# Chapter Six

# Research Support by Subject Librarians in Selected State University Libraries in Zimbabwe: Accommodating New Trends

***Notice Pasipamire***

National University of Science and Technology
Lecturer
Department Library and information Science
Bulawayo
Zimbabwe
Email: notice.pasipamire@nust.ac.zw
http://orcid.org/0000-0001-5148-9975

*Review status: Peer reviewed*

**Abstract**

*This chapter reports on a study which investigated how subject librarians gain the skills and knowledge required to support researchers in the new research landscape of higher learning institutions in Zimbabwe. An experience survey method was used, and results show that librarians gained skills through workshops, conferences, seminars, colloquia on research, personal development, partnerships, and through conducting research. It was discovered that subject librarians' support for researchers coalesces at the gathering and sharing stages of the research life cycle. Teaching information literacy, developing institutional repositories and mounting awareness campaigns were some of the activities undertaken by subject librarians in support of researchers. Academic librarians faced a number of challenges regarding the large size of the student bodies, lack of support from parent institutions and financial constraints.*

**Keywords:** academic libraries; researchers; research support; state universities; subject librarians; Zimbabwe

**Background to the study**

Traditionally, universities have had the primary role of producing highly skilled labour for the service and production sectors of the economy. However, as demand from government and funding agencies for relevant research continues to mount, research has emerged as a dominant goal in most higher education institutions in Zimbabwe. Additionally, success in research has become a major component in various indicators of overall university performance according to the Research Information Network (RIN 2010). As a result, most tertiary institutions have adopted a research-based approach to education (learning through inquiry) which fosters an environment in which research undertakings (problem-driven) and academic studies demand attention in equal measure.

Zimbabwe's higher education sector comprises universities, polytechnics and teacher training colleges (Kotecha & Perold 2010: 34). There are 16 universities (List of Universities in Zimbabwe 2015) and 21 polytechnics and colleges in Zimbabwe, according to the Southern African Regional Universities Association (SARUA 2009). Of the 16 universities, ten are state funded and six are privately owned. At the time of their establishment, these institutions developed their niche foci according to the gaps that existed in the economy at that point (Kotecha & Perold 2010: 34). Between them, the universities offer a wide range of disciplines in the humanities, social sciences (library and information science included), business studies, architecture and the natural, health and pure sciences, and include engineering and agriculture (Kotecha & Perold 2010: 34). The majority of the universities are relatively new, having been established during the last decade. The institutions are generally at different stages of development, with the University of Zimbabwe being the only one that can be described as having reached full maturity status (SARUA 2009), having been established in 1952.

The core functions of Zimbabwe's universities have had a strong focus on teaching and learning (approximately 57% concentration), with research (approximately 28%) and community service (approximately 15%) (SARUA 2009), however, this has been changing with university leaders complaining that there is a strong bias towards teaching and learning. They have pointed out that this bias needs to be reversed with the 'aim of producing new forms of outputs able to adapt in the current global economy' (Wilson-Strydom & Fongwa 2012). Speaking in Parliament on July 2, 2015 the Deputy Minister of Higher and Tertiary Education, Science and Technology Development in Zimbabwe, Dr G. Gandawa (Sport FM Radio Station 2015) reported that the Government had taken measures to ensure that students in institutions of higher learning come up with products in their studies and research that can be used in industry rather than simply acquiring certificates. This speech demonstrates a shift in thinking at government level.

The establishment of central research units in Zimbabwean higher learning institutions such as the Research and Innovation Office at the National University of Science Technology (NUST); The Office of Research at the Midlands State University (MSU) and the Research Section of Lupane State University (LSU) demonstrates the considerable amount of attention research has received in recent times at the institutional level. According to Kotecha and Perold (2010: 45) NUST reported an increased level of confidence amongst staff following these interventions, and an increase in applications for external grants. Research areas have also been streamlined into clusters of multidisciplinary teams that were in the process of responding to requests for proposals in their respective areas of interest (Kotecha & Perold 2010: 45). This arrangement reflects a new mode of knowledge production and science characterised by 'context of application, trans-disciplinary, heterogeneity of practise and close interaction of many actors' (Hessels & Lente 2007: 4) and the generation of large amounts of data. These developments have affected almost everyone in the academic community. RIN (2010)

and the Consortium of University Research Libraries (CURL) (2007) report that the rise of e-research, interdisciplinary work, cross-institution collaboration, and the expectation of massive increases in the quantity of research output in digital form all pose new challenges to everyone in the academic sphere, the library included.

Consequently, this research-based approach to higher education has affected academic librarians regarding their skills, knowledge and the role they should play in the research process or/and knowledge production. This shift in approach to education has led to a debate around the world regarding the role of academic librarians, especially research support by subject librarians. In their submission, Raju and Schoombee (2013: 27) assert that within the new higher education paradigm, where education is mooted to be done collaboratively, libraries are purported to be at the core. Some academic librarians, however, 'fear that they are on the brink of extinction….' (Bourg, Colman, & Erway 2009: 1).

High-end research support has been heralded as an opportunity for academic librarians to move away from 'life support' to a more critical role in the new higher education environment. However, a preliminary investigation in Zimbabwe showed that academic librarians in higher learning institutions were providing research support around collection development and information discovery. The new higher education landscape requires a 'shift in the role of the librarian is from a supporter of the research process to a contributor to the process' (Raju & Schoombee 2013: 29). The involvement of academic librarians in research, however, has been questioned by some because of the 'level of technical know-how and domain understanding required' in supporting researchers according to Swan and Brown (2008) cited in Kennan, Corrall and Afzal (2014: 669). This scepticism is evident in some universities where all research responsibilities, including publishing and research records management – which are library specific, have been taken on by newly created research units. This scenario puts academic librarians in an untenable position.

In an increasingly tough economic climate characterised by budget cuts, being able to demonstrate impact and value is crucial for the survival of academic libraries. Bourg, Colman, and Erway (2009:1) argue that academic librarians must change radically to survive. The establishment of institutional repositories at the University of Zimbabwe in 2005, NUST in 2007, Africa University in 2008, and MSU in 2009, and the creation of research commons at the University of Zimbabwe in 2013 and Africa University in 2013 (Nyambi 2011; Machimbidza 2014; Mazhude 2015; Africa University Library Policy 2013; Maisiri 2015) demonstrates that libraries in Zimbabwe have been responding to and transforming with the changing nature of higher education and research. Research commons are an innovation that has been mooted to cater for the new research environment designed to emphasise knowledge creation. They provide a flexible, technology-enabled space for postgraduate students and researchers, which supports collaboration between students and academics, and between researchers and research communities (Raju & Schoombee 2013: 33). In addition institutional repositories are intended to showcase the research output of an academic or research institution (Machimbidza 2014). Despite such developments indicating a positive move in support of research, studies that were carried out in Zimbabwe state universities revealed that institutional repositories and research commons were characterised by slow growth and low usage (Machimbidza 2014; Mazhude 2015).

