to manage information and reference services for the academic community. Third, the library should be well-equipped with up to date and varied resources that adequately serve the purpose of the institutions and the needs of the users. Fourth, the goal of the library should be focused in providing information services to the academic community. The services are in most cases measured by their effectiveness in meeting users' needs and expectations. Fifth, the library should provide adequate and appropriate space and facilities to allow users to sit and use the resources within the library and even out of the library through lending and circulation of the available resources. Sixth, the library should have a separate, realistic and adequate budget to support its various activities and services.

In four or three consecutive number of years i.e., from 2013-2016; failure rates in form four examination results were in an increasing trend on a yearly basis. However, among the projected reasons for such failure rate in all the mentioned years none was mentioned that related to library services. Thus, one can have the presumed conclusion that the library services are good and at higher standards in secondary schools. It is however the present researchers' experience that some schools face library services challenge; as a result, their students are not performing well. Therefore, the present study was undertaken to examine the status of secondary school libraries and their impacts as an essential tool for students' good performance and lifelong learning.

STATEMENT TO THE RESEARCH PROBLEM

In the late 1980s to 2000s, many secondary schools were established under various plans and strategies. As the strategies to ensure prosperity and improvement of learning and the teaching environment, SEDP was established in 2004 with such a major aim. However, for three consecutive years from 2013 to 2017, Tanzania has witnessed the massive failure in secondary schools' examinations. Among the reasons behind mass failure, the most frequently mentioned reason(s) included lack of laboratories, classrooms and benches but nothing related to library services was mentioned. This maybe because it was also not stated by the SEDP. Hence, the practices are contrary to the Tanzania's Ministry of Education under the Education for All (EFA) 2015 National Review Report which states that, among the terms and requirements for registering a school is the availability of a library.

Therefore, the status and the contribution of the secondary school libraries to the students' performance in their final secondary school examination results were not well established. Thus, nothing related to library services has been stated in any of the strategies to enhance the quality of education. This called for the necessity of conducting this study on the perceived role of libraries to students' academic performance and lifelong learning, otherwise nothing would be improved and the library would be disregarded with regards to the academic performance of students in secondary schools. Therefore, it was the intention of this study to establish the role of library services to students' performance in their final examinations.

OBJECTIVES OF THE STUDY

This paper pursued the following objectives:

- 1) To assess the status of, availability and access to school library and information materials;
- 2) To examine stakeholders' perceptions on the importance of libraries in enhancing students' academic performance and lifelong learning;
- 3) To establish the way forward for the improved library services in schools.

REVIEW OF THE RELATED LITERATURE

It is widely accepted that library services have a close connection with the students' academic performance. Academic performance and achievements among students are facilitated by the interest in learning activities which is normally cultivated by the availability and accessibility to a well-equipped library. According to McGrew *et al.* (2004), students who have 'synchronized' academic values (the positive intrinsic reasons for engaging across academic domains) demonstrate higher academic motivation than students with asynchronous academic values (high intrinsic interest in some domains coupled with only a utilitarian value in other domains). According to a study conducted in Ghana by Agyekummr and Filson (2012), most students use library resources and services to supplement their class notes and assignments, and this helps them with examination preparation. This is what is referred to as active learning which the school libraries are to instil to students.

A study by Aanu and Olatoye (2011) notes that the quality of library collections has a tremendous impact on student's academic performance and higher test scores and this is even more so with a higher usage of the school library resources. It is from this perspective that the school libraries should provide more than just books, magazines, newspapers, computers and other technologies, databases with accurate information, e-books, plus fun and educational activities. It should rather include reference books, non-fiction books like textbooks, and fiction books like the story books, novels and cartoons. According to Afolabi (2016), a school library at a minimum should consist of books, pamphlets, paper cuttings, gazettes and government publications, atlas, maps and charts, photography records, films, record players, cassette tapes/players, film projections, slides, pictures, photographs, realia and periodicals. On this basis, a school library collection will not be complete without reference books, as well as non-fiction and fiction texts. There is a need to provide these resources in a school library in order to provide a clear path towards the realisation of curriculum goals.

