

**THE CHANGING ROLES, RESPONSIBILITIES AND SKILLS OF SUBJECT AND
LEARNING SUPPORT LIBRARIANS IN UNIVERSITIES IN THE SOUTHERN
AFRICAN CUSTOMS UNION (SACU) REGION: GUIDELINES FOR THE
ESTABLISHMENT OF A NEW SERVICE**

BY

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DECLARATION

Student number: 447-317-5

I declare that: **The Changing Roles, Responsibilities and Skills of Subject and Learning Support Librarians in Universities in the Southern African Customs Union (SACU) Region: Guidelines for the Establishment of a new Service** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

17 February 2014

SIGNATURE

(Ms)

DATE

SUMMARY

Subject and learning support librarianship first began in African university libraries in the 1960s, but became more prevalent in the 1980s. Subject librarians, who were known by different titles in various universities, were responsible for one or more subjects, departments, schools or faculties, in terms of providing a subject-based information service, and performing subject-based collection development, user education, and liaison functions. They were organised according to specific models or structures which determined whether or not they performed only subject duties in the library. They formed a core part of the university library, and with each major technological advance, they had to reassess their roles, titles, functions, duties, educational qualifications and skills, so as to adapt to the new information environment. Unfortunately, the inception, development, re-assessment and adaptation of subject librarianship on the African continent did not follow a standard path, and no standards guidelines were compiled that could be utilised by new subject services. The purpose of this study was to investigate the roles, responsibilities and skills of subject librarians in the Southern African Customs Union (SACU) region. The target population consisted of subject librarians in this region and a census method was used to determine participants. The quantitative research approach employing a survey design was used by the study. Data was collected using questionnaires, and results were clarified by interviews with a selection of library managers. Data was analysed using SPSS, MS-Excel and content analysis. The research found that the main models of subject librarianship in place were the dual and hybrid models. It determined the main titles that subject librarians were known by, and that their role, involved providing teaching, learning and research support to faculty members, staff, students and researchers. It also determined the main functions and related duties performed, and the main educational qualifications and skills held by, or required by subject librarians. Since the study found that no guidelines, specifically targeted at subject librarians in the region, were available, as one of its outcomes it provided guidelines, in the form of an appendix, for new subject services to adapt or adopt if they desired.

KEY TERMS

subject librarian; faculty librarian; information librarian; learning support service; research support; teaching and learning support; faculty liaison; collection development; information literacy instruction; library marketing; guidelines; library model; subject librarian model

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DEDICATION

For my late mother, Mrs Sylvia N. Chanetsa
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LIST OF ABBREVIATIONS

ALA	American Library Association
CAS	Current Awareness Services
CoP	Community of Practice
ICDL	International Computer Driver's License
ICT	Information and Communication Technology
IL	Information Literacy
ILL	Inter-Library Loan
IR	Institutional Repository
KPA	Key Performance Area
KRA	Key Responsibility Area
LIASA	Library and Information Association of South Africa
LIS	Library and Information Science
LMS	Library Management System
NRF	National Research Foundation
OPAC	Online Public Access Catalogue
PoN	Polytechnic of Namibia
RC	Research Commons
RSS	Really Simple Syndication
RUSA	Reference and User Services Association
SACU	Southern African Customs Union
SDI	Selective Dissemination of Information
UK	United Kingdom
UNISA	University of South Africa
USA	United States of America

CHAPTER ONE

BACKGROUND TO THE STUDY

1.1 INTRODUCTION

The observation that academic libraries are “the heart of the university” is reputed to have first been articulated by a former president of Harvard University, as early as 1873; and as long as they continue to align their services with the mission of the university, they will remain so for the foreseeable future (Weiner 2005). Since their main aim is to collect, manage and disseminate knowledge, in depth, and across all fields of knowledge (Danton 1967), in order to meet the teaching, learning, information and research needs of students, researchers, faculty and administrative (Reitz 2004-2013; Laurita 2008), academic libraries can assist their parent institutions to achieve ‘world class’ status. World class universities can be recognised by their top quality human academic output and their involvement in the execution and publication of landmark research (Salmi 2009:5), which is supported by facilities like the internet, electronic resources and appropriate academic libraries (Altbach 2004:15). Unfortunately, in this harsh economic climate, academic libraries have had to increasingly justify their existence and the value of their staff, other than as the guardians of book collections (Oakleaf 2010).

At the centre of the academic library is a group of learning support service librarians, known by various titles, including faculty or information librarians, but who are referred to, in this study, as subject librarians or subject staff. Subject staff are professionally trained librarians who have extensive experience, knowledge and/or interest in the literature or information of a designated subject area (Avafia 1983:183). Their functions or responsibilities include collection development, materials selection, user education or library and information skills instruction, and the provision of information or reference services to library users (Reitz 2004-2013). They also liaise frequently with faculty members, and provide them with appropriate teaching, learning and research support.

However, with the introduction of the internet and the World Wide Web, and with the continuing proliferation of information and communication technologies (ICTs), information items, sources

and providers, subject librarians, like their parent libraries, have had to demonstrate their value and relevance to the academic community. They did this primarily by re-assessing, refining and re-engineering their roles, responsibilities and skills. Unfortunately, in the southern African region, each university library usually developed and transformed its subject librarian service individually, resulting in various aspects of subject librarianship not being standard.

1.2 CONTEXT OF THE STUDY

The context or circumstances, environmental, social and demographic that surround or influence a study (WordNet 2009; IAR Glossary 2007), are responsible for its focus, and justify its existence. The context of this research was the decision to introduce a subject and research support service at the Polytechnic of Namibia (PoN) Library in 2006, and the search for regionally appropriate guidelines, standards or bench marks, to be used to build a strong service.

The PoN, which was established as a polytechnic by the Polytechnic of Namibia Act 33 of 1994, offered certificate and diploma courses in vocational and technical courses; however, the act also provided “for the gradual phasing out of vocational training courses and the granting of degrees”(PoN 2009a). The institution subsequently embarked on this process and, in 2007 it formally presented a “concept paper for the renaming of the institution”, from a polytechnic to a university of science and technology, to the Minister of Education, who then made a submission to Cabinet, since the re-naming required parliamentary review and approval (PoN 2009b:5). The Ministry of Education subsequently granted the PoN university status in December 2012, thus paving the way for it to become a university of science and technology (Kisting 2012; Shipanga 2013).

In preparation for becoming a university, the PoN began to add to or upgrade its services, so as to achieve international standards, provide good facilities and offer an enabling place to acquire educational qualifications (PoN 2009b:12, 10). In line with this exercise, it accepted the 2002 recommendation, by the South African-based Higher Education Quality Committee (HEQC), for the library to appoint additional staff, including subject librarians (PoN 2002). This acceptance was an implicit acknowledgement that subject librarians would enhance the teaching, learning

and research support services of the PoN Library, and provide important subject-based liaison between the library and faculty.

In October 2006 therefore, subject librarianship began at the PoN Library, with faculty liaison, subject-based reference services, and limited information literacy training being the first services offered. However, since this was a new service for the institution, an academic subject librarian model and guidelines were needed to ensure that the best possible service was established, with subject librarians undertaking all the requisite responsibilities, tailored to an African university environment. A search was therefore conducted for these within the Southern Africa region.

Unfortunately, it soon became clear that, although some research had been conducted on subject librarianship, not enough of it had been focussed on the southern African region. Furthermore, as was the case in the United States of America, there were no standard definitions of subject and learning support librarianship and therefore, no common terms in use in the region (Hay 1990:11; Mbambo 2006). In southern Africa, except for those countries which had single universities, there were also no national models of subject librarianship (Mbambo 2006:184), therefore titles, duties and responsibilities often differed from institution to institution.

1.3 BACKGROUND

A review of the history of subject librarians reveals that they began strongly as a profession, went through a period where they felt that they were in danger of becoming extinct, and are now finally re-emerging as a force to be reckoned with in academic and research libraries.

1.3.1 Pre-1965: Introduction of subject librarians

Historically, subject and learning support services were a major part of higher education institutions since the beginning of the 20th century, and they remained at the core of the academic library, despite having experienced a number of challenges over three distinct historical periods, especially in developed countries. As already stated, subject librarians are those library professionals who have been given responsibility for a subject/s, and who are the main point of contact between the library and the faculties or departments which deal with that subject/s.

Various models of subject librarianship, which were in operation during various periods, had an impact on the way subject librarianship developed and how it was practised in university libraries.

The first subject librarians were seen in the United Kingdom (UK) in the 1920s, at libraries like the University College London Library, and more were introduced in the 1930s, starting at the University of Leeds Library (Feetham 2006:3). In the United States of America (USA), although a few university libraries, like the one at Harvard University, employed subject bibliographers prior to 1940, the major justification to employ them came as a result of the Second World War, when knowledge about other countries was deemed important (Hay 1990:12).

The main role of subject librarians during this period was as intermediaries between the user and information, and they were expected to have the necessary skills to carry out various tasks attached to this role, including collection management, reference assistance, faculty liaison, cataloguing and classification and the compilation of bibliographies (Hay, 1990:14).

1.3.2 1965-1995: Evolution of subject librarianship

Subject librarianship continued to develop steadily between 1965 and 1995 worldwide, including in Africa, where subject librarianship was first introduced at the Rand Afrikaans University Library in 1967 (Qobose 2000:142), at the University of Natal, Pietermaritzburg in 1977 (Prozesky & Cunningham 1986:99), and at other university libraries in Botswana, South Africa and Nigeria in the 1980s (Mbambo 2006:177), almost coinciding with the increasing acceptance of information and communication technologies (ICTs) in various workplaces.

Computers and the World Wide Web arrived in the late 1970s and early 1980s (Angeley & Purdue, 2000), and soon introduced a number of ICTs into academic libraries, resulting in subject librarians, especially those in developed countries, entering a period where they began to feel increasingly threatened. This was mainly because, although libraries had always been at the front line when it came to acquiring, processing and making available information, the rapid development of ICTs and various 'killer applications' (Biddiscombe 2002) changed user perceptions about information, its location, access, retrieval and the way it was used in teaching,

learning and research (Wright 1996:134), and many began to hold the view that they no longer needed intermediaries to help them to find information.

Information was available from 'multiple sources', besides libraries and the internet, such as media houses and publishing houses, it came in many different formats (print, audio-visual, digital, electronic) and it was retrievable in a number of ways that the library did not necessarily control (American Library Association [ALA] 2006a). The library therefore changed almost overnight, from a repository or storehouse which owned most of its information, to a gateway which facilitated access to information, and it began to introduce technological innovations like online public access catalogues and electronic information databases (Angeley & Purdue 2000:2).

As these and other new technologies became cheaper to acquire and easier to use, some library patrons acquired personal computers, got connected to the internet, and began conducting their own literature searches on the World Wide Web. The availability, at the press of a button, of information about 'anything' or 'anyone' caused much excitement. It also fuelled a dangerous debate, for library employees, about the continuing value of the academic library in general, and certain groupings of academic library staff, like subject librarians, in particular.

An extreme consequence of this debate was seen at the University of Bangor in Wales, where subject librarians lost their jobs because, as stated in the institution's consultation paper, despite the teaching and research support they gave to academics and students, the cost of continuing to use them was hard to justify, since online resources made the search for information easier (Tysome 2005). This and other related actions that threatened the profession, were referred to in the library and information science (LIS) literature as 'disintermediation', that is, the decrease in the use of intermediaries. Disintermediation was a 'wake up' call for librarians in general and subject librarians in particular (Chillingworth 2005), especially those in developed countries. It forced academic libraries to re-assess their work and value, to look at the responsibilities and skills of all categories of staff with a fresh eye, and to encourage them to adopt new methods of carrying out their duties so as to remain relevant.

In developing regions however, change came at a slower pace. In southern Africa, computers in libraries did not become as prolific in as short a time, as they did in developed countries. Furthermore, many library users continued to be unsophisticated in computer use, so they still needed assistance/intermediation from subject librarians. Although the threat to subject librarians in developing countries was not as acute as it was in developed countries, it remained a cloud on the horizon. However, for subject and learning support staff everywhere, an unforeseen consequence of ICTs - information overload - gradually began to be felt everywhere, resulting in re-intermediation, that is, the re-introduction or renewed value of intermediary or subject librarian work. This in turn forced subject librarians everywhere to realise that their traditional library skills were no longer enough to deal with the new information resources and technologies (Biddiscombe 2002:228), and that they urgently needed to acquire more ICT skills.

The way subject librarians carried out their functions however, was not only affected by new technologies, but also by the library models they worked under. In the 1970s, subject work was organised according to four library models as proposed by Scrivener (1974:114-115), that is: the functional model, whereby library functions were performed centrally, the hybrid model, whereby subject staff performed subject plus additional library functions, the three-tier model, whereby all library duties were performed in tiers, one of which was occupied by subject staff, and the subject divisional model, whereby subject librarian teams performed subject duties. In the early 1980s, in the UK, according to Woodhead and Martin (1982:98), the same models were still in use, with the addition of a fifth one, the dual model, whereby subject librarians performed subject duties, while other librarians performed the other functions on a centralised basis.

However, by the 1990s, the dual library model and other more subject-based models had assumed greater importance in libraries (Martin 1996:164-165). Martin saw this shift as a way for library management to rationalise their services, by allowing subject librarians to focus more on subject-specific duties, and by moving time-consuming functions like cataloguing and reference/information to their own departments. However, with the increase in ICTs in libraries, some academic libraries abandoned the older models and attempted to re-structure their operations by adopting newer, more technologically attuned library models, like the 'convergence' model. This type of structure was first seen in the USA in the 1980s, and in the

UK in the late 1980s and early 1990s (Feetham 2006:6), and it can still be found in some institutions to date.

Convergence is whereby, mainly for administrative or management purposes, the library, computer services section, and sometimes other related university departments, are merged under a manager who has a “professional information background” (Collier 2006). Although under the convergence model, subject librarians, in their role as intermediaries, were still required to help users to navigate resources and/or to find subject-specific information which suited their needs (Feetham 2006:6), they were also required to move away from their traditional thinking, acquire skills and carry out duties which were not really related to what they had learned at library school, and to thus join the ranks of new learning support professionals who better complemented the work of academic teaching staff (Biddiscombe 2002:228). Adopting the convergence model helped academic and subject librarians to work with, rather than fight greater user independence (Marfleet and Kelly 1999).

Meanwhile, in African countries, the subject-centred/subject-divisional model appeared to dominate university libraries. In her discussion of subject librarianship in Africa, Mbambo (2006:176-185), wrote that in South Africa, Botswana and Lesotho, university libraries ran mainly subject-based services, while in Zimbabwe, libraries had adopted a mixture of the functionalist and subject-based models.

Each of the library models in operation however, could only work effectively if library skills kept pace with the information and technological environment. Therefore academic libraries made a conscious decision to be proactive and, not only embrace the new technologies, but to also constantly budget for the updating and/or upgrading of their hardware, software and information resources (ALA 2006a). They actively set about retraining their staff, including subject librarians, who then applied their new skills to their main functions. These still consisted of book selection, collection development, bibliographic control, information organisation, library marketing, library and information instruction, reference assistance and faculty liaison (Mbambo 2006:184), but they were performed differently because of technological and other advances. Therefore, when the ALA (2006a) challenged librarians to ask themselves if they

wanted to be advocates of the library as it was or of the “library as it must exist in the future?” subject librarians did not hesitate to choose the library of the future, and to ‘arm’ themselves with the skills necessary to deal with issues like information overload.

1.3.3 1995-present: Modern subject librarianship

From the mid-1990s, technological advances increased dramatically therefore changes in the library had to increase exponentially. According to the ALA (2006a), the library had to: change users’ perception of it from the home of the book to the home of information in different formats and from different sources; move from being seen as the owner of information, to being seen as a provider of access to information; and shed its aloof and ‘isolated’ image and go out there’ and market its changing role. Subject librarians too, had to become proactive, perform their duties using current tools, and market their valuable services to faculty and researchers. Fortunately, from their point of view, information overload, in the form of an almost over-abundance of information resources, resulted in a complex information environment and ‘information chaos’ (Rodwell 2001), as well as in the realisation, by library management and some administrators, that learning support professionals were still needed. Because of the information glut, users had begun to increasingly feel anxious, pressured and overwhelmed with data. It therefore soon became apparent that they needed subject librarians to help them to locate and utilise information optimally.