In this context Ellis, Rosenblum, Stratton, and Ames-Stratton (2014: 2) suggest that some of these roles and services are new and that there are no established best practices or organisational models to follow in developing these new services. Many of these roles entail acquiring new skills or knowledge. It is, therefore, essential that 'librarians gain a better understanding of the research process… [and] embrace new roles and

developments aimed at supporting researchers….' (Creaser & Spezi 2012: 15). It was from this standpoint that the current study was carried out to find out how subject librarians were gaining the knowledge, skills and expertise required to provide high-end research support.

**Objectives**

The study sought to find out:

1. the activities/ services subject librarians were undertaking for the purpose of enhancing research support services;
2. the kind of knowledge and skills required by subject librarians to support research services in Zimbabwe;
3. how subject librarians were gaining skills of deeper research support; and,
4. the challenges faced by subject librarians in gaining knowledge and skills.

**Significance and scope of the study**

From the literature reviewed it appears that there are no studies in Zimbabwe that cover research support as a broad concept. However, there are piecemeal studies which focus on institutional repositories (Nyambi 2011; Machimbidza 2014); information literacy (Chanakira & Madziwo 2013); research commons (Mazhude 2015) and open access (Kusekwa & Mushowani 2014). This study took a broader view of research support and it is hoped that the empirical data obtained will lead to the inclusion of Zimbabwe in the international discourse on research support in higher learning institutions.

The literature reviewed also indicates that studies that were carried out internationally on research support by librarians focused on: skills and knowledge gaps (Auckland 2012); tools and services for research support (Kroll & Forsman 2010; RIN 2010); services offered by libraries (Waseem, Corrall, & Kennan, 2012; Raju & Schoombee 2014). Kennan, Corrall and Afzal (2014) addressed how data scientists and curators were gaining skills. It appears there is a dearth of literature on how subject librarians are gaining the skills and knowledge required to support research activities of their institutions. This study focused on how Zimbabwe subject librarians were gaining skills and knowledge for effective research support. Its scope which embraces subject librarians in selected state university libraries in Zimbabwe is explained by the growing evidence of research taking place in universities rather than in other academic institutions such as junior colleges and teacher colleges.

**Review of the literature**

The literature review covers an overview of research support, the research process as the theoretical framework of the study, research support by academic librarians around the so- called research life cycle (which will be described in a later section), skills and knowledge required to support research and related studies.

***Research support***

Research support has been defined differently by different authors depending on the form of support referred to but they all point to the fact that research support is help given to researchers during the research process. The Institute of Germanic and Romance Studies (2010: 1) defines research support as the assistance provided by subject specialists to diverse faculties in the academic community to enhance their research skills. Parker (2012) defines it as a set of services and facilities which assist in increasing research productivity and scholarship. Raju and Schoombee (2013) add that research support is the proactive engagement of the librarian with the researcher. From Parker's definition it is clear that research support can come from anywhere within the academic community while Raju and Schoombee (2013), and the Institute of Germanic and Romance Studies (2010: 1), define research support in the context of the library.

A researcher is a scholar who can, or will in time, through learning and experience, demonstrate: specialised knowledge or expertise; conceptual and intellectual capacities; academic skills such as the ability to produce high quality,

scholarly research papers, and will demonstrate research skills such as: the ability to use sources effectively; gather and organise information, as well as analyse text, data and theory (Institute of Germanic and Romance Studies 2010: 1). According to Auckland (2012: 14), there are categories of researchers in academic institutions which are: master's students, doctoral students, contract research staff, early career researchers, established academic staff, senior researchers, and experts/research fellows. It follows that researchers are not a homogeneous group. Auckland (2012: 2) notes that 'their activities, discourse, approaches to research, and their information needs differ, in particular in relation to their discipline and/or subject and its culture and praxis, and the stage of their career'.

***The research process as a theoretical framework***

In order to understand the skills and knowledge requirements as well as the current services offered by academic librarians, as with most of the previous studies that addressed research support, this study considered the research life cycle as an appropriate theoretical lens. Auckland (2012: 16) points out that it is crucial to have an understanding of the activities that researchers generally engage in during the research life cycle. It is where many library services intersect and support researchers' work and where the potential for new services can be identified. The research life cycle brings insights about where research support is required at various stages. It is important to note that while the activities involved in research support are similar, scholars vary in their views of the stages, elements and phraseology. Auckland (2012: 17) identifies:

- conceptualising new research, developing proposals, and identifying funding opportunities;
- seeking new information;
- information management;
- research data collection; research data discovery, management and curation;
- sharing, discussion, and online collaboration;
- analysing and reflecting on information and research data;
- writing up and dissemination;
- compliance, intellectual property, copyright and other statutory requirements;
- preservation;
- quality assessment and measuring impact;
- commercialisation; and,
- emerging technology.

Schoombee identifies six stages that are followed in the research life cycle namely: prepare, gather, create, preserve, share and measure.

Under **preparation,** researchers are involved in background reading/looking for ideas, deciding on a topic, formulating a research question, securing funding, planning the project, identifying skills deficits and planning for workshops.

During **gathering**, researchers are involved in literature reviewing, research design, research methods, research proposal, ethical compliance, and data collection.

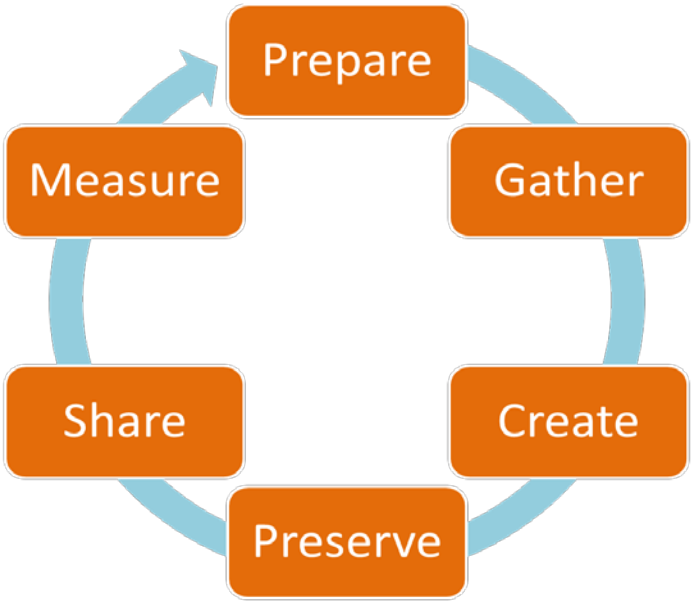
In **creation** researchers analyse data, write edit/proofread, managing bibliographic details, comply with copyright, and avoid plagiarism.