On the other hand, Ugah (2008) is of the view that the use of library services has a high degree of dependence on the accessibility of information sources. With the right resources, school libraries can facilitate cross-communication and enhance collaboration between students, teachers, administrators, and families. In line with these views, Oddone (2013) opines that school librarians should be trained to help and teach teachers and students to locate the needed information materials from millions of titles available in the library in various forms. Iyandave and Salawu (2006) stress that the strength of every library lies in its resources and information services to the people. In other words, a school library will be adjudged good or otherwise by its ability to meet, to a large extent, the information needs of its clientele. To this end, professional librarians continue to strive to collect, store, organize and disseminate all forms of recorded knowledge to satisfy both present and future information needs of users. A well-stocked academic library is a storehouse of information, or a record of human experience to which users may turn to for data or information.

RESEARCH METHODOLOGY

This study was carried out in the Dodoma Municipality which is one of the Tanzania's thirty-three administrative Regions and the capital city of the country. The targeted population were secondary school students; of which ten (10) secondary school libraries namely, Dodoma Secondary School, Masalato Girls Secondary School, Kiwanja cha Ndege Secondary School, Viwandani Secondary School, Selesian Secondary School, Miyuji Secondary School, Jamuhuri Secondary School, Maria De Matias Secondary School, Umonga Secondary School and Chinangali Secondary School were involved in the study. Among the selected secondary schools, seven (7) were public (community) schools, whereas three (3) were private secondary schools. All the private schools were owned by religious organisations (two by Christians and one by Muslims). A purposive sampling technique was used to involve students' class leaders and the school librarians in the study. By this technique, respondents were involved in the study on the basis of the positions they occupied at the school. Other students who were not leaders were involved in this study through random sampling under the convenience

technique whereby the respondents were involved in the study based on their readiness and willingness to participate. Hence, out of 10 schools a sample of 106 respondents in total participated in this study.

The study employed two methods of data collection namely, questionnaires and interviews. A questionnaire was used to collect data from 93 students. The reasons behind the use of the questionnaire is because it is possibly widely spread geographically and free from the bias of the interviewer. Also, this method gives respondents adequate time to give well thought answers Kothari (2004). According to Denscombe (2007), a questionnaire is economical, easy to arrange, supplies standardized answers and it also encourages pre-coded answers. The interviews were used to collect data from 10 providers of library services in the schools. Interviews allow interviewees to speak their minds and this is therefore a better way of discovering things about complex issues. Interviews allow interviewees to use their own words and to develop their own opinions Denscombe (2007). Generally, researchers use semi-structured interviews to gain a detailed picture of participants' perceptions on the role of libraries in improving students' performance. A combination of qualitative and quantitative approaches for data analysis was used. The collected data were at first analysed through thematic content analysis to get impressionistic findings, by which means, the contents of interviews and open-ended questions from questionnaires were further broken down into smaller meaningful units of information, then they were systematically coded to produce numerical descriptions which were statistically analysed using SPSS, where descriptive statistics were used. The results were presented with frequencies and percentages. This helped in ascertaining the values and attitudes of respondents.

RESULTS AND DISCUSSION

Demographic information of the respondents

Among 10 visited secondary schools, seven (7) had libraries, while three (3) schools had no libraries. The three schools which had no libraries were the community secondary schools locally known as *shule za kata* in Kiswahili. It was funny to note that although such schools had no libraries, they had teachers appointed to the position of the school librarian. This finding however, implies that private secondary schools adhered to the requirements of establishing schools as compared to others. Therefore, there is a need for the government to equally administer their strategies to all education stakeholders to promote good performance and lifelong learning among students. As stated in Section 3.1, many (seven) public schools were involved in this study than private schools. The reason(s) for this selection was that public schools were many due to the government initiatives of ensuring each ward to construct one or more secondary schools, whereas the private ones were owned by religious organisations and depended much on church members' offerings for constructions and improvements.

The distribution of respondents from the 10 schools was as follows: 71 of 106 respondents were from the Ordinary level of secondary schools and 35 from the Advanced level of secondary schools. On the basis of their occupation status, 96 (91%) of 106 respondents were students from the mentioned 10 schools (which comprised six secondary schools at Ordinary level and four at Advanced level), whereas the other 10 (9%) participants were teacher librarians who participated in this study through face-to-face interviews. Among the 96 students that were provided with questionnaires to respond to, only 93 (97%) returned the filled in questionnaires. This marked a total of 103 respondents who responded to the research questions; this includes 10 workers who were working as librarians but with or without the required qualification as the results show that most of them were professional teachers except only two.