These information professionals had years of experience in mediating between the information seeker and the required information (Paris 1996:10), so the fact that human beings have always had a fundamental preference for information mediated by another human being (Sturges 2001:63) also helped them to regain their value. However, while subject and other librarians were becoming more important as “navigational guides” who directed users to appropriate and useful materials on the internet” (ALA 2006a), they still performed their duties within the structure of various library models.

Although the dual and subject divisional models continued to be found in university libraries (Martin 1996), the re-invention of some academic library staff roles, plus continued advances in ICTs, resulted in predictions of an eventual move away from earlier models towards the ‘digital

librarian' or 'cybrarian' models (Feetham 2006:13). These models required specialist information professionals, who could manage and organize the digital library, and who were able to connect users to the information they required, as well as to assist them in the area of electronic publishing (Sreenivasulu 2000:12). There was no group which could better do this than subject librarians, with their extensive and specialised knowledge of the production and communication of subject-specific information (Rodwell 2001). From the mid-1990s, subject librarians resumed their information mediation function and, because of the new technologies, also became focussed on teaching library users the strategies that would help them to optimally conduct research (Angeley & Purdue, 2000:4; Biddiscombe 2002:230-1).

This instructional element led to some academic libraries choosing to adopt the faculty-liaison model, which was characterized by partnership with faculty and direct involvement with teaching and research (Rodwell & Fairbairn 2008). It was a resource-based teaching and learning model which kept the library central to the learning process (Qobose 2000) and which promoted the university's aim of producing information literate graduates (Dale 2006:19-28), who were able to locate, evaluate and critically use information in order to solve problems and make decisions in whatever setting they found themselves in, and who, in the process, chose to become lifelong learners (Angeley & Purdue 2000:4; Biddiscombe 2002:230; Qobose 2000; McKenzie & Wurzburg 1997:13). The "faculty liaison library model", or elements of it, can still be found, in varying degrees, in some African universities.

However, another model which was also adopted by some academic libraries during the modern period was the 'learning commons' model, which McMullen and Williams (2008) described as integrating the functions and the space of the library, the IT department and other academic learning support services. They explained that the components of the 'commons' were computer workstations whereby students could spread out their materials, service desks with various levels of research assistance, collaborative learning spaces which allowed for social interaction, presentation support centres which supported the development of multimedia projects, instructional centres which fostered faculty development, electronic classrooms, writing centres, meeting spaces, cafes and lounge areas.

The 'embedded librarian' model also found its way into academic libraries during this period. To embed means to entrench, root, and implant oneself into something. Therefore the embedded librarianship model, when adopted by some academic libraries, required librarians to steep themselves into the educational lives of the staff/students of a faculty or department or to become entrenched within a course, so much so that they ended up "experiencing and observing, as nearly as possible, the daily life of the primary group" (Dewey 2004:6). It further required them to acquire a deep knowledge of the needs of this group and to use traditional library training and skills to anticipate and fulfil these needs, so as to help them to achieve their goals and to solve their problems (Schumaker & Tyler 2007:3; Schumaker & Tally 2009:9). However, embedding was not a new concept to academic libraries because, according to Schumaker and Tyler (2007:8), it had been around for many years. He gave the example of medical librarians, and other professionals like pharmacists and social workers, who had already integrated their expertise with that of doctors, by taking part in "interdisciplinary health care rounds", as early as the 1970s.

Whether or not academic libraries continued to use traditional library models like the dual and hybrid models, or they chose newer models (fully or partially), and whether or not they were in developed or developing countries, subject librarians, from the mid-1990s onwards, had to rethink their roles and responsibilities, plus the skills which they needed in order to fulfil them. The new information environment required them to put more emphasis on liaising with users, selecting e-resources, marketing the library's collections, carrying out reference work, working with IT experts and becoming involved in educational technology and learning environments (Pinfield 2001). They were also required to develop new technical skills and to pass these on to their users. They were also required to give users access to an expanded range of materials, in a vast number of different formats, and from different sources other than the traditional ones (ALA 2006a).

These changes in the roles, responsibilities and skills of subject librarians were unfortunately not implemented along standard lines across libraries, even in the same country, resulting in a need for guidelines, especially for those institutions, like the PoN, which were involved in establishing a new subject and learning support service, but did not know where to start.

1.4 CONCEPTUAL FRAMEWORK OF THE STUDY

The background to the research, which is further developed in the literature review, provided a basic theoretical framework for the study, which was then used to develop the conceptual framework (Pickard 2007). A conceptual framework includes the definitions of the terms and concepts used in a study, the research questions and the assumptions (Powell & Connaway 2004:271).

1.4.1 Definition of terms

Many mistakes are made when people misunderstand the meaning of terms, or the context in which they are used (O’Neil 2005). Therefore the following definitions were provided for terms that were used extensively in the study.

1.4.1.1 Subject librarian

A subject librarian can be defined as one who deals with a designated subject or related subjects, and who is the main contact between the library and the department or faculty dealing with that subject (Qobose 2001). He/she collects, manages, and promotes library information resources, supports research and promotes the development and spread of information literacy (Anonymous 2005:5). The title ‘subject librarian’ is sometimes used interchangeably with other titles, including subject reference librarian, faculty librarian, personal librarian, information librarian, information services librarian, information specialist, information scientist, library liaison, liaison librarian or subject specialist. However, the title ‘subject specialist’ can be misleading as it implies expertise and qualifications in the specific subject/s, whereas the other titles imply knowledge or expertise in the literature of the field (Martin 1996).

1.4.1.2 Intermediary/infomediary and mediation

In the academic library, an infomediary or intermediary is a public service librarian or subject librarian, specially trained in online searching, who works as a middleman or woman in order to connect the information to the user. A mediated search includes assistance with database selection, the establishment of telecommunication connections and the evaluation of the information retrieved (Reitz 2004-2013). The term ‘mediation’, when used in librarianship,

refers to the concepts of intermediation, disintermediation and re-intermediation. Intermediation is when the subject librarian acts as a go-between or mediator (Fraser Institute 1999), between the user and the information he/she requires. The term 'disintermediation' found its way into the library glossary when it was recognised that the internet, especially the World Wide Web, made such large amounts of information easily available, even to new users (Rodwell 2001), that for a time this affected or threatened the relevance of subject librarian jobs. Re-intermediation, occurred when the intermediary or middleman role re-emerged (Word Spy 1999), in recognition of the fact that the large amounts of information available would not help users unless they developed skills that would enable them to make the best use they could of that information (ALA 2006a). These skills were taught by intermediaries, infomediaries or subject librarians.

1.4.1.3 Library model

In this study, a library model or structure is defined as a type or format by which the library is organised, categorised and/or identified, and by which duties are divided (Von Cotta-Schönberg 1989:49). Subject librarian models inform the way subject staff carry out their various functions and related duties.

1.4.1.4 Guidelines

Benchmarks, standards and guidelines are closely related terms. A benchmark is a tool or standard that can be used to assess or measure achievement, improvement and performance (Freeman-Bell & Balkwill 1996:234). It can be internal to an organisation, external with another organization which has similar products or services, or functional with an industry that has similar functions or processes (QA Project n.d.). A standard is a shared statement of the "values and principles of performance", (ALA 2006c), an agreed on or accepted measure by which something can be evaluated (Reitz 2004-2013). It is the quality that is expected of an employee, service or facility, in order for it to attain excellence. A guideline is a statement of the strategy, rule or instruction that will tell someone (for example the subject librarian) how something should or could be done. It assists in achieving recognised standards (ALA 2006c).

1.4.1.5 Community of practice (CoP)

A CoP is a group of people who come together because they share interest/s. It can be based around a professional discipline, specific skill, topic or subject (McDermott 2000). It is formed in order to help members to solve problems quickly, to transfer best practices, to develop professional skills and to recruit and retain talent (Wenger & Snyder 2000:141).

1.4.1.6 Information literacy (IL) and lifelong learning

Information literacy involves possessing the ability to recognise the need for information, and the ability to search for, locate/access, evaluate and use this information effectively, legally and ethically; this competency is becoming more vital because of rapidly increasing technologies and information resources, and the need to be able to optimally access and use these (ALA 2000). When users become information literate, they also develop into lifelong learners, who keep learning with the aim of enhancing their skills in all areas of their lives including at work, at home and in the community (European Commission 2002). Subject librarians facilitate the university's aim to produce lifelong learners because they pass on IL skills to users.

1.4.2 Statement of the problem

Most university libraries in the Southern African Customs Union (SACU) region, like university libraries elsewhere in the world, employ subject librarians. Traditionally these librarians acted as middlemen or women - between the user and information and they carried out related duties like collecting, managing and providing information and liaising with faculty. However, with the introduction of ICTs in the workplace, beginning slowly in the 1970s, and then increasing in strength around the 1990s, the way many jobs were carried out, in libraries and other places, began to change radically.

ICTs ushered in the 'information age' and, in order to survive, subject librarians had to re-think who they were, what they did and how they did it. Re-organisation and adaptation to ICTs happened in SACU, like everywhere else, but unfortunately, just like with the development of subject librarianship itself, these changes were not done in a standard fashion. Each institution appeared to have established subject services and then adopted various ICTs in its own way, with cooperation almost non-existent. New subject and reference/learning support services, like the

one being established at the Polytechnic of Namibia, therefore found it difficult to decide which institution's practices to follow or use as a benchmark. It was therefore crucial to find out who these subject librarians were, what they did, how and why they did it, and what competencies they needed to do it well.

1.4.3 Aim of the study

The aim of this study therefore, was to investigate the roles, responsibilities and skills of subject librarians, with the aim of producing regionally acceptable guidelines for use by university libraries contemplating the establishment of a new subject and learning support service.

1.4.3.1 Objectives of the research

The objectives of this study were:

- To establish the library models or structures in place in SACU libraries;
- To investigate the roles of subject librarians, and to determine whether, how and why these have changed;
- To investigate the responsibilities or functions of subject librarians, and to determine whether, how and why these have changed;
- To investigate the skills, including educational qualifications of subject librarians, and to determine whether, how and why these have changed;
- To determine whether or not there were any existing guidelines for subject librarians in the region, which could be used or built upon, for the benefit of new subject and learning support services, and in the absence of these, to suggest some guidelines.

1.4.3.2 Research questions

The study was guided by a set of research questions which, according to Hernon (2001:82), help to narrow or specify the objectives of the study and also to give it direction. Rephrasing the research objectives of this study generated the following research questions:

- What models of subject librarianship are in place in the SACU region?
- What are the roles, of subject librarians; have these changed, and if so how and why?
- What are the responsibilities of subject librarians; have these changed, if so how/why?
- What are the skills required by subject librarians; have these changed, if so how/why?

- Are there any guidelines for universities wanting to establish a new subject and learning support service, and if there are, who compiled them and so are they accessible?

1.4.3.3 Assumptions

All research, according to Robinson (n.d.) is built on assumptions, which are expectations whose existence is not supported by evidence, and will not be tested by research. The main assumption of this study was that technology, which has continued to develop, as well as the modern information environment, had an impact on subject librarianship. In terms of the prospective units of the study population, the study assumed that most subject librarians, by the nature of their jobs, which requires them to be accessible and visible to users, that they would be identified as such on their library websites, and that their contact details would be available and current. It was also assumed that, for the same reason, all subject librarians would have access to computers and electronic mail, and would therefore be able to complete emailed questionnaires.

1.5 JUSTIFICATION AND ORIGINALITY

According to Vithal and Jansen (2004 quoted in Jansen 2007:28), a rationale or justification explains how a researcher became interested in a certain issue and why he/she thought research on that issue was worth doing, that is, what made it original. As previously stated, in an effort to establish an efficient and effective subject and learning support service at the Polytechnic of Namibia Library, the literature was perused for information about subject librarians' roles, responsibilities, and skills, and for guidelines on how to carry out their functions. It soon became apparent however, that although studies on subject librarianship had been conducted, few of them had been about the profession in Africa. The researcher therefore believed that there was justification in conducting a study that would increase the body of knowledge about the profession as found in the region.

In terms of originality, Potter (2002:24-26) referred to it as "a distinct contribution to scholarship". He further stated that there were various ways in which one could be original in research, including any or all of the following criteria:

- Developing a new product or providing something new for the first time;

- Developing a new theory, model, perspective, research tool or technique;
- Developing a portfolio of work based on research;
- Conducting a new in-depth study;
- Carrying out original work within a project designed by others;
- Improving on something which already existed;
- Re-interpreting an existing theory;
- Applying an existing idea or theory to a new field or a set of data;
- Producing a critical analysis;
- Producing a collection of generalisable findings or conclusions.

This study qualified to be called original according to at least three of the criteria listed above. Firstly, although much has been written about the educational role of academic libraries (Mbambo 2006:175), the same is not the case for the role of subject librarians, even though they have remained prominent in university libraries worldwide since their appearance in the early 20th century in the UK and the USA and in the late 20th century in Africa. Furthermore, these roles have changed, and they continue to change because of developments in ICTs.

This research is a *new in-depth study* about the development of subject librarianship in the Southern African Customs Union (SACU) region and the impact of ICTs on this profession. Secondly, the study gathered and collated data from subject librarians, but focussed on the SACU region.

The findings are therefore generalisable to learning support services in SACU countries. SACU was chosen because it is a well-established regional body, founded as far back as 1910 (SACU 2007), and SACU countries have a lot in common economically, since they are classified as middle income by the World Bank (2008) - with South Africa and Botswana falling in the upper middle income bracket, and Lesotho, Namibia and Swaziland, falling in the lower middle income range. Thirdly, the study is also original because its findings led to the compilation of guidelines, for new learning support services in the region.

1.6 RESEARCH METHODOLOGY

Research has been defined by *Webster's New World Dictionary* as the “careful, systematic, patient study and investigation in some field of knowledge, undertaken to discover or establish facts or principles” (Eldredge 2004:83). The methodology used for this study is explained in the following sections, which cover the problem statement, research objectives and research questions.

1.6.1 Variables

According to Babbie (2007:17), theories describe the logical relationships that exist between variables, that is, between elements that are subject or liable to change. Marshall (as cited in Powell & Connaway 2004:32) went further and described them as:

a set of related propositions that suggest why events occur in the manner that they do. The propositions that make up theories are of the same form as hypotheses; they consist of concepts and the linkages or relationships between them.

The independent or predictor variable influences or has an impact on the dependent variable, while the dependent or subject variable is influenced or affected by the independent variable (Powell and Connaway 2004:36-37). One of the research questions this study sought to answer was ‘whether, how and why the roles, responsibilities and skills of subject librarians had changed’. This implied that certain ‘independent’ variables, for example ICTs or the information environment, had impacted on the ‘dependent’ variable, that is, subject librarianship and/or its roles, responsibilities and skills.

1.6.2 Approach

Through the use of scientific methods, the quantitative approach was used to discover the answers to questions asked by the study, (Davies 2007). It was used to collect and analyse measurable data, and to draw inferences from the sample to the population (Powell & Connaway 2004:53-9).

1.6.2.1 Data collection

The study used the descriptive survey method to collect data, a strategy whereby “one collects data from all or part of a population to assess the relative incidence, distribution, and interrelations of naturally occurring variables,” and uses it to generalize from the smaller to the larger group (Powell & Connaway 2004:60-1). However, the generalisability of this study will depend on whether another researcher, conducting the same study, would get similar results (Powell & Connaway 2004:20).

The data collection instruments used to gather data from different segments of the population, were questionnaires and interviews. The questionnaire collected data from subject librarians about their roles, responsibilities and skills. The interview collected information from a few managers in order to clarify certain issues or add to explanations of certain findings arising from questionnaire responses, as well as to determine managements’ views on various aspects of the profession.

1.6.2.2 Population

With regard to the population of the study, there was a difference between the target population (the one which the researcher wished to study, and to generalise the results), and the experimentally accessible one (the one that corresponded to the sampling frame from which the sample was taken) (Huysamen 1994:45-7). The target population consisted of subject and learning support librarians working in the twenty-seven (27) university libraries of the SACU region, while the experimentally accessible population consisted of those subject librarians whose details were accessible to the researcher, and those (accessible) library managers from whose universities few or no responses were received.