At the **preservation** stage, researchers are involved in managing and preserving research output and data.

During the **sharing** stage researchers are involved in publishing through books, journals, open access platforms, conferences and social media.

Activities under **measurement** include strategic research management (showcasing, funding, and collaboration), determining journal impact, author productivity and impact reports, profiling to increase visibility, and considering collaboration opportunities (Schoombee 2013: 16-21).

Figure 1: Research life cycle (Schoombee 2013: 15)




***Library research support around the research life cycle***

Case (2008) cited by Oakleaf (2010: 47) notes that academic libraries contribute to research productivity in both straightforward and subtle ways. The research life cycle approaches of Schoombee (2013), the Centre for Information Behaviour and Evaluation in Research (CIBER 2010) and Auckland (2012) were reconciled and condensed for the current Zimbabwean study. The resulting model which was used as a framework for this study comprises seven stages: preparation, gathering, creation and preservation, sharing, measuring, commercialisation and emerging technologies.

At the *preparation* stage, Auckland (2012: 17) found little evidence that subject librarians were actively engaged in this phase. However, Auckland noted that subject librarians at Melbourne University were offering support and providing assistance with grant applications, and at the University of Leeds they occasionally co-author funding bids as part of a research team.

At the *gathering* stage, one of the ways in which subject librarians were supporting researchers in their information discovery activities was by demonstrating a detailed knowledge of information resources in their subject areas and the skills needed to find the resources required efficiently and, by providing advice and training, to enable researchers to find relevant resources easily (Auckland 2012: 19). According to Auckland, many libraries report that subject librarians use traditional means, such as the creation of online guides and tutorials to help researchers learn how to use new information resources, and information literacy sessions of various kinds support researchers' information discovery needs. However, Auckland (2012: 19) notes that there is evidence that the role of subject librarians is being transformed in some libraries to provide more targeted services for researchers which are tailored to their specific needs such as developing effective search strategies, and undertaking literature searches for individual researchers or research teams (Auckland 2012: 19). Garner (2006: 2-3) reveals that Australian universities were providing for multi-format scholarly resources, document delivery, online reference services for researchers, training, and support for grants applications as well as provision of physical space for researchers.

At the *creation and preservation* stage, Auckland (2012: 22) notes that the services to support the management of research data are still to a certain extent in their infancy, and their nature

and who should provide them are questions that are being actively debated. Auckland (2012: 22), however, points out that librarians can engage in determining the best home for data, and in the manipulation required to make them reusable by others; consulting with researchers at the point of data creation and advising on standards applicable to their needs. He further notes that librarians can assist with the compilation of a data management plan, and creating and organising strategies for documentation, files, and backups; with collecting and making available data sets for reuse, and with research data curation and management.

At the *sharing* stage, Auckland (2012: 25) points out that there may be an opportunity for subject librarians to play an advisory role in identifying, promoting and, indeed, developing virtual networking forums, especially for niche research areas not currently catered for elsewhere. Auckland (2012: 25) states that several participating libraries report that subject librarians already are, or will be, advising and/or training researchers on dissemination and publishing options, including scholarly communication and open access. They are supporting lecturers in understanding and/or utilising new and different dissemination means and helping them to understand open access as a sustainable model of scholarly communication. Raju and Schoombee (2013: 34) identify the need for advice and support for lecturers in open access publishing through the open journal system (OJS).

At the *measurement* stage, Auckland (2012: 30) notes that this area is where subject librarians are becoming increasingly involved. It seems that many libraries report providing, or anticipate providing, advice on bibliometrics, for example, citation scores, publication counts, and h-index measures.

At the penultimate stage of *commercialisation*, Auckland (2012: 31) reveals that at the University of Toronto some of subject librarians, who were embedded and working directly with the science faculty at non-library sites, were involved in commercialisation through market research. One area where subject librarians could offer support for commercialisation is regarding the need for researchers to pay attention to copyright and other mechanisms for preserving intellectual property rights in this context.

At the final stage - *emerging technology,* Auckland (2012: 31) points that there is an opportunity for subject librarians to introduce researchers to the potential emerging technologies such as Web 2.0 applications, text messaging, mobile/phone devices, presentation software, podcasting, and handheld devices.

### *Academic librarian skills and knowledge for research support*

Corrall, Kennan, and Afzal (2012) identify bibliometrics and research data management (RDM) skills for subject librarians while Auckland (2012: 35) identifies a set of skills and areas of knowledge that subject librarians currently need, or will need in the future in order to be involved in deep research support around the research life cycle. These skills and knowledge from both scholars were merged, condensed and presented in Table 1.

### *Related studies*

A number of studies that have been carried out around the world seem to indicate that academic librarians are offering and emphasising research support at different stages of the research life cycle. RIN (2010) used a desk research approach to determine the extent of academic librarians' research support in four UK universities. Focusing on the tools and services researchers used in the course of the research lifecycle, the study found that the information-based research support services provided by the four universities tended to focus on the initial and the latter stages of the research process. The case study by Raju and Schoombee (2013: 27) at Stellenbosch University, South Africa, examined academic libraries' attempts to establish the 'deeper meaning' of the librarian for the researcher and the research

Table 1: Skills for research support

| The skills and knowledge set |
|---|
| 1. Data curation and preservation skills – to maintain research data for the long term such that it is available for reuse and preservation. |
| 2. Technical and information communication technologies skills (ICTs) – various tools to help link users with information (such as really simple syndication (RSS) feeds and other emerging Web 2.0 technologies), and to pick and adapt appropriate tools to assist researchers manipulate and manage their data. |
| 3. Subject and/or disciplinary knowledge – to understand and apply the vocabulary, the taxonomy. |
| 4. Knowledge of research methods – for evaluating research reports, collaboration with researchers. |
| 5. Knowledge of research processes – to better understand the needs of researchers. |
| 6. Knowledge of bibliometrics – for citation analysis, research impact calculation, h-index calculation. |
| 7. Knowledge of publishing – for editing, uploading research output into institutional repositories, author rights, copyright act, intellectual property (IP), patents, and publication targets including open access. |
| 8. Teaching skills – for designing and delivering information literacy training programmes and bibliometrics training. |
| 9. Literature searching skills – coming up with search strategies, choosing appropriate searching tools, and knowledge of relevant databases. |
| 10. Marketing skills – for appropriate library services to researchers. |
| 11. Metadata skills – for creating and editing records, and metadata schema. |
| 12. Information literacy skills – for synthesis, and analysing discovered information. |
| 13. Collaborative skills – for building relationships and establishing collaborations internal and external to one's institution. |
| 14. Knowledge of research landscape – to understand current and changing local research interests. |
| 15. Knowledge of sources of research funding – assisting researchers to identify potential funders. |