On the basis of the gender of respondents (students and librarians), results show that among 103 respondents in this study, more than a half of them (55) (53%) were male, whereas 48 (47%) were female. This may be due to the fact of male teachers' dominance in schools than their counterparts (females). The age variable of students indicated that of the 93 students who participated in this study, 39 (42%) were of the age ranging between 11-17 years of age, whereas 32 (34%) were of the age range of 18-25 years of age followed by 22 (24%) with the age range of 26 years old and above. This signifies that the majority of the students were at a

mature age thus it was prudent to provide them with the chance to judge on something as to whether good or bad, and in need of improvement or not. Additionally, more than half of the library staff (8) (80%) who participated in the study through interview were teachers and only two (20%) of them were the professional librarians with certificate and diploma level qualifications in library studies.

Availability of library, materials and the visitation patterns

Respondents were asked to state whether their schools had library services or not. Results show that 74 (72%) of all 103 respondents reported that their schools had library services, 29 (28%) stated that there were no library services in their schools. When respondents who stated to have no library services in their schools were further asked to state the ways they coped within such an environment, they stated that class and subject teachers sought past examination papers and discussed some questions with students in their remedial classes. Actually, the way they explained this strategy, the researchers thought that what has been done in such schools was a kind of rote learning thereby discouraging creativity, innovation and the facilitation of a reading culture among students. When students from schools without libraries were required to state the likelihood that they would use library services for their academic undertaking if made available; results show that all 29 students were likely to use the library. This suggests that respondents would likely use libraries for their various academic purposes and for leisure.

On the other hand, among the 74 participants who confirmed to have libraries in place at their schools, they were further asked to state the types of resources that are available in their school libraries. On the basis of multiple responses, the following were their responses: 60 (81%) were of the opinion that there were academic resources (text books) in their libraries, while 36 (49%) were of the view that their libraries consisted of both textbooks and story or leisure books, and only 4 (19%) opined that their libraries were equipped with leisure materials only. This finding is similar to Benard and Dulle (2014) who evaluated the access and use of school library information resources in Morogoro Municipality. In their study, Benard and Dulle (2014) found that the most frequently accessed and used library information sources by secondary students were books and novels. In connection to the findings of this study, Benard and Dulle's (2014) finding is factual with regards to textbooks and novels or leisure as the only resources required in school libraries.

Students who stated that they have libraries in place at their schools were also asked to state how frequent they visited the library. Results show that 37 (50%) students who participated in this study visited the school library occasionally, followed by 19 (26%) who visited the school library frequently while 18 (24%) did not visit the library at all. This is an indication that students who did not visit the library and those who visited occasionally were not aware of the role of school libraries in promoting lifelong learning and good academic performance. This was probably attributed to lack of marketing and promotion of library services to the students. This may further be the results of operating library services by unprofessional personnel.

Furthermore, students were asked to provide reason(s) for their visitation status to the library. Based on multiple responses of 56 participants who responded to this question, a majority of students as represented by 43 (77%) students visited the available school libraries for accessing academic materials, while 29 (52%) visited the school library just for leisure and relaxation of the mind, and 18 (32%) respondents stated that they have not visited school library at all and their argument was that the library had no enough seating spaces and materials for their academic needs. One of the respondents had this view: "our library comprises of outdated materials which help nothing in our academic achievements". This is an indication that students visit and use school libraries services for the purpose of responding to their assignments and not for acquiring general knowledge and for improving the reading culture and lifelong learning.

Satisfaction with the library services delivered at the school

In order to obtain respondents' impression on the library services at their schools, students were asked to state their satisfaction level with the library services and facilities at their schools. Results show that of all 93

students who returned the questionnaire, 47 (50%) were not satisfied, 25 (27%) were moderately satisfied, and only 21 (23%) were very satisfied. When respondents were required to provide reason(s) for their responses on the levels of satisfaction, those who were of the opinion that they were moderately satisfied and those who were not satisfied had almost the same reason(s): On the basis of multiple responses of the 72 respondents, 48 (67%) stated that they were not or were moderately satisfied because their library lacked the required infrastructure including computers, chairs and tables, 44 (61%) were of the perception that the school library buildings were not properly designed to cater for the library services delivery as most of them lacked designated reading spaces and had no enough ventilations, 26 (36%) stated that the library staff acted unfriendly and unprofessionally when serving students, while 33 (46%) opined that it was not easy to locate library resources from shelves, 18 (25) observed that their libraries were equipped with inappropriate information resources that do not fulfil students' information needs.