1.6.2.3 Data analysis

After the research was completed, the data was analysed and “manipulated further so that their meaning and bearing on the problems and hypotheses that initiated the inquiry” could be determined (Singleton & Strait 2005:71), that is, analysis was carried out in order to determine the features, understand the nature and/or find the “meaningful patterns or trends” in the research (Eldredge 2004:84). Questionnaire items were coded prior to distribution (Singleton & Strait

2005), while answers from open-ended questions were placed into categories representing themes, before being analysed. SPSS®, which is most often used as an analytical tool by survey researchers (Davies 2007:118) and MS-Excel, were used to analyse the data.

1.6.2.4 Scope and limitations

The study was limited to subject librarians working in university libraries in the Southern African Customs Union (SACU), a regional grouping of southern African countries, which was formed in 1910, and which was renegotiated to include Namibia in 1969. It includes four other countries: Botswana, Lesotho, South Africa and Swaziland.

1.7 ETHICAL CONSIDERATIONS

The University of South Africa advises researchers to be ethical when collecting data from respondents or participants. Informed consent, confidentiality and anonymity concerns therefore had to be addressed (UNISA 2007). Furthermore, the researcher collected, presented, analysed and interpreted responses objectively, and kept in mind the advice by Westbrook (as cited in Powell & Connaway 2004) to destroy all confidential data, including interview transcripts and any lists that could identify respondents, at the conclusion of the study. Ethical measures taken or observed by the researcher are described in Chapter Four.

1.7.1 Referencing

The ethics of acknowledging information taken from various sources were also observed in the study. Each source cited in the text was cited again in the reference list, with more details given, thus enabling any reader of the study to identify the source for possible personal access. There are a number of citation styles used by various disciplines, including the APA (American Psychological Association), Harvard, Turabian, MLA (Modern Languages Association) and Chicago styles. The referencing style used in this study is the Harvard method, as required by the University of South Africa (UNISA). The source used for compiling the references was the section on referencing in the UNISA guidelines (UNISA 2010). The references were arranged alphabetically by author or by title if there was no author.

1.8 OUTLINE OF CHAPTERS

A research report should be very straight-forward, well-structured and logical, and it should set out “clearly and precisely what the researcher has done to solve, or at least to investigate, the research problem” (Powell & Connaway (2004:270). The presentation that follows gives an outline of the issues presented in each of the seven chapters contained in this thesis.

Chapter One introduced the reader to the study and gave a brief introduction and the background to the study. It dealt with the context of the study, and explained the reasons that compelled the researcher to undertake it. It also supplied the conceptual framework of the study by defining important concepts, stating the research problem, outlining the research objectives, listing the research questions and stating the assumptions of the study. Chapter One also explained the scope and limitations of the study and why the researcher felt that the investigation was justified. The research methodology utilised and the ethical issues dealt with were briefly described. The chapter also presented and outlined the thesis chapters.

Chapters Two and Three contained a more detailed review of the literature than was included in the background to the problem given in Chapter One. They provided the conceptual basis of the study, and drew on studies completed in the library and information science field, as well as in related fields. Chapter Four outlined the design of the study in detail. It included information about the target population, the experimentally accessible population, the data collection techniques and instruments used, and the methods of data analysis used. Chapter Five presented and analysed the data. Chapter Six discussed, explained and interpreted the analysed data. Chapter Seven contained a summary of the findings of the study and its conclusions. It also gave recommendations for further study and conclusions about the study. Appendices were attached to the thesis and they included the guidelines, the questionnaire and its cover letter, and the interview schedule.

1.9 CHAPTER SUMMARY

Chapter One contained the introduction to the study and the historical background, including the models of subject librarianship used at different periods to organise the profession. The conceptual framework of the study was explained and the problem statement was articulated: that subject librarianship had been in existence in Southern Africa for many years; that it had been impacted by developments in information and communication technologies, resulting in a need to re-define the profession and to re-think the roles, responsibilities, and skills; that starting from its development and the titles given to incumbents, and taking into account changes made over the years, subject librarianship in the region had not been standardised and no guidelines, standards or best practises appeared to exist.

Chapter One also defined the terms and concepts that were used in the study and listed the research objectives and research questions. The reason the study was carried out was also explained: that few substantive studies of subject librarianship in the region had been conducted, and that therefore there were no standards, guidelines or models to assist institutions that wanted to establish new subject and learning support services.

The methodology section of the study of Chapter One briefly described the quantitative research design of the study, described the survey research methodology used, and explained that the data collection instruments used were the questionnaire and the interview. The scope/limitations of the study were also delineated, the ethical considerations of the study were very briefly touched on and the various chapters were outlined.

CHAPTER TWO
LITERATURE REVIEW
HISTORY AND EVOLUTION OF SUBJECT LIBRARIANSHIP

2.1 INTRODUCTION

This chapter consists of part one of the literature review. It traces the development of subject librarianship during three historical phases: pre-1965, 1965-1980 and 1980-1995. Chapter Three continues the literature review by tracing the development of the profession from 1995 to the present day.

A literature review is “a systematic, explicit and reproducible method for identifying, evaluating, and interpreting the existing body of recorded work produced by researchers, scholars and practitioners” (Fink 1998:3). In other words it is an in-depth discussion of the available or accessible literature, and it helps the reader to understand the subject (Pickard 2007:26). It reviews relevant sources, not only from the library and information science (LIS) field, but from other disciplines as well (Pickard 2007). This literature review was informed by the study’s research questions. It looked for information about past and current models/structures of subject librarianship; and it looked at past and current roles, responsibilities and skills of subject librarians.

2.1.1 Purpose of the review

Although the literature review assumed that the importance of the study had already been clarified (Obenzinger 2005) in the previous chapter, it served to build “a solid background and theoretical foundation” for the study (Mattson & Ripplinger 2008). Several writers (Fink 1998:3; Kumar 1996:26; Rowley & Slack 2004; Bournier 1996 as cited by Deakin University 2009; Mattson & Ripplinger 2008) further clarified the value of the literature review. It helped:

- To satisfy the researcher’s personal curiosity about subject librarianship;
- To increase the credibility of the research study;
- To describe current professional practices;

- To bring clarity and focus to the research problem, that is, the changing roles, responsibilities and skills of subject and learning support librarians;
- To identify studies that had been, or are being carried out in subject librarianship;
- To identify and close gaps in the knowledge about subject librarianship;
- To pinpoint differing views about subject librarianship.

2.1.2 Arrangement of the review

As an introduction, the literature review discussed the environment or background in which subject librarians were to be found, that is, the global environment, the university environment and the university library environment. Then for the core section, the review arranged the discussion into 4 phases, the periods of development of subject librarianship (see 2.2.4). The first three phases, covering traditional or past phases in the history of subject librarianship, were covered in Chapter Two, while the fourth phase, dealing with modern subject librarianship, was covered in Chapter Three was organised in the form of a hierarchy starting with the period, followed by a main heading (Alias & Suradi 2008:2-4). Sub-headings for related topics, when considered to be necessary, were added within the review itself. Therefore, rather than arranging the review around the sources assessed (Mattson & Ripplinger 2008), the concept map introduced a format which identified the historical period and kept track of information falling under various themes, which helped to keep the researcher on track. At the end of the study, the references for the sources reviewed in Chapters Two and Three were arranged in a list, according to the Harvard style, as mandated by the University of South Africa (UNISA 2010).

2.2 THE ACADEMIC ENVIRONMENT

From the time they were first introduced in the late 19th century (Hay 1990:15), subject librarians were to be found in many university libraries worldwide, including in the United States of America, United Kingdom, Australia, Germany and Africa. They now form a major part of libraries in these countries/regions, and they are responsible for helping these facilities to achieve their main goal of providing an effective teaching, learning and research support service to the university community. However, in order to clearly show the value of subject librarians, the

researcher first had to explain the environment of their overall employer, the university, and the environment of their direct employer, the academic library.

2.2.1 Growth of the university

One of the earliest definitions of a ‘university’ came from Newman (1854), who described it as “a school of knowledge”, consisting of students and teachers from all over the world, where there was the communication and circulation of thought. In a more modern definition, Marga (2009:10-12) described a university as a ‘complex’ institution which carried out many tasks including educating specialists at various levels for multiple professions, producing research and researchers and “contributing to community service, cultural self-understanding and intellectual enlightenment”. He added that these tasks were supported by various rules, regulations, procedures, and laws, and that these ultimately led to the improvement of living conditions.

Universities were recognised as centres of teaching, learning and research, which did not operate in isolation, but were affected by globalisation and various aspects emanating from it. Altbach (2005:63-71) wrote that globalisation encompassed “the broad, largely inevitable, economic, technological, political, cultural, and scientific trends” beyond the university campus and the country’s borders; and that its definitive form was information technology (IT), which made information and knowledge instantly accessible across the globe, and which was thus largely responsible for shaping the teaching, learning, research and management aspects of universities. Altbach (2005) explained that many universities strived to achieve a ‘world class’ status, or to be of good repute in the field of higher education, by producing outstanding, peer-recognized, measurable, and communicable research. He added that many universities in the developing world, mainly due to a lack of adequate research facilities and infrastructure, could not fully achieve this research status, and instead continued to be known as ‘teaching institutions’.

Despite their challenges, most African countries have at least one national university, and the academic tradition has been strong for centuries. For example, in the Southern African Customs Union (SACU), a regional grouping which has been in existence since 1910 (SACU 2007), the oldest university is the University of Cape Town (UCT), which was founded as a boys’ high school in 1829, and which gained university status in 1918 (<https://www.uct.ac.za/about/>). Other

SACU countries followed suit at different points in their history, but the number of universities per country differs considerably, mainly in relation to the size of the country and its population. At the time of the research, South Africa had twenty-three (23) universities: Cape Peninsula University of Technology, Central University of Technology, Durban University of Technology, Mangosuthu University of Technology, Nelson Mandela Metropolitan University, North-West University, Rhodes University, Tshwane University of Technology, University of Cape Town, University of Fort Hare, University of the Free State, University of Johannesburg, University of KwaZulu-Natal, University of Limpopo, University of Pretoria, University of South Africa, University of Stellenbosch, University of Venda, University of the Western Cape, University of the Witwatersrand, University of Zululand, Vaal University of Technology and, Walter Sisulu University for Technology and Science.

Both Botswana and Namibia have one well established university, the University of Botswana and the University of Namibia, and they have both now established or will establish a university of science and technology. The Botswana International University of Science and Technology (BIUST), started its first academic year in 2012 (Vice Chancellor's Speech 2012), while the Polytechnic of Namibia was granted university status in December 2012 (Shipanga 2013) and is expected to be renamed Namibia's University of Science and Technology in the near future. Swaziland and Lesotho have one university each, the University of Swaziland and the National University of Lesotho.

Research output, as a mark of excellence, is assuming greater importance in African universities. However, Africa's ability to participate in the global knowledge economy is threatened by its low research output, 79% of which comes from one country, South Africa (Southern African Regional Universities Association [SARUA] 2009:22). However, all SACU universities have a similar vision and/or mission that of achieving academic excellence, and increasing research output. To ensure the achievement of this mission/vision, and in order to achieve and maintain a growing quality, some African universities have become involved in quality assurance, accreditation, and quality auditing processes (SARUA 2009:25). These procedures help them to set minimum standards and benchmarks, to determine their relevance, and to establish whether or not their aims, objectives and goals have been met by their curricula, staff, programmes,

infrastructures and facilities (Hayward 2006:2-4), one of which is the university library, the primary provider of research support.

2.2.2 The academic library

A ‘good’ university library is the core, heart or centre of the university (Brophy2005:1), and also its premier source of educational information (Ennis 2000:3). Its main aim is to support the teaching, learning and research activities of the university, by providing users with information items in all formats (Gates 1990:181) and by assisting them to identify, search for, retrieve, evaluate, record and effectively communicate that information (Ennis 2000:3). Traditionally, besides its staff, the main resource of the university library was the book. In 1854 Newman praised the exuberance, diversity and ability of the printing press to continuously produce books and other kinds of printed works, and he confidently stated that it was the optimal time to dispense with “every other means of information and instruction”. Obviously Newman did not foresee a period in the history of knowledge, when printed books were no longer the only method of publishing books.

With the introduction of ICTs came the introduction of electronic and online information formats, resulting in a change in the academic library’s aim from “ownership” to “access”. Academic libraries also began transforming their spaces, facilities and services, including automating their circulation services and implementing virtual reference services (ALA 2013), while continuing to provide a valuable information service to the university community, with the help of “the skilled minds and talents” of their library staff (Gates 1990:2).

2.2.3 The subject librarian

Successful university administrators and/or library managers long ago recognised the fact that their library staff were “the people without whose skills information would not be discovered nor gathered together nor made widely accessible and intelligible – without whom the library would become chaos” (Paterson 1999:143), and subject librarians were added to this team of skilled library professionals near the beginning of the 20th century.

Subject librarians, sometimes referred to as a faculty, liaison or information librarians, are trained library and information science professionals, who deal with the information needs of faculty, researchers and students, who are concerned with specific subject/s, faculties, schools or departments. Subject librarians are often regarded as experts in controlling or managing literature in their subject area, as opposed to being experts or subject specialists in the same vein as academic staff (Martin 1996:160). For many years they were regarded as key personnel in many universities, including those based in Southern Africa. Faced with the ICT age, at first, especially in developed countries, they feared for their jobs due to greater reader independence. The issue had to be faced and addressed head-on, if subject librarians were to remain viable in the academic library (Pinfield 2001:1), which they did as they soon rose to the challenge and grew stronger by re-evaluating their situation in the library, assessing their skills as they related to the ICT age, and then acquiring new competencies.

Subject librarianship was also established in African libraries, but from the mid-20th century (Qobose 2001) onwards. Unfortunately uniformity and standardisation did not exist in these libraries (Mbambo 2006), or in other universities worldwide, whereby even the titles given to subject staff varied, depending on the country and/or institution that they were based in. In the UK, they were known as subject librarians, subject specialists, subject consultants, subject support officers, faculty librarians, liaison librarians, academic librarians, link librarians, school librarians, information librarians or information specialists (Martin 1996:160); but in some other European countries they were known as research librarians (Gaston 2001:20). In Australia they were known as subject librarians, faculty liaison librarians, liaison librarians, outreach librarians and/or contact librarians (Rodwell & Fairbairn 2008:118); but in the United States of America (USA) they were referred to as professional specialists, subject specialists, area specialists, subject area specialists, bibliographers, subject bibliographers, area bibliographers or reference bibliographers, because there was a very unclear idea of what constituted the profession (Hay 1990:11).

In southern Africa, a study of the websites of SACU-based university libraries, revealed a number of different titles as well. At the University of South Africa (UNISA) subject staff were called personal librarians; at the University of Pretoria they were called information specialists;

at the University of Venda they were called librarians in the Subject Reference section; at the Central University of Technology, North West University, University of Johannesburg, University of Zululand, Rhodes University and Nelson Mandela Metropolitan University they were known as information librarians; at Stellenbosch University, the University of the Western Cape and Cape Peninsula University of Technology, they were called faculty librarians; and at the University of KwaZulu Natal, University of Cape Town, University of Limpopo, University of the Witwatersrand, Vaal University of Technology, Mangosuthu Technikon, University of Botswana and University of Namibia they were called subject librarians.

Besides differing titles, there was also a lack of standardisation in other areas of subject librarianship. Job descriptions for subject librarians, if they existed at all, were woefully inadequate (Agyen-Gyasi 2008:10) and they varied per institution. Inevitably, as stated by a participant in Martin's study, this situation endangered the profession and gave it a "bad image" (1996:166).

However, despite the challenges resulting from lack of uniformity and the view by some users that they were no longer needed, subject librarians were "alive and well" in many university libraries at the turn of the 21st century (Pinfield 2001:2). Their roles since their inception remained, to varying extents, those of subject, reference or research support, collection development, faculty liaison, and user education, and all they had to do to remain relevant was to adjust to the ICT requirements of the day and acquire new expertise and skills. This new expertise helped them to continue assisting users to locate, retrieve, evaluate and use appropriate information within different formats (Hardesty 2000). Unfortunately many libraries adjusted the roles, responsibilities and skills of their subject and learning support service librarians individually and in different ways, thus making the need for standards crucial.