process. They found that librarians were providing a new and expanded set of services which included, *inter alia*, RDM, curation and preservation, facilitation of open access and bibliometric analysis research support at different stages of the research life cycle. RIN (2010) used a desk research approach to determine the extent of academic librarians' research support in four UK universities. Focusing on the tools and services researchers used in the course of the research lifecycle, the study found that the information-based research support services provided by the four universities tended to focus on the initial and the latter stages of the research process. The case study by Raju and Schoombee (2013: 27) at Stellenbosch University, South Africa, examined academic libraries' attempts to establish the 'deeper meaning' of the librarian for the researcher and the research process. They found that librarians were providing a new and expanded set of services which included, *inter alia*, RDM, curation and preservation, facilitation of open access and bibliometric analysis. They discovered that librarians were taking an active part in research by engaging in all the stages of the research cycle. Tenopir, Birch and Allard (2012) undertook a study to assess the current state of, and future plans for, research support services in academic libraries in the United States of America and Canada and found out that only a small minority of academic libraries offered research support services, but a

quarter to a third of all academic libraries were planning to offer such services soon. Garner (2006) conducted a survey which led to the discovery that the most common services among Australian universities were the provision of multi-format scholarly resources, document delivery, online reference services for researchers, training, support for grants as well as provision of physical space for researchers.

**Methodology**

The researcher made use of an experience survey which 'gathers and synthesises the experience of specialist and or practitioners in a particular field' (Connaway & Powell 2010: 108). The experience survey helped the researcher to establish the knowledge of practitioners regarding their skills, and knowledge of gaps in research support. A survey was appropriate for studying subject librarians in the selected state university libraries because it is a method which is 'best when getting a snapshot of the current state of affairs in a given group or population, what researchers call descriptive work' (Janes 2001:419). This method was suitable for the study as the researcher was also interested in identifying the activities and/or services that subject librarians were currently offering. The study was carried out in March and April, 2015 with subject librarians in four Zimbabwe state universities namely NUST, the University of Zimbabwe, LSU and the MSU libraries, to establish how subject librarians and the subject teams were gaining the skills and knowledge required to be involved in 'deep research support'. Each faculty in the selected state universities had a faculty librarian. In the end, a total of 26 subject librarians were identified. The study worked with a sample of 16 librarians who were chosen for their availability on social media platforms. Social media platforms such as Facebook, LinkedIn and WhatsApp were instrumental in interviewing subjects in order to get detailed information on the research activities that they were undertaken.

The interview questions were informed by the findings from the questionnaire that was sent prior to the interviews. An email platform was used to distribute copies of the questionnaire to subject librarians in order to collect data on activities undertaken for research support purposes, skills and knowledge gaps, as well as methods used to gain skills and knowledge for research support. Data from the questionnaire instrument also informed the interviews that were carried out with academic library managers in the selected university libraries. The interviews were conducted in order to establish the short and long term strategies being used by library management to redress the assumed gaps in research support.

**Results**

All 16 subject librarians who were contacted for the purpose of this study responded on at least one of the following platforms: email, LinkedIn, WhatsApp, and Facebook.

***Demographic data***

The responses reveal that subject librarians held different qualifications and were at various stages of their professional development. It was established that eight had a degree in library and information science (LIS), one had a degree in developmental studies, one had an English degree and six had a master's degree in LIS from NUST. The experience of these respondents in LIS ranged from one to ten years. Between them the subject librarians offered support in disciplines ranging from the humanities, communication and information science, commerce, education, law, built environment, development studies, health and pure sciences, engineering and agriculture. Only two had a qualification in the area in which they were working. The rest held librarianship qualifications only. Dale, Holland and Mathews (2006) report that many librarians do not necessarily have a qualification in the subject they support and librarians are asked increasingly to cover a wider subject remit.

***Activities undertaken for research support***

Subject librarians were asked about the re-

search support activities that were being undertaken in their respective institutions in a seven stage research life cycle. Findings from the questionnaire distributed to the 16 subject librarians in the four Zimbabwe state university libraries are summarised in Figure 2 (see Appendix). The results show that the activities for research support by subject librarians in these selected state universities in Zimbabwe were varied and distributed across the research life cycle. However, it was discovered that at the *preparation* stage there were no activities or services that were offered by the librarians as all 16 subject librarians did not indicate any services offered at this stage. Findings also showed that the activities were concentrated at the *gathering* and *sharing* stages with the majority indicating that they were involved in one or all the activities that were presented to them on the questionnaire.

At the *gathering* stage, creation of research guides, online referencing and provision of physical space were the most popular with all 16 subject librarians reporting such activities. Information literacy sessions and literature searches were being undertaken by seven of the subject librarians.

At the *creation* stage, creating backups received prominence with 15 subject librarians indicating that they undertook the activity. The rest of the activities did not receive much attention namely collection (four responses); research data curating (four), and there was no attention given to creating and organising strategies for documentation.

All the activities expected at the *sharing* stage were indicated by all the 16 subject libraries, save for the activity, advising on new dissemination methods, where the respondents were equally divided with eight responding that they undertook advertising and eight answering they did not.

At the *measurement* stage where librarians are expected to do citation analysis, publication counts and h-indexing, all 16 subject librarians did not report any activities being undertaken. However at the *commercialisation* stage, all 16 subject librarians were involved in marketing research and, ten indicated that they advised on copyright and property rights. Communicating the benefits of using emerging technologies in research was being undertaken by eight subject librarians while the other half indicated that they did not undertaking such a task.

The above findings from the closed questions on research support activities in the questionnaire were triangulated with findings from open ended questions in the interviews which revealed that subject librarians were teaching information literacy to all students, focusing particularly on 'first year undergraduate and postgraduate students'. Subject librarians were also involved in the publishing process through the development of institutional repositories using software such as 'DSpace'. The aspect of marketing was undertaken using a number of techniques including 'student library ambassadors' to create awareness of services that are offered by the library. The document delivery service (DDS) was also mentioned as a platform currently available whereby users can request for a document from the library and is delivered to them.