On the other hand, respondents who were of the opinion that they were satisfied were required to state the areas of their satisfactions. On the basis of multiple responses of 21 respondents, 13 (62%) stated to have been satisfied with physical resources and academic materials (especially the available books) in their libraries that the books met their information needs whereas 15 (71%) were of the view that Library staff acted very friendly and treated students fairly without discrimination and responded to students queries timeously. Furthermore, it was observed that almost all responses that respondents were satisfied with library services delivered at their schools came from schools with professional librarians. This possibly helped them to manage services delivery in a more professional manner as compared to the teacher-librarians.

This result suggests that respondents agreed that the library services and materials for students during the period of undertaking this study in some schools were in place. However, they were not satisfactory to fulfil the information needs of students, and as such the respondents were unhappy with the ways in which library services and resources were delivered to students. This is true given the fact that the absence of the mentioned facilities and resources cripples the provision of library services.

Importance and role of library services to students' academic performance

In this study also, authors sought to understudy respondents' perception on the importance and usefulness of library services for the academic achievements of students and the school at large. Therefore, respondents were asked to provide their views on the importance of library services and their role in the academic achievements of the students. Results show that out of all 103 respondents, 16 (16%) responded openly that it does not play any role in the academic performance and achievements of students, whereas 87 (84%) stated that the libraries had a great role to play in the students' academic achievements. Furthermore, to have a more justification of students' concerns on the role of libraries in their academic undertakings, all the 10 librarians were asked to provide their views. Results show that 100% of them were of the view that libraries had a great role in the academic achievements of students. One of the respondents expanded that,

"It is very important to have a well-managed school library for the academic and career development of both students and teachers at schools because libraries will not only simplify teaching-learning process but also improve and strengthen students' academic performance and achievements".

More importantly, when the librarian was required to provide reflections on his experiences on the importance of the library to the students' academic performance, his response showed that students who used the library frequently were academically better endowed and performed better in their national examinations than those who do not use the library or those who use it occasionally.

The respondents from both students and librarians who stated that libraries can be helpful in the academic undertakings of students were further requested to respond to the follow-up question that required them to state how students could be using the library. Based on the multiple responses of 87 respondents, results

show that 100% of them had the view that they will use it for responding to various take-home assignments, and for knowledge addition in the subjects of interest. While 57 (66%) of these respondents were of the opinion that the library is a recreational centre for students' relaxation and leisure after having a series of class sessions, 44 (51%) respondents opined that the school library is the only centre in school that is responsible for influencing a reading culture and promoting lifelong learning among students. Therefore, it is the present authors' conviction that school owners should take library services more seriously for improving students' academic achievement, reading culture and promoting students' lifelong learning.

On the other hand, respondents that did not see any role that library services play in academia had some reason(s). Based on multiple responses, a wide range of concerns was given as the reasons why 16 respondents rejected the importance and usefulness of libraries for the academic achievements of students and the schools as well because students were capable of passing examinations even in the absence of the library services.

Based on these responses, it is clear that the majority of the respondents had a positive attitude on the importance and usefulness of the library in achieving academic goals by the school and students as well. Respondents thought that the presence of the library could assist in improving students' academic performance and achievements. These include both considerations of the library as a centre for education materials delivery, as well as the documentation and preservation of important documents for reference services by students, and simplification of information access by students. Moreover, it can be argued that respondents were aware of the values of the library for the students' academic growth and achievements. However, the reason(s) provided by respondents who had a negative perception on the importance and usefulness of the library services in schools should be considered seriously to avoid rote learning.