2.2.4 Phases in the development of subject librarianship

In order to further and more extensively determine the roles, responsibilities and skills of subject librarians, and to trace the type and extent of the changes they experienced, this review examined their development within four historical periods or phases as follows:

- Phase 1: Pre-1965: Introductory Period;

- Phase 2: 1965-1980: Establishment Period (Intermediation);
- Phase 3: 1980-1995: Period of Danger/Threat (Disintermediation);
- Phase 4: 1995-Present: Modern Period (Re-intermediation) (see Chapter Three).

Under each phase, the development of the profession was discussed in terms of:

- Subject librarian status;
- Models in operation;
- Roles and responsibilities;
- Qualifications and skills.

2.3 PHASE 1: PRE-1965: INTRODUCTION OF SUBJECT LIBRARIANSHIP

Subject librarianship “probably always existed in the sense that specialist collectors have always operated as mediators between texts and those with an interest in them” (Gray 2009:299). However, as a recognised profession, subject librarianship first made its formal appearance in the more prominent German libraries in the early 19th century (Hay 1990:15). It then spread to other European universities in the early 20th century, with the number growing during the period of the Second World War. According to Gaston (2001) it appeared to have come about because of the need for balanced printed library holdings, which required the services of ‘subject specialists’. He added that, in German universities, the requirement of subject specialist knowledge was emphasised and ‘scholar librarians’ were expected to conduct research as well as to perform library and information duties. So early subject librarians were mostly specialists in specific subjects.

2.3.1 Status of subject librarians, pre-1965

The Second World War fostered the belief, in countries like the USA, that research knowledge was the key to a country’s economic growth (Gates 1990:187), and that in-depth information about different countries and cultures was necessary (Hay 1990:12). This resulted in an increase in the research coming out of universities and the resources and facilities to support it. Computer development also gained an impetus around the 1940s, especially with the completion of the Electronic Discrete Variable Automatic Computer or EDVAC (Campbell-Kelly 2009), so

information about this technological field and its related issues also multiplied. This heralded the information age or ‘information explosion’.

Prior to this age, researchers were able to generally keep up to date with developments in their subject areas. Gbur and Trumbo (1995) wrote that professionals like statisticians did this by subscribing to, or browsing through the more important scholarly journals and books in their libraries. However, as information sources grew, this became more difficult. Growth in numbers began with the traditional print format. In his study of the evolution of books and publishing, Zaid (as cited in McIlroy 2009:4), found a steady increase in the number of printed books published over the years. He established that about 35,000 titles had been published by 1550, about 3.3 million by 1850, and an astronomical 52 million by 2000. Obviously this mass of information made the information search and retrieval process extremely frustrating. Pawley (1966:11) wrote that, a 1964 study by Harvey Mudd College had discovered that, if anyone searched for specific scientific information that had been published in the previous five years, just in the fields of science and technology, they would have to “review the titles of 70,000 articles a year in 1,100 periodicals”, all without really knowing if they would find anything useful. This meant that sources of information were not only over-plentiful; they were sometimes of dubious origin (Roth as cited in Houdyshell (2003). Naisbitt (as cited in Gbur & Trumbo 1995:29) found the whole ‘information explosion’ situation annoying, stating that this over-abundance had moved information away from being a resource to being an enemy, adding that scientists were complaining that it took them “less time to do an experiment than to find out whether or not it has already been done”.

Since the focus of university libraries during this period was the accumulation of information and knowledge, and making it accessible to readers through graphic records and/or books (Butler as cited in Gates 1990:3), there was a growing recognition of the need for information experts to collect and manage that knowledge. Therefore the first information experts employed in libraries were subject specialists who were described as library staff “appointed to organise library services in a particular subject field” which could “typically, be broad enough to cover an umbrella of related disciplines” (Holbrook 1971:393). The employment of subject librarians, which had begun in countries like Germany in the early part of the 20th century (Stebelman

1989), the United Kingdom (UK) in the 1920s-1940s and in the United States of America (USA) in the 1940s (Feetham 2006:3; Hay 1990:12), therefore increased.

2.3.2 Library models, pre-1965

Subject librarians took on the role of designated intermediaries and they carried out a number of functions, aimed at getting users to optimally use library resources, but their actions were guided by the academic library model in operation in their library at the time.

2.3.2.1 Traditional library models

The Fielden report (1993) discussed the fact that traditional library models like the hierarchical or organizational library model, dictated that library functions be divided into “reader services” and “internal technical services”, with subject librarians falling under the former and providing client-centred services. The report noted that their duties revolved around subject support, which included subject reference, faculty liaison and collection development; but that they were also involved in collection management (including acquisitions and cataloguing), the supply of materials and services to customers in person, the building and maintenance of special collections, the provision to users of information and advice, as well as other management functions.

2.3.2.2 Subject divisional model

During this period some librarians strongly supported the subject divisional model. In the United Kingdom, subject specialization saw its real start with the opening of subject-specific branch libraries in the 1950s (Woodhead & Martin 1982). In the same period, in places like the USA, the subject divisional model also came into operation and then found its way into many other academic libraries by 1960 (Hay 1990:13). Generally speaking it meant that libraries organised their collections around broad subject fields, rather than around the type of service or material offered, and subject librarians tried to meet the specialised subject, service and collection needs of all types of users within the confines of the central library, whilst also ordering and processing all the materials for their collections (Stebelman 1989).

In practical terms, according to Hay (1990:13), subject division involved the library collection being split into separate subject divisions, each managed by a subject librarian, and each having its own reading rooms, circulation and reference desks. He added that practitioners of the day felt that such a division made the best use of subject librarians, allowing them to work in every aspect of librarianship in their subject specialties. Therefore the emphasis was on subject-based services, with some subject librarians also advocating closer relationships between them and faculty involved in the subject area (Woodhead & Martin 1982). However, according to Johnson (1977), although the subject divisional model was popular in the 1940s and 1950s, after that period it began to decline, mainly because of space challenges. In some universities subject collections were dispersed, and this caused confusion to some students, especially those doing interdisciplinary courses; it was also too costly in terms of space as it required room to house the collections and to accommodate readers, in terms of maintenance because of the need for the duplication of materials, and in terms of administration because of the need for well-trained subject librarians. The separate undergraduate library which, according to Johnson (1977:39), catered specifically to the needs of undergraduate students, while simultaneously catering to the needs of graduate students and faculty, was proposed during the 1960s and was supported by a number of libraries. He added that although it incorporated many aspects of the subject divisional model, like catering to the different specialised subject, service and collection needs of different types of users in different locations, it still had its detractors, some of whom felt that it tended to ‘molly-coddle’ or ‘spoon-feed’ students.

2.3.3 Roles, pre-1965

The role of the first subject librarians was that of subject support, meaning that they acted as “principal coordinating officers” in a particular subject area (Fussler as cited in Hay 1990:12). Their main responsibilities or functions were therefore, to develop strong subject areas, to form a link between information users and their information, and to build a bridge between the library and faculty, thus keeping library management aware of faculty developments and issues, and keeping faculty current with facilities, services and programmes in the library that would impact them (Hay 1990:13).

2.3.4 Responsibilities, pre-1965

Danton (1967:46-47) wrote that in Europe, subject librarians/specialists were expected to carry out most of the major library functions, including the selection, ordering, cataloguing and classification of information, but not reference work. But he added that, in recognition of the importance of reference work, the German Council for Scholarly Affairs, and the 1960 UNESCO national library symposium, recommended librarians as “intermediaries between the library and the research worker”. In order to carry out reference and other subject librarian work however, subject librarians had to have certain qualifications and skills, which differed, depending on the country and/or institution in which they worked.

2.3.5 Qualifications and skills, pre-1965

Inaugural subject librarians, usually called subject specialists, were expected to be experts in the subject area they served, and were also expected to have other skills, like technical and language skills (Feetham 2006:3). German subject librarians, in the 1950s and 1960s were expected to have a “PhD in an academic subject, to have undergone two years of library training, to have passed a state-administered exam” and they were given time to carry out their own research (Hay 1990:12). Danton (1967:44) confirmed these requirements for ‘continental’ Europe, but he added that the subject staff also had to know several languages and that in some countries they were required to undertake a library course. These subject qualifications were a requirement because library schools stuck to a rigid curriculum that did not adequately train subject librarians to effectively carry out subject duties (Hay 1990), therefore university libraries were more successful if they hired people with degrees in particular subjects and then trained them in librarianship. However, according to Fussler (as cited in Hay 1990:12) training in a particular subject area and/or acquiring an LIS degree was not enough; instead successful subject librarians needed a real interest in libraries and their problems and issues, including, but not limited to, books and their cost, book suppliers and faculty interests.

2.4 PHASE 2: 1965-1980: ESTABLISHMENT AND INTERMEDIATION

In phase 2, subject librarianship continued to develop and gain acceptance, and it eventually found its way to Africa, beginning for example, at the Rand Afrikaans University Library in

1967 (Qobose 2001), and at the University of Natal, Pietermaritzburg in 1977 (Prozesky and Cunningham 1986:99). Since there was a widespread need for balanced collections of printed materials in university libraries, funding was readily available for collection development functions (Gaston 2001:20), an area dealt with by subject librarians. However, even though subject librarians were increasingly found in libraries, cataloguers were in more demand during that period, since the university library's main aim was to acquire healthy information holdings (Feetham 2006:4). In fact, in 1980, Block found that about fifty percent (50%) of library job advertisements were aimed at skilled cataloguers (as cited in Lynch & Smith 2001:408). Their ability to impose order on the collection due to their cataloguing and classification skills was viewed as fundamental to the academic library.

2.4.1 Status of subject librarians, 1965-1980

Despite this preference for cataloguers, the rate of appointment of subject librarians was not hampered in phase two, but continued to grow especially in developed countries. In 1967, in the UK, subject librarian employment was recommended by the Parry Report (Feetham 2006:3). According to Hay (1990:14-16), a similar recommendation was made in the USA in the 1970s, by the National Academy of Sciences and the Social Science Research Council.

However, as early as 1979, Dickinson, an LIS writer, was predicting the demise of subject librarians. He felt that they were not well fitted to the general structure of the library, that inter-library loan agreements lessened their importance; that they could not adequately cover all interdisciplinary subjects; that their budgets were decreasing and; because of what he termed "the dubious need for 'balanced' collections" (as cited in Hay 1990:13-14).

However, subject librarians still ended the 1970s strongly entrenched in university libraries. Smith (as cited in Hay 1990:16), believed that they were the best example of the "academic and professional status of academic librarians", and he predicted that in the USA, more of them would be employed in the future, and that they would continue to enhance library services and be the 'change agents' of the profession.

However, danger signs were already on the horizon as it was during this period that ICTs began to make an appearance in many workplaces. In the 1960s, in countries like the USA, discussions about automating the library catalogue, with the objective of making access to information faster and easier, had begun (Budd 1998:10), and this goal was achieved by 1966, when the catalogue of the Library of Congress was automated and machine readable cataloguing (MARC) was introduced (Gates 1990:203). However, subject librarians were not yet conscious of impending problems, as their services were still often required to assist users to search for and retrieve information from the computerised catalogue and other sources.

2.4.2 Library models, 1965-1980

As it was in phase 1, subject librarian functions in phase 2 depended largely on the academic library model in operation within the institution (Feetham 2006:3). Scrivener (1974) wrote that subject specialisation existed in a number of British university libraries as early as the 1960s, but that the way it was practised differed between institutions. In his study of British academic libraries, he found four different systems accommodated in various library structures:

- The functional system, whereby subject specialisation was integrated into the functional structure, with all or some of the professional librarians expected to carry out subject-specific duties, as well as other functions like acquisitions, reference or cataloguing;
- The hybrid system, whereby some professional librarians were required to carry out mainly subject-specific duties, while the others carried out the rest of the functions;
- The three-tier system, whereby in the first tier professional librarians performed subject-specific functions, in the second tier professionally qualified non-graduate librarians performed duties like descriptive cataloguing, acquisitions and circulation desk work, which required professional competence but not subject knowledge, and in the third tier junior and clerical staff performed routine duties under the supervision of the second tier.
- The subject divisional system, whereby subject teams, consisting of subject specialist librarians and their assistants, were responsible for and located in the area that housed specific subject collection/s.

Scrivener (1974) concluded his study by mentioning a number of advantages of subject specialisation, including job satisfaction resulting from the interesting and diverse work carried

out, virtual autonomy to focus on the areas subject staff excelled in, and the ability to use their subject expertise to assist users. He added however, that although the advantages outweighed them, there were some disadvantages, including the difficulty of getting promotions, since subject librarians did little managerial work, the lack of adequate numbers of professional staff, and the conflict of interest, the inefficiency, and the distraction from their main function that subject staff experienced when the subject specialisation system was integrated with a functional one.

Meanwhile, in African countries, subject specialisation was still rare, but writers like Adelabu and Onyechi looked forward to the adoption of the model in Africa. Onyechi (1975) believed that subject specialisation would make collections more manageable and user friendly and it would make the job more challenging. Adelabu (1974:305) believed that it would allow those librarians working on a subject basis to become full partners of and have parity with faculty, since they carried out user education classes, in-depth reference/research work, collection development and other bibliographic duties. He admitted that parity was not visible yet, but that future academic libraries would move towards this scenario.

However, the subject divisional model had begun to lose supporters and/or followers, and in the USA, by 1977, out of an original twenty-six (26) practising libraries, only fourteen (14) continued to adhere to this type of model, mainly due to the confusion caused to users regarding distinctions between subject areas, as libraries tried to absorb or incorporate the ever-growing interdisciplinary fields (Johnson 1977:28).

2.4.3 Roles, 1965-1980

During this phase, subject librarians, whose services tended to be very “user-focussed”, assumed the role of main “point of contact” between the library and academic staff (Pinfield 2001), on a subject specific basis. Some writers even went so far as to recommend that they be fully absorbed as part of the academic department whose subject/s they represented, so that they could be current with the interests of academic staff and with the requirements of new courses (Hay 1990:14). The latter concept gained popularity in the 2000s, in the form of embedded librarianship. Meanwhile, still in phase two, Michalak (1976) advised libraries to adopt a

“philosophy of service” whereby librarians worked to find out user needs, to identify the problems experienced in fulfilling these, to market the library’s various services and to convey to users that they understood their needs and could provide them with teaching and learning support. This philosophy was accepted and acted upon by subject librarians. However, the subject specific role was criticised by Guttman (1973:4), who strongly believed that expertise in a specific subject area would make it difficult for subject librarians to be promoted to posts requiring knowledge of all aspects of the library.

2.4.4 Responsibilities, 1965-1980

Nevertheless, subject librarians’ responsibilities continued to revolve around subject support, subject-based collection development, collection management, subject-based reference support and faculty/subject liaison. The following is a summary of the responsibilities of subject librarians, as discussed by Humphreys (1967), Michalak (1976), Duino (1979), Guttman (1973), Pinfield (2001), Hay (1990), Crossley (1974) and Prozesky and Cunningham (1986):

- User education or bibliographic instruction, conducted formally within a classroom setting, or informally within the library, to assist students to find information;
- Production of general and subject- specific library guides;
- Enquiry/reply work, sometimes carried out at the reference desk;
- Subject-based collection development and selection work, a function which assumed more importance as the collection grew, and academics showed less enthusiasm about being involved in selection, except as it related to their particular research areas;
- Collection management duties which required them to catalogue and classify materials in their subject areas or to assist cataloguing staff;
- Faculty liaison so as to ensure that library collections met teaching and research needs;
- Current awareness or marketing services, whereby faculty was made aware of new publications, facilities and services offered by the library or subject division;
- Selective dissemination of information services which included the compilation and dissemination of bibliographies, guides, reading lists and related information items.

2.4.5 Qualification and skills, 1965-1980

As already mentioned above, the earliest subject librarians were subject specialists who were expected to have subject qualifications. Humphreys (1967) discussed the fact that some scientists were appointed without LIS qualifications and experience, which they later acquired in the form of in-service training. In order to attract more of these specialists to library work, Downs recommended that students studying for various non-LIS degrees also take library courses, and work as paid interns in libraries, and that they be assured of jobs after graduation (Duino 1979). Meanwhile, in countries like Germany, the first subject specialists were expected to possess PhDs, but by the mid-1970s this was no longer a requirement (Hay 1990:15), although it was still seen as an advantage to employ subject librarians with a degree in a subject, they were not really expected to be experts in all areas of it (Pinfield 2001). In fact Humphreys (1967:31) stated that although the appointee would normally have a first degree in the subject, plus experience, it was no longer necessary for him/her to possess qualifications in the subject on appointment. With regards to some African countries, like Nigeria, subject qualifications were considered to be important, as discussed by Adelabu (1974) who also bemoaned the imbalance which existed in Africa, whereby librarians were mainly humanities graduates as opposed to science degree holders.