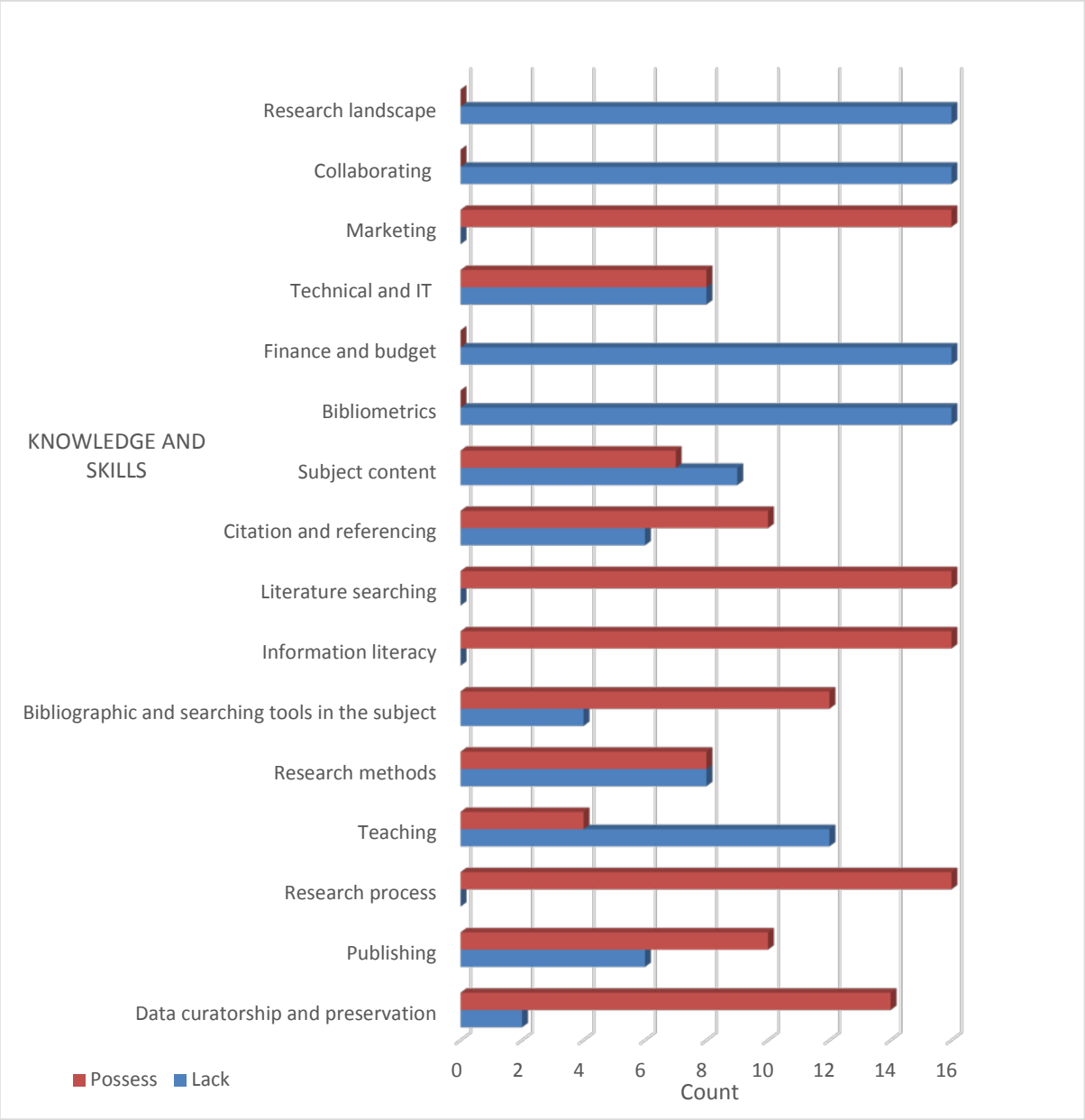
***Skills and knowledge gaps***

The skills and knowledge gaps were important for this study because they provided the direction in which efforts were to be directed in an endeavour to accommodate new trends.

Subject librarians were therefore asked to indicate their knowledge and skills gaps. They were presented with a table which reflected important skills and knowledge for research support which has been derived from the literature surveyed. Figure 3 depicts the findings from this question.

Figure 3 shows that the majority of the librarians lacked most of the skills presented to them. All 16 subject librarians indicated that they lacked knowledge of bibliometrics, finance and budget skills, collaborating skills, and knowledge of the research landscape. The majority, that is, 12 lacked teaching skills for information literacy. Half of the librarians, eight, indicated that they lacked

Figure 3: Subject librarians' skills and knowledge gaps

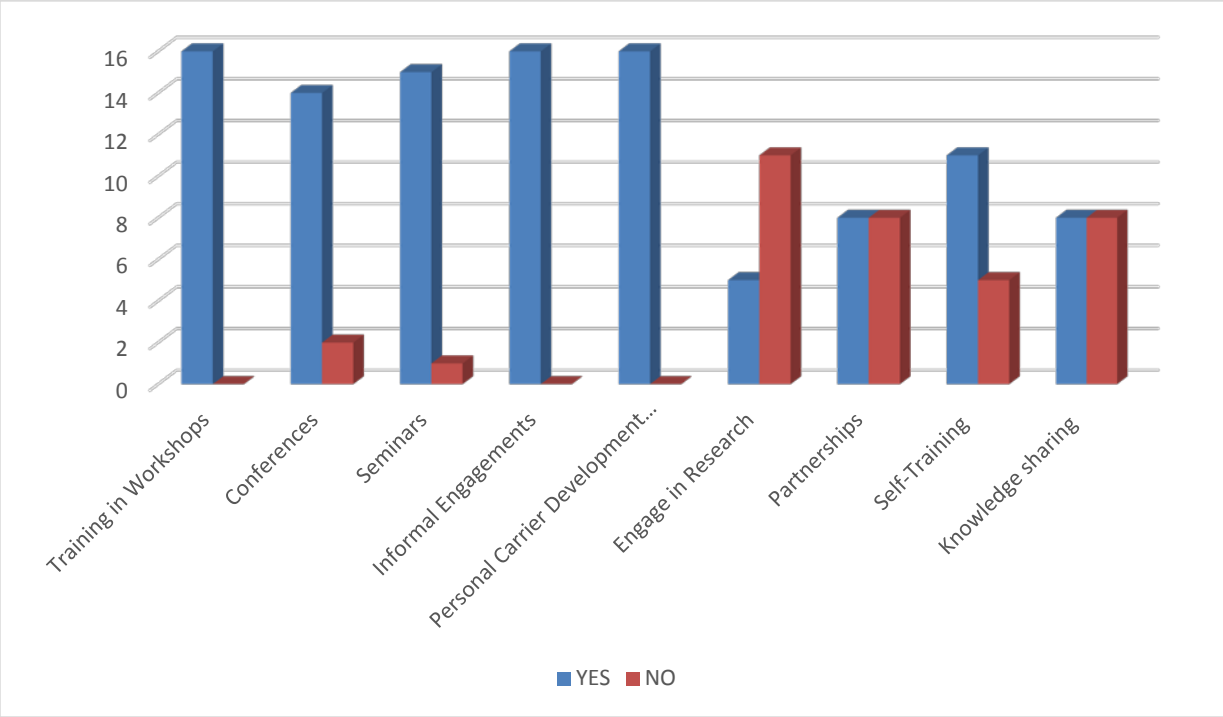



knowledge on both research methods and ICT skills. All 16 possessed knowledge of research processes, information literacy skills, literature searching, and marketing, while six lacked publishing knowledge and two lacked preservation skills. Knowledge regarding research methods was possessed by half of the respondents. They were also equally divided regarding their knowledge and skills of subject content and citation and references.