Factors affecting access and the use of school library materials and services

Respondents were asked to mention the factors constraining access and use of the available library resources. On the basis of multiple responses, 71 (69%) of 103 respondents mentioned lack of knowledge of the resources available in the school library as one of the factors affecting access to and use of the library resources and services, 43 (42%) of respondents revealed that time limitation was a major factor that hinders students from accessing and using the school library. To expand on this, one student reported that:

"It is unfortunate that our library opening and closing hours are not friendly to our timetable. Our library is always open during working days especially during official working hours and closes during weekends, as you know during work hours you will find most of the students attending classes and they have no time to access and use the library. And during weekends when most of us are free and can use the library you find that the library is closed. That is really a challenge to us when it comes to the issue of accessing and using library services in our school".

On the other hand, 35 (34%) respondents had the observation that the distance from the library and classes and dormitories was the other constraining factor for the access and use of library services. Also 32 (31%) respondents mentioned lack of trained personnel (librarian) to run the library as the other factor constraining access to and use of library services and resources. One of the respondents noted that:

"Without having the assistance of the librarian for the arrangement of the available resources, it is not easy for us to locate the materials in the library, that is why most of us don't have access and use such resources because trying to access books in our library is like another way of wasting our time".

Other respondents (29) (28%) observed that most of the secondary school libraries had no enough space for reading as most of them stated that most secondary schools had no library as a separate building, except a very small room in the administration block. Figures 1-4 are the photos taken from the visited schools to show libraries without or with very minimal reading spaces.



Figure 1: School library from school one



Figure 2: School library from school two



Figure 3: School library from school three



Figure 4: School library from school four

A follow-up question to all these responses was that, "Were the students capable of accessing the information they needed from such a kind of library?" The results revealed that 77 (75%) managed to access the information needed and available in the library whereas 26 (25%) did not. One of the respondents noted that, "The reasons for the failure of accessing information needed by students among others were lack of appropriate books; outdated library materials; and lack of past examination papers." The present researchers therefore observed that the lack of professional librarians to provide the services was really a challenge as out of 10 visited school libraries, only two were managed by professional librarians.

WAYS FORWARD TO PROVIDING LIBRARY SERVICES IN SCHOOLS

Respondents were asked to provide their opinions about what should be done to effectively give students a chance to have access to and usage of information in their school libraries. The findings indicate that secondary school libraries should provide enough materials to cater for the information needs of the students, as well as updated and appropriate materials; schools should provide enough time to visit the library; students should be aware of the importance of the library; the school should train students on how to access e-resources; secondary school libraries should operate throughout the class hours and even after; secondary school libraries should be open during weekends (Saturday and Sunday); and the services should be provided by a qualified library staff. Additionally, and more probably the time for personal readings and library use should be allocated in the school timetable and various assignments should be attached to library use.

These findings relate to several previous studies including the study by Bernard and Dulle (2014) which was undertaken in Tanzania concerning school libraries. In this study, it was found that school library services are poor in various aspects such as having lack of qualified staff, lack of a library building and lack of up-to-date relevant materials. In order to facilitate school libraries to achieve their goals, it is important to improve and provide information materials, infrastructure as well as skilled library staff.

CONCLUSION AND RECOMMENDATIONS

The status of secondary school libraries in terms of administration and qualified staff, equipment, up to datedness of the resources and information services provision was not adequate to foster students' performance and lifelong learning. Therefore, to achieve the United Nations Sustainable Development Goal number four to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", it is important to improve library services at all educational levels.

Based on the main research findings, the researchers make recommendations on the following four aspects: First, the government in collaboration with private sectors should make sure that all secondary schools are assisted to have libraries in place. This can be successfully implemented only if it is well-stated in the education policy and guidelines for establishing secondary schools. Secondly, school owners (both public and private) should ensure that libraries in their schools have sufficient number of staff with required qualifications to work in libraries, at least a diploma level of education in library and information studies. Thirdly, secondary school libraries should have a separate, realistic and adequate budget, and lastly but not least in priority, there should be a clear guideline providing that for an organisation to operate as a secondary school such organisation should have a library equipped with up to date and varied resources. More importantly, for the purpose of instilling the sense of reading culture and lifelong learning skills among students, the government and the non-government organisation, and if possible, in a mode of private public partnership, education stakeholders should work together on establishing children's libraries everywhere in the society, and subsequently primary schools should have a sound library services in order to enhance children's love for books and the library. By so doing, when the so raised children go to secondary schools, they will be able to make maximum use of libraries.

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