2.5 PHASE 3: 1980-1995: DANGER OF DISINTERMEDIATION

In phase 3 computers, which were introduced to libraries in the 1960s, gained ground and became more sophisticated and user-friendly. In fact, by the end of the 1980s “some personal computers were run by microprocessors that, handling 32 bits of data at a time, could process about 4,000,000 instructions” (Meyers 2001:7). Furthermore, the internet soon followed. Leiner *et al.* (2009:22-24) wrote that the first descriptions about the possibilities of network technology were published in the 1960s, by researchers like Licklider and Kleinrock, and that the first public demonstration of a network, called ARPANET, took place in 1972. By the mid-1980s many universities in developed countries like the UK had set up local area networks and tried to make sure that as many people as possible had access to computers, including in the library, in offices and in university residential halls (Fielden report 1993:2.9). Information formats found in

libraries therefore, began to include not only printed sources, but also electronic formats like CD-ROMs, and online databases.

Then, between 1989 and 1990 the World Wide Web was invented by Tim Berners-Lee. Although he developed it primarily “as an environment in which scientists at the European Centre for Nuclear Research in Switzerland could share information, it gradually evolved into a medium with text, graphics, audio, animation, and video” (World Almanac 2009), and it soon pervaded all areas of life and all professions. In universities, ‘web’ and internet developments brought about changes in the methods of instruction, making them more flexible, resource-based and student-centred (Ennis 2000:3), and resulted in an increase in the demand for web-based courses and interactive learning resources (Biddiscombe 2002:229).

The World Wide Web and the internet had a major impact on institutions of higher learning; in some cases this was negative in that jobs were threatened. Hooper (as cited in Biddiscombe 2002:229) even referred to them as “killer applications”, which changed the course of history by allowing customers to carry out many searches personally, thus bypassing intermediaries like subject librarians, leading the latter to feel threatened. The belief by users, that they were able to find their own materials without help led to this period being referred to in the literature as the ‘disintermediation’ period (Feetham 2006:7; Sturges 2001). For those users still using the library, who had been exposed to the wonders of powerful search engines like Google, and other advanced ICT tools, which had made a wealth of information accessible to them (Campbell 2010:30), their perceptions and expectations of the library and its services had altered and became more sophisticated (Gray 2009:300). They now demanded more and better services from their libraries. These new demands forced libraries to recognise the new reality, that a large number of patrons no longer visited the library because they had no need to (Pace as cited in Biddiscombe 2002:232). They therefore realised that the redefinition of library staff roles was now mandatory (Ennis 2000:3), and that these had to be examined and re-formulated.

2.5.1 Status of subject librarians, 1980-1995

The library was thus compelled to transform from being the primary storehouse/owner of information materials, into an institution that gave access to the information materials necessary

for teaching, learning and research (Follett 1993; Feetham 2006; Gaston 2001). Since the information environment was changing in many countries, including the UK, USA and Australia, transformation was occurring simultaneously in many of them. Fortunately this transformation did not change the library culture of “connecting people to ideas” (DeCandido 2000:5).

2.5.1.1 Status in developed countries

The Fielden report (1993:3.24) warned that, amongst the categories of library staff that would be most affected by the resultant devaluation, were professional staff like subject or information librarians, and paraprofessional staff like library assistants. Fortunately, for paraprofessional staff – who were mainly responsible for traditional tasks like accessioning, filing and other clerical duties - with the development of services like online cataloguing, they were able to solidify their position in the library, by starting to take over previously professional tasks like acquisitions, cataloguing, classification, document delivery, inter-library loan services and reference or enquiry/reply services (Corrall 2004:25; Garrod 1998:251).

Unfortunately for previously highly valued staff like subject librarians and cataloguers, they faced a great risk of retrenchment. In his 2000 assessment study of staff in research libraries, Wilder found that between 1990 and 1998, the percentage of employment of these categories of staff had fallen, that is, cataloguers by 63%, subject librarians by 25% and reference librarians by 22% (as cited in Lynch & Smith 2001:410). Faced with figures like this, some LIS writers, like Heseltine, pessimistically predicted the end of subject librarianship (as cited in Pinfield 2001:2).

As a defence of their livelihoods, professional academic librarians, including subject librarians, had to find ways to respond to the threat of disintermediation. According to Fourie (1999), the initial rate at which changes occurred was just slow enough for subject librarians to notice, digest and adjust to them. She added however, that they soon realised that the new ICTs were empowering many users to conduct their own searches, so in order to retain their relevance and value; they had to take a step back and reassess their services and skills. While some of them enthusiastically dived into the technological sea, others were often slow to react and adapt, with the result that when formats like audio-visual media were first introduced to the world, they were accepted faster, and administered more effectively, by other categories of information

professionals, like media specialists (Gates 1990:201). To add to the stress, according to Corrall (2004:19), librarians also began to observe academic staff involving themselves in information-related or similar actions, sometimes without even consulting or informing them. This, she stated, raised another concern, that there would be a shift away from the library's goal of provision of information to the whole university community, to "course-restricted access" through the virtual learning environment (VLE).

So, from around the mid-1980s, libraries as a whole, knew that they were in the 'eye of the storm'. For subject librarians, the introduction of new 'easy-to-use' electronic information formats like CD-ROMs, seemed to work against them, as it led users to initially reject mediated searches, preferring to carry out their own searches (Martin 1996:165). However, the fact that some printed publications like textbooks were expected to continue their existence in libraries, at least until they could be conveyed electronically and affordably, led some LIS writers like Martin (1996:168) to predict that many of the duties of the subject librarian would remain as before. But they also acknowledged that the 'information age' had made the acquisition of new skills and competencies compulsory for all library staff.

Unfortunately, the possession of new skills caused a division between those librarians who were willing and able to acquire them, and those who merely remained in possession of traditional qualifications and skills (Sandler as cited in Corrall 2004:26). The latter became extremely vulnerable, especially since centralisation and convergence fostered the belief by some university administrators that they could, without any detrimental effects to the institution, employ fewer people in the library (Feetham 2006:5).

Since subject librarians were vulnerable to extinction, they were urged to cooperate and collaborate with other stakeholders in the information and learning environment "and to be prepared for a redefinition of boundaries between the library and other domains" (McLean as cited in Corrall 2004:19). Most of them did not balk at change, but recognised and accepted that in order to remain relevant they had to re-invent their roles and change their way of carrying out functions by using new ICT skills. Many successfully did this, and eventually led many users to re-discover their value and to praise their work. A 2005 evaluation study, by Tennant *et al.*

(2006:405), of a five year old liaison librarian programme, inaugurated at the University of Florida Health Science Centre, found that 95% of faculty and student respondents supported the programme and were content with it.

So subject librarians did not give up and, while acknowledging that many of their patrons could now access information on their own from any work station, also realised that some of them still needed their input for a deeper and more qualitative search (Rodwell 2001:50):

The increasing availability and amount of information to be handled requires true subject specialisation. If ‘disintermediation’ is a threat to librarians, it is perhaps the generalist who is in danger of going the way of the dinosaur. The subject specialist may well be the dynamo in any organisation for which information is crucial (Rodwell 2001:52).

The empowerment of the user therefore, if regarded as an opportunity to secure their position as experts in the use of the new ICT tools, did not need to lead to disintermediation (Fourie 1999).

But subject librarians first had to acquire new skills, raise their profile and convince their constituencies of their worth (Fourie 2004). They also had to become more involved with faculty and with teaching patrons how to acquire electronic or online search and retrieval skills (Gaston 2001:20).

2.5.1.2 Status in African countries

Meanwhile in African countries, disintermediation was not really an issue. This was largely because the different pace of development. The earlier introduction and faster adoption of computers, the internet and the World Wide Web, had made knowledge the main product separating developed from developing countries (Biddiscombe 2002:228). This anomaly saved African subject librarians from the worst consequences of the ICT age. Although Hay (1990:16) wrote that “Third World libraries need subject specialists to aid in efforts to best manage limited resources while effectively supporting university instruction and faculty research”, and although subject librarianship first appeared in a few older universities as early as 1967 (Qobose 2001:142), it only really took hold in Africa from the 1980s. Fadiran (1982) believed that this delay was mainly due to a lack of financial and human resources, as well as to the view of the profession held in the continents.

At Port Harcourt University library in Nigeria, subject librarianship was established in 1984 mainly to make better use of the subject expertise of staff who had returned from abroad, where they had been sent to acquire library qualifications ((Oliobi 1994), At the University of Pretoria library in South Africa, subject librarians, who were later referred to as information scientists, were introduced in the 1980s as part of the transformation from a library service to an information service (Mbambo 2006:177-179). At the University of Botswana subject librarianship was introduced in 1981 (Agyen-Gyasi 2008), with four teams being put in place to cover the faculties of education, humanities, science and social sciences, and a further two being added later, to cover the faculties of business and of engineering and technology (Qobose 2000:1-2). Each subject team consisted of two or more librarians and they were usually assigned one subject or a number of related subjects to look after (Qobose 2001:141). At other African libraries, even though the subject structure was not officially in place, some librarians already carried out subject duties as part of their responsibilities. For example, at the University of Science and Technology Library at Kumasi, all professional staff was assigned subject responsibility from the 1980s on (Osei 1996:34).

However, introducing subject librarianship did not always succeed in African universities. Agyen-Gyasi (2008:4) noted that at Lagos University, inadequate numbers of qualified or experienced professionals meant that the system could not be sustained. He added that, although the University of Ghana had structured its library along subject lines for three of its faculties, there was no evidence of this system being copied by other Ghanaian university libraries in the near future.

Nevertheless, African university libraries needed subject librarians, not only to support teaching and learning, but to train or assist users on how best to make use of limited resources (Hay 1990:16), so more began to be employed from the 1980s. As stated above, this delayed introduction, in a strange way, proved to be an advantage to African subject librarianship, which was still in its infancy when disintermediation became a threat in Europe, Australia and the USA. Furthermore, African library users were not as technologically advanced or as computer savvy as their developed country counterparts (Mbambo 2006:83-4), making the assistance of subject librarians with information search, retrieval and evaluation necessary for many users to come.

2.5.2 Library models, 1980-1995

In southern Africa, traditionally, university libraries operated under the functional model, but a 2004 survey revealed that some of them were moving towards a subject-based facility or a student-oriented model (Mbambo 2006:181). In developed countries, on the other hand, a number of library models were in operation during phase three, including the five models put forward by Scrivener (1974) and which were more clearly defined by Woodhead and Martin in 1982, and then again by Martin in 1996, that is, the functional, dual, hybrid, three-tier and subject-divisional models.

Under the functional model, all library functions were subdivided among senior library staff, and performed on a centralised, rather than subject basis (Martin 1996). In the UK, by the 1990s, the dual model had become the most prominent amongst Scrivener's five library models, and it involved subject librarians carrying out some functions, duties or responsibilities on a subject basis, while other senior library personnel carried out the balance on a centralised basis (Woodhead & Martin 1982:98; Fielden report 1993:Point 3; Martin 1996:160-161; Feetham 2006:5).

Under the hybrid model, some library functions were subdivided by subject, and performed by some or all senior staff members, with each of them also carrying out one or more of the remaining centralised library functions (Woodhead & Martin 1982:98; Martin 1996:160-161). Qobose (2001:145) wrote that the University of Botswana Library operated subject librarianship in a hybrid manner since it had inserted it within the "traditional functional structure". Under the three-tier model, some library functions, subdivided on a subject basis, were carried out by all or most senior staff, functions requiring graduate qualifications, like cataloguing and classification and circulation desk duties, were carried out by non-graduate but professionally trained library staff, and the remaining functions were carried out by middle-level staff assisted by junior and/or clerical staff (Woodhead & Martin 1982:98; Martin 1996:160-161).

2.5.2.1 Subject divisional model

The subject divisional model, which resembled the dual model in some ways, continued to be found in university libraries worldwide, despite Johnson (1977) stating that it had declined by the

1960s. This model started in Germany, spread to other European countries and the United States (Stebelman 1989) and then found its way to Africa (Mbambo 2006). It was where teams of senior, middle-level, junior and clerical staff were placed in teams which were subdivided by subject, were located in the area of the library that contained their particular subject, and received back-up from a support structure that carried out the remaining centralized library tasks (Scrivener 1974; Woodhead & Martin 1982:98; Martin 1996:160-161). However, in Africa, according to Avafia (1983), few libraries adopted the subject divisional approach, mainly due to lack of resources including personnel. However, he noted that one of the libraries to adopt it was the University of Jos in Nigeria, which divided the library collection into seven subject libraries (corresponding to the available faculties), manned by subject librarians, who were collectively part of the Subject Libraries Division. However, as explained by Johnson (1977), the subject divisional model had begun to lose supporters and/or followers by the 1960s and 1970s. His study, conducted in the 1970s, found that out of an original twenty-six practising libraries; only fourteen continued to adhere to this type of model. However, in the UK, it could still be found in some libraries (Woodhead & Martin 1982, Martin 1996) and it was established in some African libraries in the 1980s, including at the University of Botswana (Jenda 1994).

2.5.2.2 Convergence model

A new model, which was introduced in the 1980s and 1990s to university libraries in the UK and the USA (Fielden report 1993:2.25), was the convergence model. The latter emerged partly as a survival strategy, and partly as a reaction to the blurring of differences between services like the university library and the ICT department, once patrons were able to access information in different formats and from various locations (Heseltine as cited in Feetham 2006:5). The merged services, which were sometimes collectively referred to as “learning resource services” (Ennis 2000:3), usually remained in the library, absorbing facilities like “workstation clusters, training rooms, IT helpdesks, study skills centres, career information points, video conferencing suites and internet or learning cafés” (Corrall 2004:24). They operated under the logic that the library and the ICT department were inter-related, as they both served information seekers, using the same resource – information (Lwehabura & Matovelo 1999), which they collected, input, stored and retrieved:

The library is a repository of packaged information and the computer centre stores and retrieves information; the library lends information and the computer centre displays it; the library acquires and borrows information and the computer centre inputs information.

(Neff as cited in Lwehabura & Matovelo 1999).

In terms of organisation, the Fielden report (1993:2.26) identified two types of convergence in the UK. Organisational or formal convergence meant the joining together of two or more services under one overall supervisor, for management purposes, but with no other organisational changes; while operational or informal convergence meant changing or converging the functions or operations of the identified services.

According to Lwehabura and Matovelo (1999), the convergence model had various disadvantages for African libraries, some of which arose from a clash in work cultures between the library and the ICT department, a confusion of roles between staff of the two sections, and tension emanating from the level of fees to be charged by a converged unit consisting of a usually free or inexpensive library service versus a costlier fee-based ICT service. However, the authors also noted some advantages for African universities. For example, members of the two or more merging departments could learn from each other, and they could also share resources, funding, technology, staff, skills, planning strategies and the development of new services. However, a 1997 survey by Mulimila found that the convergence model was still regarded as a novelty in Africa, resulting in libraries and ICT departments continuing to work independently (as cited in Lwehabura & Matovelo 1999). But, as a concession to computerisation, in the late 20th century, some universities like Moi University in Kenya began establishing computer centres within the Library, thus making it easier for library and ICT staff to collaborate (Lwehabura & Matovelo 1999). The convergence model, more than the other models, in developed countries, was introduced in order to try and fight the disintermediation of librarians.

2.5.3 Roles, 1980-1995

Under all the library models in operation in universities in the third phase, proactive measures were put in place in order for the library and subject librarians to remain relevant. From the mid-1980s, these measures had worked so well that libraries had begun regaining their prominence (Fielden report 1993:2.4-2.6), and subject librarians increasingly became known as learning

support personnel, who were no longer rigidly bound to a traditional structure (Biddiscombe 2002:230). Frequently the roles of subject librarians were closely tied to the functions they performed, and sometimes the term 'role' was used interchangeably with term 'function' in the LIS literature.