***Methods of gaining skills and knowledge***

Knowing how subject librarians were gaining skills and knowledge for research support was important for the study because it indicated how subject librarians were seeking to accommodate the new trends in higher education. These trends are part of the dynamism required of academic librarians and are also as a way to redress library support that was skewed towards teaching and learning. Results show that workshops, informal engagements and personal development initiatives were the most popular methods to gain skills with all 16 subject librarians. Responses for other methods popular with the subject librarians were seminars (15), conferences (14), and self-training (11). Eight of the respondents used

Figure 4: Methods of gaining skills and knowledge




partnerships and knowledge sharing with fellow librarians as methods of gaining skills and knowledge. However, engaging in research [five] was the least popular method among the subject librarians.

Interviews with the subject librarians conducted via the social media platforms WhatsApp and LinkedIn revealed the experiences they went through while gaining skills and knowledge for research support. It was discovered that some subject librarians had attended workshops. The following verbatim quotes give examples: 'a workshop on subject guides using [SubjectsPlus] under eIFL at the National University of Science and Technology for ZULC [Zimbabwe University Libraries Consortium] members in 2011'. Another had attended:

> INASP [International Network for the Availability of Scientific Publi cations] and eIFL [Electronic Information for Libraries] sponsored workshops covering Open Access aspects such as the construction of digital libraries using DSpace and Greenstone software respectively, developing Open Access policies, content harvesting, metadata issues and management of institutional repositories including sensitization to and marketing of the institutional repositories.

Libraries were also partnering with associations and professional organisations, for example, 'INASP and the Midlands State University (MSU) have a partnership on conducting research'.

It was also discovered that subject librarians engaged in research by publishing in refereed journals such as *Library Hi Tech* (one librarian). Peer to peer or peer groups were used for knowledge sharing between and among subject librarians. Subject librarians also revealed that they attended annual conferences within the field including those organised by the Zimbabwe Library Association (ZimLA), the International Federation of Libraries and Associations (IFLA), and the Library and Information Association of South Africa (LIASA). One respondent indicated that 'trainings have been done and are still being done for professional development and as well for enhancing research output on areas such as Reference Management Software, Research skills'.

Regarding continuous professional development, subject librarians were attending universities to attain higher qualifications than those they

held when they first gained employment. All the subject librarians indicated that at any given time there are two or more people pursuing higher education at universities and other institutions of higher learning.

***Strategies by library management on research support***

Four librarians at the management level were interviewed to establish the short and long term strategies that they had for research support in future. They indicated that they were all planning to train their existing staff so that they would be able to be of greater value in supporting researchers. However, they all indicated that they had no plans to hire new staff for the purposes of research support, due to financial constraints and freezing of posts by the government.

***Challenges faced in gaining skills and knowledge for research support***

From the data gathered, it was established that funding is a major stumbling block for subject librarian to gain the skills required to support research. The majority of the subject librarians interviewed indicated that the major stumbling blocks to their development were their institutions which were 'reluctant to provide money to staff to embark on personal development due to shoe-string budgets'. Another issue which was raised is that university policies for non-teaching staff deterred self-development; one subject librarian stated 'I cannot embark on studies before I serve the university for a certain period'. However, those who managed to attain higher degrees point to gaps in library schools curricula which according to one subject librarian 'do not address specific research support skills and knowledge'. Another pointed to the 'lack of exposure to facilities and appropriate technologies for research support which would allow us to learn on the job'.

***Challenges experienced in supporting researchers by subject librarians***

All 16 subject librarians acknowledged that they were too focused on providing services for teaching and learning. The reason was that researchers did not cooperate with librarians. For example, a low submission rate of articles for uploading on to institutional repositories by academics was singled out. One subject librarian mentioned 'lack of support from the parent institution in terms of legislation that "enforces" research practices, for example, policies that define how I should provide research support'.

It was also mentioned that 'financial constraints' inhibit librarians from sourcing materials that were required by researchers. Another challenge pointed out is that subject librarians' own initiatives to support research seem to be getting 'shot down' as in the case where some academic libraries tried to introduce the teaching of information literacy but to no avail. Some pointed out that 'library authorities fail to clearly plan and communicate plans and activities with the relevant authorities' which hindered subject librarians in supporting researchers. It was also mentioned that 'the size of the student body can present challenges when it comes to providing tailored research efforts'. Massification of higher education is increasingly making it difficult for librarians to attend to the researchers individually.

**Discussion of results**

Currently, the visible activities undertaken in support of research in the selected state university libraries in Zimbabwe have been identified as information literacy sessions and training, referencing, institutional repositories, open access initiatives, marketing as well as the use of subject guides as pathfinders to knowledge repositories. A critical look at the research support activities demonstrates that these libraries are still mostly providing traditional research support services. As observed by MacColl and Jubb (2011: 5), academic libraries in recent years have been struggling to make a positive impact on the scholarly work of researchers. The finding of the concentration of services around the gathering stage, where librarians are responsible for creating research guides, online referencing and provision

of physical space points to the fact that the librarians in the study were providing a natural extension of their traditional roles. These findings differ from those of Raju and Schoombee (2013: 27), who found out that Stellenbosch University librarians were providing a new and expanded set of services, which included, *inter alia*, RDM, curation and preservation, facilitation of open access and bibliometric analysis. It is at the sharing stage that subject librarians in these selected university libraries were providing services that seem to suit the new higher education and research landscape which is characterised by use of ICTs in teaching and learning, collaboration and new science.

The overwhelming support given to the development of institutional repositories, and open access demonstrates the effort the librarians are making towards supporting research in a new way. However, lack of support in new areas that librarians are supposed to venture into points to the fact that the concept of research support has not been fully embraced and given the attention it deserves to match the commonly accepted teaching and learning support. According to Surprenant and Perry (2002), quoted by Raju and Schoombee (2013: 29), the library 'must now assume the role of being a highly interactive, proactive, digitally based, cyber mix of staff'. Librarians are now expected to move out of the library and began to provide support at the preparation, creation and measurement stage of the research life cycle.