2.5.4 Responsibilities, 1980-1995

In the libraries operating under the Dual model, the responsibilities and duties carried out by subject librarians, as described by Martin (1996:164-5) were: faculty liaison, book selection, the provision of reference, information and reader services and, in over half of the libraries, the classification (but not cataloguing) of library items. He also explained that, since patrons had taken to searching computerised information services on their own, subject librarians, instead of providing them with the traditional mediated service, had started helping them directly with search assistance or indirectly with services like printed guides.

Those subject librarians operating under the convergence model, mainly in developed countries, found that they had to carry out tasks and acquire skills which were only loosely linked to the training they had received at library school (Biddiscombe 2002:228). Depending on what areas had been converged, and what emphasis the combined service stressed, Ennis (2000:4) wrote that this meant that generally, they had to: Assist patrons to locate, retrieve and interpret information; provide learning facilities; carry out library and information skills training; provide teaching and learning support in the form of facilities and information resources; and provide senior management of the university with information to support their decision-making.

Under the subject divisional model, subject librarians worked in teams and carried out library functions on a subject basis. According to Jenda (1994:102), the positive aspects to emerge from this model at the University of Botswana were enhanced teamwork, wider variety of work carried out, greater use of individual professional education and skills, enhanced services and "more dynamic, flexible and responsive staff", who were more engaged and who took greater responsibility/accountability for their work. However, she also noted some disadvantages like differences in cataloguing styles which led to inconsistency, time/work management problems, and role conflicts mainly due to the multiple tasks performed, all of which also increased

management/administrative work. Furthermore, subject librarians in that university found that they were responsible to three coordinators who were in charge of acquisitions, cataloguing and reader services, whose individual standards and expectations they had to meet.

In their study, Woodhead and Martin (1982:102) found that the main duties performed under the subject-divisional model included faculty liaison, user education, collection development (referred to as book selection) and reference work, Oliobi (1994) added current awareness services and bibliographic services, while Fadiran (1982) added marketing, and the provision of support and expertise to the cataloguing section. A study of medium-sized academic libraries in the USA, carried out by Schreiner-Robles and Germann (1989:5), discovered that 'reference bibliographers' or subject librarians were involved in many different activities, including spending: 11.7 hours a week on reference, 7.7 hours on collection development, 3.1 hours on bibliographic instruction, 4.3 hours searching online, 5.3 hours on publishing, 3.1 hours on professional reading, 3.0 hours on in-house library committees, and 2.2 hours on clerical work and, if they were also administrators, they spent 11 hours on management tasks, usually at the expense of reference or collection development. This obvious overload prompted Schreiner-Robles and Germann (1989) to raise concerns about burnout, and about the danger of providing a poor subject/reference service because of it.

Overall, the role of subject librarians during this period was 'learning support'. Subject librarians selected, catalogued and classified material, and provided a faculty liaison, reference/information provision and user education service Fadiran (1982). Each of these functions had various duties.

2.5.4.1 Reference function

The Fielden report (1993:2.4-2.6) put the reason for the continuing importance of reference services down to students being required to carry out more project-based work, and requiring the use of different information formats. Sturges (2001) noted that subject librarians were often required to assist in finding articles on CD-ROM, with the information in those early databases, usually being bibliographic in nature, thus requiring the help of an intermediary to find and interpret the information within them, and then to find the articles for them. However, returning to the threat of disintermediation, he added that the introduction of full-text databases meant that

users, who had already become more used to the new internet technologies, did not need so much help, and when they did, they could get training from the database suppliers instead of from the intermediaries.

2.5.4.2 Instruction duties

Fortunately for subject librarians, the tendency for users to ignore unfamiliar resources, made disintermediation more of a threat than a reality; thus functions like user education continued strongly in university libraries. Due to their subject expertise and traditional instruction duties, subject librarians were the obvious choice to spearhead information literacy. Not only were they required to acquire and provide training about how to search for, locate and use material listed in subject bibliographies on CD-ROM (Sturges 2001), they also had to do this in regard to online databases. As an extension of their instruction duties, some subject librarians also taught research-related courses like how to plan and conduct a research strategy and how to use research tools (Stebelman 1989).

A study by Lynch and Smith (2001:415-6) found that although user education was not a job requirement for subject librarians in the 1970s, it started to appear in some adverts in the 1980s, featured in all of them from the 1990s, and then became an official duty in 2000, featuring prominently in their job descriptions. In African countries, user education was also practised; for example, information literacy instruction was introduced at the University of Botswana in 1996, and it became a credit-bearing course taught by Subject Librarians (Mbambo 2006:180). It was also found in a number of other university libraries throughout the continent. Then the provision of access to electronic information resulted in students and other users needing to know how to use these formats, so training in this aspect was provided by subject librarians (Gaston 2001).

2.5.4.3 Liaison duties

The liaison function was also strong on the subject librarian job description and, it gained support because, according to Biddiscombe (2002:230), academic staff members, who now had to interact more often with their students online, acknowledged the importance of the assistance they received from subject librarians, for example, in the linking of their online courses to related databases. He predicted that, with many of the traditional library functions being phased out or

transferred to paraprofessional staff, subject librarians would be required to take on more learning support duties. However, during this phase, not all libraries moved with the same speed, so at some institutions, the liaison function remained weak (Fielden report 1993:2.52).

2.5.4.4 Collection development duties

Closely related to liaison work, was the collection development function, but with the hours spent on this task varying considerably from library to library (Schreiner-Robles & Germann 1989). In phase three, subject librarians brought a number of strengths to the function of collection development. Some of them had subject degrees, which provided them with added subject clarity, while most of them were remained current with the new curricula, programmes, and research and information requirements of their schools or faculties (Stebelman (1989). As a result some libraries referred to their subject librarians as subject specialists, a term that Williams (1991) disagreed with since most of these professionals handled selection in more than one field and could not possibly be specialists in all of them.

2.5.4.5 Marketing duties

In most libraries, marketing was a duty for many librarians, including subject librarians, and they had to promote the library, its facilities, its resources and all its information services. According to Fadiran (1982:46):

We have to display and advertise our wares, which are books, periodical journals, recorded information on cassettes, microfilms, microfiche, maps and pictures, and to provide appropriate information to all levels of library users, ranging from quick reference information to the most complex computer-based information retrieval service.

Subject librarians were also expected to market and promote their subject services, and this function became more important when they realised that they had to regain their value.

2.5.5 Qualifications and skills, 1980-1995

Subject librarian duties were enhanced if they had the appropriate qualifications and skills. However, their qualifications in this period varied, according to Gates (1990:192), depending on the “purpose and functions” of their libraries, the subject area/s covered, the volume of work performed, and the number of patrons served. He explained that generally, subject staff were

expected to have knowledge of languages, the ability to work in a team consisting of other subject librarians and various researchers, training in research, knowledge of the selection, evaluation, search and retrieval of information, and an understanding of the changes emanating from ICTs. Feetham (2006) noted that over time the type of qualifications required changed, and that during this period, the subject specialist was now expected to have other skills besides subject expertise. She also noted that some of these learning support staff did not have degrees in the subjects they served.

However, subject librarians/specialists, were still expected to hold formal qualifications, in line with the responsibilities listed in their job descriptions. In developed countries, sometimes a library degree was regarded as the only formal qualification that a subject librarian needed. However, in most cases, both library and non-library qualifications and expertise were required. In the United States for example, Lynch and Smith (2001:415-6) conducted an analytical study of the jobs advertised in the journal *College & Research Libraries*, between 1973 and 1998. They examined job adverts for subject reference librarians, instruction librarians, distance learning librarians and reference librarians; and they found that an American Library Association (ALA) accredited degree was still required by the majority of academic libraries for all the named professionals. However, some university libraries also expected subject librarians to possess a thorough specialisation in the subject area/s they covered (Gates 1990:192).

In fact, a study in the USA by Detlefsen (1992) found that, in the last six months of 1991 the positions advertised in libraries were for technical and administrative positions as well as for subject specialists; with advertised positions for the latter usually stipulating an ALA-accredited master's degree, plus an advanced degree in a non-LIS subject; and in some research/university libraries, 'professional employees' or individuals with degrees and advanced qualifications in non-LIS fields, were employed to carry out miscellaneous tasks, because they had special skills. Detlefsen concluded that this meant that libraries considered subject knowledge as being more important than an LIS degree for subject librarians. She also noted that some non-LIS degree-holding professionals were willing to join the library structure due to lack of employment opportunities in their own subject fields, and that a strong case could be made for them to be

employed, as long as they joined ALA-accredited LIS programmes in order to acquire library skills.

Williams (1991), however, stated that although the need for subject expertise by subject librarians had been discussed in the literature, the investigation of this topic had not been thorough, and therefore no clear-cut distinction had been made “between ‘subject interest’ and ‘professional expertise’”. But the common understanding seemed to be that subject specialists had to have professional qualifications or expertise in a subject, while subject librarians had to have a strong interest in the subject and in-depth knowledge of the literature in the field. Williams (1991:44) recommended that subject staff be required to have basic factual subject-based information, so that they could make basic selections, but that the acquisition of qualifications in the subject, while recommended, were not essential.

In African countries, possession of library and information science (LIS), as well as non-LIS qualifications was generally espoused, but with different emphasis found in different libraries. On the one hand, some libraries favoured a non-LIS degree plus an LIS qualification, that is, they preferred to employ subject specialists. In his definition of subject specialists, Onyechi (1975:188) even recommended that they should ideally “hold two masters’ degrees – one in the subject field and one in library science”. Therefore, in countries like Nigeria, subject librarians, usually known as subject specialists, were required to possess a first degree in the relevant subject, backed up by a post-graduate library qualification, so that they would have adequate knowledge in subjects taught in their faculties and thus be better able to serve (Mbambo 2006:177). Even some subject librarians supported this view, for example, most of the respondents in a study of subject librarians at the University of Jos, stated that they expected subject staff to have a good first non-LIS subject degree (one even thought that this should be at Masters’ level), plus an LIS qualification (Avafia 1983). The first subject librarians employed at Port Harcourt University Library in Nigeria were recruited from graduates with a variety of subject backgrounds, with the most difficult subject areas to recruit being the natural sciences, engineering, medicine and the management science, as they preferred to work in industry with its better reward system (Oliobi 1994:33). However, despite having such subject degrees, some African universities did not recognise subject specialists, thus discouraging other new graduates

from joining the library (Agyen-Gyasi 2008). This lack of recognition or status, plus the failure to aggressively recruit subject degree holders to the profession, meant that they were scarce in libraries (Ochai 1991).

Other libraries, on the other hand, favoured the employment of subject librarians, that is, professional librarians who had obtained good LIS degrees, post-graduate LIS qualifications, and good knowledge of the subject or of the literature of the field. However, according to Ochai (1991:111) library directors who favoured subject specialisation, resisted employing holders of LIS degrees, whom they considered to be “generalists and therefore inferior” to holders of non-LIS degrees. He added that this was in contravention of the guidelines by the Committee of University Librarians of Nigerian Universities, which recognised both an LIS degree and a subject degree coupled with a professional LIS qualification. Other African libraries, when they employ LIS degree holders, it was with the expectation that they would acquire the necessary subject knowledge to assist their users. They appeared to agree one UK- based university, which defined subject librarians as staff with information search and retrieval expertise, who could teach these and other learning support techniques, independent of subject specialisation, thus distinguishing them from subject specialists/lecturers, whose job was to pass on subject knowledge (Biddiscombe 2002).

2.5.6 Skills

Although the arguments for and against LIS versus non-LIS degrees will probably not be solved anytime soon, what LIS writers agree on is, the need for subject librarians to accept that technology had changed their lives forever, and to find ways to gain the relevant ICT skills. Fortunately many of them acknowledged this fact and woke up to the fact that, not to upgrade their ICT skills could spell their demise, and that they had to become proactive in their own personal professional development, as well as in their work, by anticipating events and planning for them (Garrod 1998:244). They realised that ICT skills were more relevant to them than subject expertise (Hall as cited in Pinfield 2001), but subject skills were still important. Unfortunately some library employers or managers were remiss in the assistance they provided to their subject librarians, and they sometimes did not assist them at all, and if they did, the training was not deep enough. Therefore, during this phase many academic librarians were only

trained in the use of applications like MS Office and electronic mail (Biddiscombe 2002:231), but these were definitely not enough.

Over and above acquiring new ICT skills, subject librarians had to improve on their teaching skills. New open learning systems in universities had meant major changes in teaching, learning and the way students used library materials; and eventually they returned to learning support librarians for assistance and instruction (Fielden report 1993). This meant that subject librarians had to strengthen their pedagogic and subject skills. Biddiscombe (2002:231-235) even urged them to try and obtain relevant teaching qualifications, and membership in professional teaching associations, so as to demonstrate their commitment to the learning and teaching process. Unfortunately the LIS courses of the day were slow to respond to the modern training needs of librarians and/or to incorporate new technologies into their departments and/or their curricula. Subject librarians therefore, had to acquire pedagogic, ICT and other new skills “through reading, research, contact with colleagues in person and at conferences and dogged persistence at the school of hard knocks” DeCandido (2000:4).

2.6 CHAPTER SUMMARY

In summary, subject librarianship was introduced in the latter part of the nineteenth century in Germany. It spread to the United Kingdom in the 1920s and 1930s and reached the United States of America in the 1940s. It spread quickly in developed countries, reaching a peak in the 1970s. In the 1980s, subject librarianship was introduced to African university libraries, at a time when the profession was going through a period of danger in developed countries, resulting in a dual situation of ‘disintermediation’, with a gradual subject librarianship rejuvenation, in developed countries on the one hand; and ‘intermediation’ or the introduction of subject librarianship to African university libraries.

However, subject librarians in all regions had to deal with technological advances, which had impacted strongly on the teaching, learning and research activities of universities and which had led to the discovery of new information needs. Academic libraries therefore, became aware that, if they wanted to survive and to “emerge as even more central and vibrant resources for their

institutions” they needed to find satisfactory ways to respond to these new information needs requirements and technologies (ALA 2006a). Subject librarians had to become proactive and adapt to new technologies as they appeared, so as to be seen as the major ‘directional tools’ on the information highway. Meanwhile, their main role remained as subject support, their main functions remained as subject-based reference, faculty liaison, IL instruction, collection development and marketing, and their required skills became ICT competency, information search and retrieval skills, communication and liaison skills, subject skills and pedagogic or teaching skills.

In the developed world, by being innovative, subject librarians, after the initial threat, re-possessed their position at the core of the university library, and the academic library returned to their place at the heart of the institution. In Africa, subject librarians also occupied a core place in the library. A 2004 survey by Mbambo (2006:183) revealed that African subject librarians felt that: they did a good job, should be employed in greater numbers as their workload was heavy, should be taken more seriously by universities, should be accepted by, and get more cooperation from faculty, and should be granted faculty status in order to enhance their roles.

CHAPTER THREE
LITERATURE REVIEW
SUBJECT LIBRARIANSHIP 1995-PRESENT DAY

3.1 INTRODUCTION

As shown in Chapter Two, the history of subject librarianship has been affected by constant changes in the educational, social, economic and other areas of life. In phase 4, which is discussed in greater detail in this chapter, the changes in the profession increased significantly, mainly because of the further development of applications like the Internet and the World Wide Web, which made sure that information kept multiplying (McIlroy 2009:5). Citing a website hosted by the regent of the University of California, Houdyshell (2003) wrote that it had been estimated that the Internet was growing by 7.3 million pages a day, thus making it harder to separate the good information from the bad. Therefore, although the new applications allowed students to study and work anywhere in the world (Altbach 2004), the sheer volume of information that resulted from their introduction also nurtured a fear in them that while they waded through it, they might miss something of crucial important to their work, studies or daily lives.

3.2 PHASE 4: 1995-PRESENT: MODERN PHASE (REINTERMEDIATION)

Globalisation, which was another result of the internet and the World Wide Web (Altbach 2004:3), was described by the Cambridge Dictionary Online (2011), as a process whereby “available goods and services, or social and cultural influences, gradually become similar in all parts of the world”. Globalisation, in its turn, was responsible for the birth of the concept of a ‘knowledge economy’, whose premise was that “information and knowledge are at the centre of economic growth and development” (Organisation for Economic Cooperation and Development [OECD] 2001). It also fuelled other economic, scientific, technological, political and cultural trends and advances (Altbach 2004:3), all of which resulted in information resources increasing almost uncontrollably, from different sources and in different formats; and they could be accessed in many different ways, some of which were beyond the library’s control (ALA 2006a).

Since libraries could not acquire the many available sources, they had to shift their focus, from the traditional practice of ownership, to the modern practice of access (Feetham 2006:4).

Globalisation, in the academic world, was responsible for the introduction of more modern methods of teaching and learning. It resulted in students becoming active learners by, for example, participating in group work and content creation, in the form of articles posted in student journals, and presentations given at student workshops or conferences (Brewerton 2012:97). It also gave rise to student-centred problem-based learning (PBL), whereby students were expected to solve “real-world problems”, using “independent learning and information gathering” (Kiran 2004). However, some students were not able to operate in the new information environment without assistance.

Meanwhile, in this age of globalisation, universities accepted an expanded mandate to create a society whose citizens would develop to their fullest capacity and, who would have at their disposal “the skills and knowledge to thrive in the increasingly competitive world economy” (Brophy 2005:22). However, when they realised the problems faced by students because of the over-abundance of information, they began espousing information literacy training, as it would ensure that students left the institution as information literate graduates, who had the skills to realise when they needed information, and who also had the ability to search for, locate, retrieve evaluate and ethically use that information, no matter which location/s or source/s it came from and which medium it came in (ALA 2001). As information literate individuals, they would also be more likely to develop an interest in lifelong learning, which can be described as an on-going programme or activity, that allows practitioners to continue to independently acquire knowledge, learning, competencies and skills, formally or informally, regardless of age (Reitz 2004-2013; Häggström 2004), and which would help them to think critically, to solve problems, to make decisions and to successfully plan for their future, at home and at work.

To help them to pass on information literacy skills to their students, and to familiarise them with the new information environment, universities turned to their academic libraries. Since libraries had always provided information reference services and carried out user education, libraries just looked to their staff, particularly to subject staff, to ‘seize the day’, re-engineer their roles, and

offer new and/or enhanced services to their users. Although user education was well established in libraries, it now became known as information literacy instruction/training or information skilling, thus reflecting a new era, which demanded the empowerment and transformation of users into independent finders of information. If the library succeeded in this and all its other new goals, its value would be reinforced and it would be difficult for information users to imagine the institution operating successfully without it (Follett 1993: Point 4).

3.2.1 Status of subject librarians from 1995

Subject librarians, by the nature of their job, were in a prime position to observe students when the internet and web were first discovered; starting with their initial excitement at the development of technologies that allowed them to search for information on their own and at their own pace, and then moving on to their gradual panic as information increased at a frightening rate. Like their faculty colleagues, they observed students becoming more and more unsure about: the requirements of assignments, the steps they were supposed to take as part of the research process, the print and/or online sources they were expected to consult, the difference between the search engines and subscription databases, the difference between full-text and index/abstract databases, and the methods of accessing the full text of documents cited in index or abstract-type databases (Houdyshell 2003:77). Proactive subject librarians took student confusion as their cue to obtain the skills students did not have, and to use these to provide a more enhanced teaching, learning and research support service, and to provide information literacy instruction. They made sure that information users realised that they were their greatest allies in the information search and retrieval process.

The flexibility of subject librarians and other library intermediaries allowed them to “respond effectively to changing technologies, systems and expectations” (Pinfield 2001:3-4) and to continue to be viewed as information gatekeepers, or “ambassadors” in their areas of specialisation (Gray 2009:298). Their talents, which included detailed subject knowledge and people, pedagogic, and communication skills, continued to be viewed as crucial (Feldman 2006:1), and their value to the university library continued to grow (Rodwell 2001:52), thus the re-intermediation period began (Sturges 2001). A Delphi study by Feret and Marcinek (1999:97) even predicted that with this new phase and with the new functions required of the library, by the

year 2005, subject librarians would form the largest grouping of library staff at 31%, while a smaller percentage of the rest of the staff would be employed, for example, 18% circulation/help desk staff, 16% acquisitions or cataloguing staff, 16% technicians, 10% library managers and 9% other categories of staff. A survey of various library websites showed that, in some university libraries, including those in Africa, subject librarians *did* form the largest percentage of professional librarians employed.

It must be mentioned however, that in some universities, for example in the UK, subject librarian services took a while to regain their value, and in some cases, they had even lost their jobs or suffered financially in a different way. Smith (2007:3) reported that, at the University of Leeds, three long-serving subject librarians had their salaries cut as part of a re-grading and restructuring exercise, and that at the University of Staffordshire, the post of senior subject librarians had been downgraded. Meanwhile, Chillingworth (2005:9-10) wrote that, at the University of Wales in Bangor, management had decided that the availability of online or electronic resources, which needed “a different kind of support”, meant that they needed less subject staff, therefore, as a cost saving measure, they cut the number of subject staff employed from twelve to four. He added that this was just the beginning, because since then, the UK based Chartered Institute of Library and Information Professionals (CILIP) had dealt daily with lesser known cases.

However, eventually many institutions began seeing subject librarians as being in the best position to investigate and find ways of navigating and managing information and its sources, in order to satisfy the information needs of a growing student population (Gates 1990:183). Reich (as cited in Biddiscombe 2002:234) predicted that the most important people in the new millennium would be those who facilitated connections and solutions, and he included subject librarians in this category because, with their knowledge of technology and understanding of pedagogy, they had the skills to match information needs and queries to the relevant information. Rodwell (2001:51) endorsed this statement when he wrote that subject librarians were in danger, not of extinction, but of having to undertake too many functions.

Meanwhile in African universities, disintermediation had never been a real threat. In fact, with the increase in full-time and part-time student numbers, subject staff were seen as being spread thinly over the ground (Hoskins 2005:151). Since African university libraries had to deal with the added issues of “the digital divide” and how to cater to the “information poor and the illiterate” (Fourie 2004:62) who needed much guidance and/or assistance from intermediaries, the need to employ subject librarians was universally acknowledged.

3.2.2 Library models in operation since 1995

The duties performed by subject librarians, as with other phases in subject librarian development, often largely depended on the library model within which their library operated.

3.2.2.1 Dual model

The dual model, first mentioned by Scrivener in 1974, still prevailed during this phase. Under this model, as previously mentioned, some senior members of the library, that is, professional librarians, carried out subject-based functions, whilst the rest of the senior librarians carried out the other library functions on a centralised basis (Martin 1996).

3.2.2.2 Subject divisional models

The subject-divisional model, as described by Scrivener in 1974, which allowed subject librarians to provide services based around particular subject areas, had originated in the United States (Martin 1996), and then spread to other developed countries, including eventually some African countries, although some of them referred to it as the faculty librarian model. It still existed in the modern phase even though, according to Johnson (1977), it had started declining in the 1960s. In China, according to a study by Tang and Xia (2010), the subject-divisional model was regarded as something new because, although it had first been seen at institutions like Tsinghua University in 1998, only about 43% of the other Chinese university libraries had embraced this model by 2010. The subject-divisional model consisted of teams of senior and support staff, who were located in the section of the library housing their subject collections, which they were responsible for (Martin 1996). Services like collection development, information literacy (IL) instruction, teaching, learning and research support, as well as faculty liaison, were therefore provided on a subject basis, under this model.

3.2.2.3 Faculty liaison model

Inevitably, as mentioned above, the subject-divisional model was sometimes used interchangeably with the faculty liaison model, since they shared many similar features. Unlike the traditional passive collection building role of the past, these models allowed subject librarians “to embed their activities within academic programs, rather than just supporting or aligning with them” (Rodwell & Fairbairn 2008:116-117). Miller defined liaison work as a formal function, whereby professionally trained librarians regularly met with academic staff in order to discuss how to support and facilitate the teaching and learning needs of staff and students (as cited in Rodwell & Fairbairn 2008). So both faculty and faculty librarians were required to develop and foster a mutual understanding and appreciation of the other’s contribution to the development of the student (Budd 1998:184-186). With full cooperation from faculty, liaison work could add value to the teaching, learning and research process (Fisher 2004:62; Heery & Morgan as cited in Gaston 2001:31).

Although library-faculty partnerships were common in many universities, Dahl (2007) argued that they were “too narrowly conceived”, and that they should have been extended to include other non-academic staff, especially those involved in student learning support services. He thus urged institutions to make these partnerships between academic and non-academic staff formal, thus allowing departments like the library to: better understand their role in the institution’s teaching, learning and research; become involved, right from the planning stage, with the creation and development of various programmes and projects emanating from non-academic units; raise their “profile on campus” and thus fill a more diverse range of information needs. Browsing the websites of SACU University libraries, and using the title of faculty librarian as an indication of the model, revealed that the faculty model was still to be found in some university libraries, including the University of the Western Cape, Cape Peninsula University of Technology, Nelson Mandela Metropolitan University, Rhodes University, Stellenbosch University, Walter Sisulu University of Technology and Science, and the University of the Witwatersrand.

3.2.2.4 Embedded librarian model

Closely related to the faculty and subject divisional models was the embedded librarian model, which has been discussed in LIS literature more recently. The term ‘embedded librarian’ was first used by Barbara Dewey in 2004 (Kvenild 2012), having been adopted from the concept of the embedded journalist, where journalists went to conflict spots, as part of a military mission, and were thus able to experience daily military life first-hand, and to report more accurately on it (Drewes & Hoffman 2010).

Embedded librarianship involved a number of situations or settings, including the following: The first scenario required subject librarians to be embedded, entrenched or located within faculties or departments as their library liaisons, thus allowing them to understand faculty teaching, learning and research objectives and needs, so as to provide them with in-depth subject-specific information, support and advice, wherever and whenever needed, a situation which could sometimes result in their isolation from other library colleagues (Kvenild 2012; Rudasill 2010). The second scenario required librarians (for example special librarians) to work closely with special interest groups, and to have their offices out of the library, within the group they served, thus allowing them to immerse themselves in the area/s of interest to the group, by attending meetings, providing information search and retrieval training and being closely involved in the overall endeavours of the group (Shumaker & Talley (2009). The third scenario required subject staff to embed themselves in academic or distance learning courses (Rudasill 2010) and course management systems (CMS), to participate in course discussions, and to contribute supplemental course material like slide shows and podcasts to these courses and/or systems (Kvenild 2012). This kind of embedding began with some subject librarians simply asking faculty to post links to the library website within their various courses, and then developed into a situation whereby they became practically and directly involved in contributing course content, marking assignments, and teaching students how to use library databases instead of conducting unfocussed internet searches using general search engines like Google (Kinnie 2006). The fourth option required subject librarians to embed themselves in the research process, and to apply the “practices and principles” of librarianship so as to enhance it (Naidoo 2011).

Embedded librarians carried out information literacy training, performed literature searches, compiled user guides and provided reference, collection development, current awareness and selective dissemination of information services (Shumaker & Talley 2009). Embedded librarianship took the librarians out of the library, into the heart of their clientele, and forced them to think proactively about how to reach their clients; including using the latest ICT tools, including social media. Knevild (2012) advised librarians, who were interested in embedding, not to be afraid to start small. In Africa, some libraries were at varying stages of implementation (Shumaker 2010).

3.2.2.5 Convergence model

Another library model in play in the modern phase of subject librarianship was the convergence model. In some developed countries, convergence came about as a result of the joining together of different services like the library, computer and other services, under the management of someone with a “professional information background” (Field 2001:268), and subject librarians had to work within this structure. In his evaluation study of the Skills for new Information Professionals (SKIP) programme, Garrod (1998:245-247) found that most UK university libraries believed that they fell under this model. In Africa, universities tended to install IT sections within their libraries, to oversee all technical issues, rather than merging the two services.

3.2.2.6 Hybrid model

In phase 4, the hybrid model continued to be accepted and practised in some institutions in the UK (Paterson 1999:144). If something is described as being a ‘hybrid’, it combines two or more elements. Scrivener (1974), Woodhead and Martin (1982) and Martin (1996) described the hybrid model as a structure wherein some or all of the professional librarians performed certain functions on a subject basis, and they also performed one or more of the remaining library functions on a centralised basis. This format was referred to as hybrid format because it tended to graft subject functions onto a traditional library structure (Crossley 1974). It also prevailed in some African libraries mainly because some libraries could not afford to employ staff who only carried out library duties, or because they believed in rotating their staff so that they got experience in various units of the library.

3.2.2.7 Commons models

Another model that made its way into the library world in more recent times, and which existed side by side with other models was the ‘commons model’, that is the information, knowledge or learning commons ((Daniels, Darch & De Jager 2010), and/or the research commons. The former were usually focussed on serving the needs of undergraduate students, while the latter catered to post-graduate students, academics and researchers. Sometimes the two terms were used interchangeably. Whatever their use, they mainly delivered information electronically to users, and the facility was run as a supplement to or extension of the library.

3.2.2.7.1 Undergraduate Commons

The undergraduate commons model was mostly referred to as the information commons, learning commons or knowledge commons. Lundkvist *et al.* (2005) described the learning commons model as a structure that helped students to use all the learning support materials available for them in higher education institutions. McMullen (2008:1) described it in greater detail, as a structure which:

Functionally and spatially integrates library, information technology and other academic support services to provide a continuum of services to the user, a blending of staff knowledge and skills, and referral to appropriate areas of expertise. It is a dynamic place that encourages learning through inquiry, collaboration, discussion and consultation.

The Learning Commons facility was ‘owned’ by students, and it allowed them to hold discussions with experts in the discipline or subject of interest and to locate, evaluate and use relevant material in order to be able to complete their assignments (Lundkvist *et al.* 2005:1). Subject and other academic librarians within this model, were expected to support “collaborative learning” which allowed students to “turn information into knowledge and sometimes into wisdom” (Bennet as cited in Lundkvist *et al.* 2005:1). They did this by providing a reference service as well as information literacy instruction. McMullen (2008) added that a learning commons required both a virtual and a physical learning space, and he described some of the components of the model as: a service desk, computer workstations, collaborative learning spaces, electronic classrooms, writing centres, meeting places, and academic support centres and units. The learning commons model was well received in some libraries in the developed world, and was regarded with interest by African universities. An examination of library websites in

South Africa showed institutions like the Cape Peninsula University of Technology, Nelson Mandela Metropolitan University and the universities of Stellenbosch, and the Western Cape using the learning or knowledge commons as a way to deliver their services electronically, mainly to undergraduate students. A knowledge commons was established at the University of Cape Town, for under-graduate students, around 2002, but this facility was also used by post-graduate students (Daniels, Darch & De Jager 2010:118).

3.2.2.7.2 Research Commons

Related to the learning commons, but serving a different constituency, that is, postgraduate students, academic staff and researchers was the research commons (RC). Boakye (2010:43-44) defined it as a site that provided physical spaces and information services and facilities, which were operated by specially trained personnel for the benefit of a specific group of library clients, in order to achieve a specific purpose. He added that the RC: provided individual and group learning spaces, supported access to and creation of information resources, offered staff and faculty development and training, provided staff - including subject librarians - with a range of technology and information skills, effectively marketed its services to all groups of potential users, integrated physical spaces and services with virtual spaces and services; and built a community.

The Research Commons model for post-graduate students, researchers and academic staff was also found in a number of South African universities, including Rhodes university and the universities of Stellenbosch, Cape Town, Kwazulu Natal, Pretoria and the Witwatersrand. These were developed with support and funding from the Carnegie Corporation of New York (Daniels, Darch & De Jager 2010). The library at Makerere University in Uganda also incorporated a research commons. A new extension was built, one floor of which was reserved for the research commons (Kinengyere & Tumuhairwe 2009:14). Subject and learning support librarians played varying roles in these facilities in different libraries, mainly being required to provide subject specific support.

The commons models were not models for the library per se, but they were additional services provided by libraries to encourage collaborative teaching, learning and research activities

amongst all categories of users of the university library. Not all universities had both the undergraduate commons and the research commons models.

3.2.2.8 Modern models

Like the libraries they are developed for, academic or subject librarian models are, and will always be, dynamic. The continuing development of ICTs resulted in other newer models which have been adopted by some libraries, but so far, only partially.