It is worth noting that the lack of support for these areas has not been a deliberate act on the part of subject librarians but rather a lack of requisite skills and knowledge necessary to support such services. Subject librarians pointed out that they lacked a number of skills, namely bibliometrics, collaboration skills, budget and finance, and teaching skills, among others. However, it is encouraging to observe that librarians were making efforts to improve themselves professionally so that they close the knowledge and skills gap through personal career development, attending workshops and informal engagements, despite lack of support from their institutions in terms of funding, and restrictive staff development policies. Auckland (2012: 70), however, doubts the suitability of conferences and workshops in imparting practical technical skills needed for research support. This supports the view of Hisle (2002: 1) who notes that 'ensuring education of new librarians and re-educating existing librarians with skills and knowledge to support new roles… is a challenge for the profession'.

Library management were supportive of the strategy to re-train the existing staff as opposed to hiring new staff. Findings revealed that despite the best intentions by subject librarians to accommodate new trends, their efforts were hindered by lack of policies that guide how subject librarians should provide research support. Librarians also pointed out that researchers did not cooperate with users. This appears to support MacColl and Jubb's (2011) finding that institutionally-provided research support services are not appreciated by researchers in universities who consider them marginal at best and burdensome at worst. In the researcher's view, this kind of situation takes away the confidence and experience necessary for librarians to be fully engaged in deep research support.

**Conclusion**

It is evident from the findings that research support in academic libraries in Zimbabwe is limited. The study found that subject librarians in state universities were providing traditional forms of research services despite the fact that they were now evidently operating in a new educational and research landscape. In the new research landscape the focus has shifted to new science and new modes of knowledge production and librarians must provide high-end research support which represents a newer and more involving task. This task must be embraced not only with an extension of traditional roles but with taking on new roles and responsibilities such as research evaluation, citation analysis, RDM, grant

applications, among others. However, the evident concerted efforts by Zimbabwean subject librarians to strategically align and balance their services to suit new academic landscapes through the building of new research facilities such as research commons, and institutional repositories, among others, demonstrates that they were transforming themselves professionally, albeit at a slower pace compared to the developments in higher education. In addition, the acquisition of new skills and knowledge by way of attending workshops, conducting research itself and informal engagements demonstrate a commitment to change and accommodate new trends.

**Recommendations**

From the study's findings and conclusion, the following issues on research support were found to be important going forward:

1. Academic institutions must craft policies that govern how research activities must be supported by everyone within the academic community and especially by the library. This will assist in ensuring that everyone is clear on the role they must play.
2. University libraries should create research support units within the library to ensure that research activities are given appropriate attention together with the teaching and learning support.
3. Library schools should review their curricula regularly so that courses that address challenges of the day are incorporated, research support included. This will give practising librarians a place where they can upgrade their skills.

**Acknowledgements**

The researcher thanks Part Four Library and Information Science Students (2014-2015 Academic Year) in particular, Emmanuel Choga, Elton Moyo, and Tatenda Mangachena for gathering data for this research.

**References**

Auckland, M., 2012. Re-skilling for research: an investigation into the role and skills of subject and liaison librarians required to effectively support the evolving information needs of researchers. *Research libraries UK*. [Online]. Available: http://www.rluk.ac.uk/files/RLUK%20Re-skilling.pdf [Accessed 15 May 2015].

Africa University Library Policy. 2013. Africa University Library Policy. [Online]. Available: http://library.africau.edu/images/documents/Institutional%20Repository%20-%20Chapter%20Four.pdf [Accessed 09 December 2015].

Bourg, C., Colman, R. and Erway, R., 2009. Support for the research process: an academic library manifesto. Online Computer Library Center Research report. [Online]. Available: www.oclc.org/research/publications/library/2009/2009-07.pdf [Accessed 15 May 2015].

Chanakira, T. and Madziwo, E., 2013. Embracing the teaching of Information Literacy skills (ILS) at the Zimbabwe Open University. [Online] http://www.lis.zou.ac.zw:8080/dspace/handle/0/113. [Accessed 15 May 2014].

CIBER (Centre for Information Behaviour and Evaluation in Research), 2010. Research Support Services in UK Universities. London: Research Information Network. [Online]. Available: http://www.rin.ac.uk/system/files/attachments/Research_Support_Services_in_UK_Universities_report_for_screen.pdf [Accessed 14 May 2015].

Connaway, L. S. and Powell, R. R., 2010. *Basic research methods for librarians* (5th ed.). Library and Information Science Text Series. Santa Barbara: Greenwood Publishing Group. [Online]. Available: http://dspace.utamu.ac.ug:8080/xmlui/bit-

stream/handle/123456789/168/BASIC+RESEARCH+METHODS.pdf?sequence=1 [Accessed 24 May 2015].

Corrall, S., Kennan, M.A. and Afzal, W., 2013. Bibliometrics and research data management services: emerging trends in library support for research [Online]. *Library trends*, 61(3), 636-674. Available: http://muse.jhu.edu/journals/library_trends/v061/61.3.corrall02.pdf [Accessed 14 May 2015].

Creaser, C and Spezi, V., 2012. Working together: evolving role of academic libraries. SAGE report. [Online]. Available: www.utlib.ee/liber2012/showcase/lisu_report.pd [Accessed 11 May 2015].

Dale, P., Holland, M and Mathews, M. (ed.)., 2006. Subject librarians: engaging with the learning and Teaching environment. Aldershot: Ashgate Publishing.

Ellis, E. L., Rosenblum, B., Stratton, J. and Ames-Stratton, K., 2014. Positioning academic libraries for the future: a process and strategy for organisational transformation. [Online]. Available: http://kuscholarworks.ku.edu/bitstream/handle/1808/14141/IATUL_Positioning_Academic_Libraries_For_The_Future.pdf?sequence=1 [Accessed 19 May 2015].

Gandawa, G., 2015. Live Parliamentary debates. Sport FM Radio Station. 1400hrs. [Accessed 2 July 2015].

Garner, I., 2006. Library support for research in a university context. *Proceedings of the IATUL Conference*. Paper 24. [Online]. Available: http://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1768&context=iatul [Accessed 10 May 2015].

Hessels, L. K. and Lente, H., 2007. Re-thinking new knowledge production: a literature review and a research agenda. Innovation Studies Utrecht (ISU) Working Paper Series. [Online]. Available: www.geo.uu.nl/isu/pdf/isu0803.pd [Accessed 05 May 2015].

Hisle, W. L., 2002. Top issues facing academic libraries: a report of the Focus on the Future Task Force. *College & Research Libraries News*, 63(10). [Online]. Available: http://www.ala.org/acrl/proftools/recruiting/topissuesfacing. [Accessed 05 May 2015].

Institute of Germanic and Romance Studies, 2010. Postgraduate online research training. *University of London Computer Centre*. [Online]. Available: http://port.modernlanguages.sas.ac.uk/researcher [Accessed 29 May 2015].

Janes, J., 2001. Survey research design. *Library Hi Tech*, 19(4), 419-421. [Online]. Available: http://www.ingentaconnect.com/content/mcb/238/2001/00000019/00000004/art00013/citations;jsessionid=31mmten9p1rmo.victoria [Accessed 21 May 2015].

Kennan, M. A., Corrall, S. and Afzal, W., 2014. 'Making space' in practice and education: research support services in academic libraries. *Library Management*, 35(8/9): 666 - 683. [Online]. Available: http://dx.doi.org/10.1108/LM-03-2014-0037 [Accessed 20 June 2015].

Kotecha, P. and Perold, H., 2010. Rebuilding higher education in Zimbabwe: a needs analysis. *Southern African Regional Universities Association (SARUA) Leadership Dialogue Series,* 2(1), 33-49. [Online] Available: http://www.sarua.org/files/publications/SARUA%20leadership%20Dialogue%20Series/Leadership%20Dialogue%20Series_Vol%202%20No%201.pdf [Accessed 01 September May 2015].

Kroll, S. and Forsman, R., 2010. A slice of research life: information support for research in the United States. Dublin, Ohio: *OCLC Research*. [Online]. Available: http://www.oclc.org/research/publications/library/2010/2010-15.pdf. [Accessed 17 May 2015].

Kusekwa, L. and Mushowani, A., 2014. The open access landscape in Zimbabwe: the case of university libraries in ZUL*, Library Hi Tech*, 32(1), 69-82. [Online]. Available: http://www.emeraldinsight.com/doi/full/10.1108/LHT-07-2013-0083. [Accessed 26 May 2015].

List of Universities in Zimbabwe. 2015. Wikipedia, the free encyclopaedia.[Online] https://en.wikipedia.org/wiki/List_of_universities_in_Zimbabwe [Accessed 09 December 2015].

MacColl, J., 2010. *Research assessment and the role of the library. Dublin Ohio*: *OCLC Online Computer Library Center Research*. [Online]. Available: http://www.oclc.org/research/publications/library/2010/2010-01.pdf [Accessed 14 May 2015].

MacColl, J. & Jubb, M., 2011. *Supporting research: environments, administration and libraries.* Dublin, Ohio: OCLC Online Computer Library Center. [Online]. Available: http://creativecommons.org/licenses/by-nc-sa/3.0/ [Accessed 14 May 2015].

Machimbidza, A., 2014. National University of Science and Technology (NUST) academics' attitudes towards NUST institutional repositories (NUSPACE*)*. MSc (Library Information Science) dissertation. National University of Science and Technology, Bulawayo.

Maisiri, A., 2015. Telephone conversation about MSU institutional repository. [Conducted 10 December 2015].

Mazhude, A., 2015. Use of the University of Zimbabwe research commons by undergraduate students. MSc (Library and Information Science) dissertation. National University of Science and Technology. Bulawayo.

Nyambi, E., 2011. An investigation of the Zimbabwean institutional repositories: facilitators and barriers to implementation. Oxford: International Network for the Availability of Scientific Publications. [Online]. Available: http://r4d.dfid.gov.uk/PDF/Outputs/peri/2011-ZW-Repositories.pdf [Accessed 06 May 2015].

Oakleaf, M., 2010. *The value of academic libraries: a comprehensive research review and report.* Chicago: Association of College & Research Libraries. [Online]. Available: http://www.ala.org/acrl/sites/ala.org.acrl/files/content/issues/value/val_report.pdf [Accessed 15 May 2015].

Parker, R., 2012. What the library did next: strengthening our visibility in research support, emPowering efutures. *VALA 2012 16th Biennial Conference*, 6-9 February. Melbourne, Australia. [Online]. Available: http://www.vala.org.au/vala2012-proceedings [Accessed 23 May 2015].

Raju, R. and Schoombee, L., 2013. Research support through the lens of transformation in academic libraries with reference to the case of Stellenbosch University Libraries. *South African Journal of Library and Information Science*, 79(2), 27-38. [Online]. Available: http://sajlis.journals.ac.za/pub/article/view/155/1304 [Accessed 10 May 2015].

RIN (Research Information Network), 2010. *Research support services in UK universities: a Research Information Network report.* [Online]. Available: http://ciberresearch.eu/download/20101116-RSS-report.pdf [Accessed 10 May 2015].

RIN (Research Information Network) and the Consortium of University Research Libraries (CURL). 2007. *Researchers' use of academic libraries and their services*. A report commissioned by the Research Information Network and the Consortium of Research Libraries. [Online]. Available: http://www.rin.ac.uk/system/files/attachments/Researchers-libraries-services-report.pdf [Accessed 17 July 2015].

SARUA (Southern African Regional Universities Association), 2009. SARUA handbook 2009: a guide to public universities of Southern Africa. Johannesburg: SARUA. Available: http://www.sarua.org/files/Handbook/SARUA%20Handbook_Zimbabwe.pdf [Accessed 01 September May 2015].

Schoombee, L., 2013. *Research support services at an academic library. Presented at the University of the Free State 27 November.* [Online]. Available: http://www.slideshare.net/luciaschoombee/research-support-services-at-an-academic-library-presented-at-ufs-27112013 [Accessed 11 April 2015].

Tenopir, C., Birch, B. and Allard, S., 2012. *Academic libraries and research data services: current practices and plans for the future. An ACRL White paper*. Chicago: Association of College and Research Libraries. [Online]. Available: http://www.ala.org/acrl/sites/ala.org.acrl/files/content/publications/whitepapers/Tenopir_Birch_Allard.pdf [Accessed 11 May 2015].

Waseem, A., Corrall, S. and Kennan, M. A., 2012. Evolving roles: research support services in the academic libraries of Australia, Ireland, New Zealand, and the U.K. *ALISE'12, Extending Our Reach:*

*Expanding Horizons, Extending Opportunity*, 17-20 January, Dallas, TX. (Unpublished). [Online]. Available: http://d-scholarship.pitt.edu/25187/ [Accessed 11 May 2015].

Wilson-Strydom, M. and Fongwa, S.N., 2012. *A profile of higher education in Southern Africa: a regional perspective* 1. Johannesburg: SARUA. [Online]. Available: http://www.sarua.org/files/publications/SARUA%20leadership%20Dialogue%20Series/SARUA%20Profiles%20of%20HE%20Vol%201.pdf [Accessed 1 September 2015].

## Appendix

Figure 2: Activities undertaken for research support