3.2.2.8.1 Digital library model

The digital, electronic or virtual library model was conceived around the issue of information formats, at a time when it began to seem as if print collections would eventually be phased out in favour of 'libraries without walls'. Reitz (2004-2013) defined the digital library as the type of library in which most of the resources were in machine-readable format. Some of these formats included databases of text, numbers, graphics, audio-visual and other formats (Borgman 1999). All of them could be accessed electronically by computer or via computer networks, both locally and remotely (Reitz 2004-2013). Users and contributors to the information resources of the digital library included students, teachers, researchers, librarians, publishers, editors, compilers, authors, universities, professional societies and libraries (Borgman 1999). This implied that all library resources that were in a physical/tangible format would have to be digitised. The digital library was usually run by a digital librarian or 'cybrarian' who was a type of specialist information professional who, according to Sreenivasulu (2000:12): managed the digital library, was involved in its planning, participated in data and knowledge mining, provided digital reference and electronic information services, was involved in obtaining, representing, extracting, distributing, organising and managing information, was involved in searching for and retrieving information from various media, including CD-ROMs, the internet and the World Wide Web. In a fully digital library, subject librarians would be digital librarians, working with subject-specific digital resources.

Unfortunately, the digital library model, while successful in a number of ways, also had a number of disadvantages. Brophy (2000) wrote that socially, it did not encourage human interaction, in terms of quality, some items did not come up to scratch, and cost-wise it was

challenged by the fact that some institutions were not willing to pay for the digitisation of less used materials and for the preservation of other materials. Despite these challenges however, “as a guide to what is possible”, the digital library was a very good example (Follett 1993:point 241).

In phase 4, the true ‘virtual library’, whose collections were in digital or electronic form only, and not in any tangible form at a physical location, was rare (Reitz 2004-2013) and, in Africa, was not to be found in any university library. Instead it was clear that both the traditional and the digital or electronic library would be found side by side for some time to come (Follett 1993: point 241), that is, in the form of a hybrid library, which Budd (1998:182-4) described as a user-based, information delivery academic library, which promoted the concept of a “library transcending walls”, and which accepted the idea that information can come in any format, including print, electronic or digital. Therefore, with this type of hybrid library, institutions combined the traditional and modern aspects, sources, formats, services, skills and technologies of libraries (Brophy 2000).

3.2.2.8.2 Library 2.0 service model

With the whole social networking movement gaining in popularity and use, and with LIS writers like Larsen (2007) urging libraries to get on to the web, as that is where the users are, the adoption of models like Library 2.0 was inevitable. Kwanya, Stilwell and Underwood (2012:145) explained that there were two schools of thought, “which are not necessarily mutually exclusive”, about library 2.0, with one group seeing it as a “progression of the traditional library models” and the other seeing it as a development “in the continuum of library development”. Library 2.0 services were closely related to web 2.0 services or tools, which included “social networking sites, wikis, communication tools and folksonomies - that emphasise online collaboration and sharing among users” (Pienaar & Smith 2007). They also included other applications like blogs, RSS and syndication, tags, Flickr, YouTube, and podcasting (Larsen 2007). Libraries following this model, especially in developed countries, tried to involve users in the design and application of library services through participation and feedback (Pienaar & Smith 2007). A study of African library websites showed that, despite a lag in technological developments, web 2.0/library 2.0 technologies were already being discussed and implemented

in some university libraries, as some of them had well developed weblogs, Facebook and Twitter pages.

All the above-mentioned models existed in some developed country libraries, while with some; only aspects of them were to be found in African libraries. Kwanya, Stilwell and Underwood (2012:156-157), tracing the development of various library service models, concluded that library models would continue to develop and advance. They noted that, in the early traditional days of librarianship, library staff were intermediaries between users and information, but gradually mediation lessened until today, in the library 2.0 environments, in many libraries, there was full self-service and very little mediation by librarians.

3.2.3 Roles, 1995-present

Adoption of the new library models sometimes led to the titles, roles, responsibilities and skills of subject and learning support service librarians being revised to reflect the new information environment and technologies. As already mentioned, in developed countries, despite being made redundant in some situations (disintermediation), subject librarians, in phase four, were regaining their core place in university libraries, mainly due to the great increase of information in many different sources and formats, which left many users confused and in need of the help and support of intermediaries or “infomediaries”. In African countries meanwhile, more and more universities were beginning to employ subject, information, faculty and other learning support librarians. However, there did not appear to be much uniformity in the development of titles, roles and responsibilities.

3.2.3.1 Titles

In their study of subject librarians, Hardy and Corral (2007:83) found that learning support services staff were referred to by a number of different titles, including: academic liaison librarian, school liaison officer or the name of the subject area was represented in front of the word ‘librarian’. They also found that older universities tended to include the word ‘liaison’ in the title, while newer universities tended to use the word ‘information’. Meanwhile, a survey of African university library websites revealed a number of titles for learning support service librarians in use, including: subject librarian, faculty librarian, information librarian, personal

librarian, subject specialist and information specialist. Sometimes two titles were used interchangeably, for example, at the University of Botswana, liaison librarian and subject librarian were both used (Agyen-Gyasi 2008).

3.2.3.2 Roles

In the modern phase of their development, with the continuous advances in information and communication technologies, and the increasing amounts of information in various formats, the subject librarian role “evolved from subject-based collection development into subject-based user support” (Gaston 2001:21). Thus subject librarians became ‘knowledge brokers’, who worked with faculty to support student learning (Dale 2006:1).

At last, a proper role for subject librarians! Real team member with valued skills in: finding learning resources; helping students acquire information skills; developing resources; evaluating resources; supporting online activity; and supervising research projects and other tasks traditionally the reserve of academic staff (Shephard & Matthews 2006:98).

However the subject librarian role remained fluid or ever-changing, with its evolution being driven by the dynamism of an ever-changing global, information and university environment (Rodwell & Fairbairn 2008:122).

3.2.4 Key responsibility areas (KRAs), 1995-present

Just like with their roles and titles, the responsibilities of subject librarians in the modern phase were ever-evolving. However, they continued to reflect “the subject and faculty structure of the university” (Pinfield 2001). In fact, what really changed was the way subject librarians carried out their jobs. “Acquiring, cataloguing, and classifying locally-held information” gave way to “the locating, indexing of, and user education about, remotely held information” (Gaston 2001:21), reflecting the shift from ‘ownership’ of information to ‘access’ to information.

In African universities, subject librarian functions were not standard, and they mostly depended on which university the subject librarian worked in. Different library websites provided information about the varying functions performed by subject and learning support librarians in

different universities. For example, at the University of South Africa, personal librarians carried out various functions for the benefit mainly of post-graduate students, researchers and academics, including training them in subject-specific database use, compiling subject-specific literature lists and collecting subject-specific information for collection development purposes.

Meanwhile, Rhodes University introduced a personal librarian programme in a bid to encourage students to build relationships with librarians so as to get learning support; while faculty librarians carried out subject librarian duties on a faculty basis. At most universities, for example at the University of Namibia Library, technical functions like cataloguing and classification were carried out centrally by librarians based in the Technical Services department. But at the University of Botswana, subject cataloguing and classification was carried out by subject librarians (Fombad & Matula 2003).

Subject librarians carried out ‘multiple duties’ (Gray 2009) and could therefore be described as:

Teachers, designers, project managers, digital specialists, media specialists, records managers, knowledge managers, information specialists, and much like icebergs that is only the top portion you see. Even more goes on that is invisible to those not directly involved (Van Duinkerken, Coker & Anderson 2010:166).

As discussed above, in developed countries, in order to remain relevant, subject librarians reinvented themselves by redefining their roles and functions (Rodwell & Fairbairn 2008). In developed countries, subject librarians proactively enhanced or added to their skills and knowledge so as to provide a quality subject service to users. According to a content analysis of advertisements for subject librarians in the USA (White 1999), and according to information culled from the Fielden report (1993:3.20-26) and from various LIS writers worldwide, such as Osei (1996), Qobose (2000; 2001), Pinfield (2001:4), McAbee and Graham (2005), Feetham (2006:4), Neerpath, Leach & Hoskins (2006), Breen (2007), Agyen-Gyasi (2008), and Rodwell and Fairbairn (2008:117), the functions or key responsibility/performance areas of subject librarians usually included:

- Faculty liaison: liaison with faculty members, college/school/academic departments; assistance with faculty quality audit and quality assurance activities;

- Collection development: information selection and development; collection management, including cataloguing and classification;
- Reference and research services: provision of information for reference or research purposes; teaching and learning support; information search and retrieval using old and new methods; managing quality learning spaces like research commons; managing virtual reference services;
- Information literacy training: traditional user education including library orientation and library tours; information skills training including subject-based instruction of faculty and students on how to fully access and use all types and formats of library materials; support in the form of web-based guides and open learning study materials; involvement with various educational technologies; participation in faculty course planning;
- Marketing: advocating the library's resources, facilities and services; provision of current awareness services; provision of selective dissemination of information services; standing as public relations officers for the library;
- Management: team work; project work; working with technical staff; managing work time; managing work functions; serving on institutional and/or library committees; self-development including attending LIS and subject specific workshops, conferences, seminars and training sessions;
- Management of digital collections: populating institutional repositories and other digital collections; collecting and digitizing archival materials; selecting and managing resource licenses; ascertaining copyright permissions; creating metadata; carrying out data curation duties;
- Other functions or responsibilities: communicating and networking with internal administrative staff; communicating with the outside LIS community; carrying out ICT functions including the evaluation of websites, software, IT systems, information databases, sources, formats and items; coordinating database trials.

3.2.4.1 Faculty liaison

Faculty liaison was one of the major functions of subject librarians, as indicated by LIS writers. This was most clearly demonstrated by the introduction of new titles like “faculty team librarian, liaison librarian, even learning adviser” (Pinfield 2001), which implied an added focus being

placed on this function. In African countries, it was also considered to be very important, and it was regarded as “the common denominator for subject librarian work” (Mbambo 2006:185).

Faculty liaison involved subject staff acting as the go-between or link between the library and designated departments, and it included bibliographic instruction or information skilling, collection development for the subjects taught by the departments, marketing of the library, and the provision of a current awareness service (Reitz 2004-2013). Faculty liaison had every chance of being a successful function for subject librarians. This was because, as technologies continued to change, advance or develop, and the use of information by teaching staff for their courses also changed, successful library services became central or fundamental to the learning process, while subject librarians, as a core part of this facility, played a vital role in departmental course planning (Feetham 2006:13).

Subject staff were advised to go out and meet the academics “in their own territory”, starting the contact with telephone calls, memos and emails, followed by personal visits (Brown 1997 as cited in Qobose 2000:3). Pinfield (2001) counselled them to use their in-depth knowledge of user needs to approach them with offers of assistance, rather than continuing to expect them to visit the library. The Reference and User Services Association (RUSA 2001) suggested that they carry out surveys to determine patron satisfaction with the library’s resources and services, and to schedule regular meetings with academic staff to find out about planned changes in the curricula. Like Pinfield (2001), RUSA (2001) also encouraged subject librarians to become involved in various school/faculty committees and boards, so as to keep current with user needs and ongoing research. Parker and Jackson (1998:22) in their evaluation of an e-library IMPEL2 project, undertaken at University of Northumbria in the UK, found that subject librarians increasingly took part in course developments and evaluation, and that they were members of various boards of study and teaching and learning committees. The authors, while acknowledging that subject librarians were striving to market e-resources to academic staff, urged them to fully use their partnerships with faculty in order to examine course offerings, delivery and assessments methods, so as to ensure that resource based learning was implemented and that the library adequately facilitated its information requirements.

Subject librarians were also expected to market their own services. Because they usually quickly learned and adapted to new technologies, often before academic staff, and because they were able to teach students how to use these technologies optimally, they could use their successes to market themselves as specialists who complemented the work of academic staff (Wolff as cited in Feetham 2006:10). Besides just following the faculty liaison tasks listed on their job descriptions, they were urged to try and “promote information consulting that was dynamic, proactive and which added value to the organisation” (Frank *et al.* as cited in Rodwell & Fairbairn 2008:118).

However, subject librarians also had to remain alert to the fact that the faculty-liaison link had an equal chance of being either weak or strong, depending on faculty’s view of librarians and vice versa. Not all faculty admired subject librarians’ work, some regarded them as subordinates and, unfortunately, some library staff perpetuated the negative impressions about them by being unresponsive, unenthusiastic and uninterested in faculty suggestions and feedback (Awale-Ale 2007:6). Therefore, they had to work hard to create and maintain a good impression of themselves as information experts, and the library as a facilitator in the information arena.

3.2.4.2 Collection development

Subject based collection development was carried out by subject librarians (Rodwell & Fairbairn 2008:117), and they were expected to be aware of all teaching and research projects, methods and needs of lecturers in their faculties/departments, so as to ascertain that the library developed its collections to facilitate these projects and to fulfil the information and research needs of faculty (Lenz 2004), and since subject librarians worked closely with faculty already, research awareness was fairly easy to maintain. Lenz (2004) discussed Lewis’s 3 tiers of faculty services (which are also applicable to subject librarians) as information gathering, reacting to and anticipating faculty needs and providing a service to cater to these tiers. This service could include providing current awareness and selective dissemination of information services to those lecturers who would appreciate or welcome such proactive assistance.

3.2.4.2.1 Collection of printed/physical items

In the modern phase of subject librarian development access to information became more important than ownership of it, while the information collected encompassed all formats, types and sources (Burke 2001). According to Pinfield (2001:3), the subject librarian's in-depth knowledge of subject and faculty requirements was important in collection development, as it helped them to make sure that library collections were balanced. Stebelman (1989) however, warned that balance was not always the result because, in their desire to create the best collection for the users in their assigned subject field/s, some subject staff could become insular or narrow-minded in their thinking, planning and ordering, leading to an overall collection that was not uniform. One way that some libraries avoided this problem was by having an independent acquisitions department, whereby the head of department, being aware of the danger of bias, had the final say about purchases.

In the African context, Agyen-Gyasi (2008:5) advised subject librarians to be actively involved in all aspects of collection development, including the "determination and coordination of selection policy, selection of materials, collection maintenance and weeding, assessment of needs of users, collection use studies and collection evaluation". At the University of Botswana Library, according to Fombad and Mutula (2003:68-72), the acquisitions department allocated money for materials to each faculty, which was then further divided by subject. Subject librarians were then expected to select at least 110 titles for the library collection every month, and these were then ordered by the Acquisitions department. Subject staff were also required to carry out periodic collection evaluation exercises; decide on items to be bound, mended, withdrawn or weeded - that is, collection maintenance; and to evaluate and select additions to their subject areas from donated items. Some subject librarians did not always necessarily have expertise in the subject areas they stood for however, thus sharing equal responsibility for collection development with faculty members was encouraged (Qobose 2000:2). At Port Harcourt University Library, this partnership was already in practice to some extent, as faculty librarians were required to go through catalogues and to make selections, sometimes with the advice of an expert faculty member (Oliobi 1994:35). At the University of Namibia too, subject librarians collaborated with faculty to make selection decisions and to build subject collections. Since not all academics were able or willing to dedicate specific time to selection, Qobose advised subject

librarians to become involved in curriculum development and faculty research activities, so as to enhance their collection development skills Qobose (2000:2).

3.2.4.2.2 Collection of digital/electronic materials

Although libraries were mainly involved in the collection of traditional materials like books and printed journals, they also collected digital items like CD-ROMs and DVDs. At the University of Botswana Library, there was a wide variety of these formats and, depending on the cost, they were often chosen over online ones (Fombad & Mutula 2003:73). Subject librarians therefore, had to search for, identify, evaluate, collect and/or purchase digital/electronic resources, including e-journals, which were often burdened with challenges like renewable database licenses, IP access, rigid agreements and, in some cases, high subscription prices (Corrall 2004:20). If the library had acquisitions librarian, they sometimes had to assist them.

Meanwhile, in phase 4, the world experienced a financial recession, which resulted in tough financial limitations. Because of this, acquisitions librarians, often with the help of subject librarians, had to evaluate electronic journals. They did this in terms of: their functionality and their technical requirements (Feldman 2006:7); whether or not their content included additional items like graphs, charts and book reviews (Burke 2001:4); whether or not certain e-resources were appropriate for a subject, and how to integrate these into the curriculum of that subject; the “cost effectiveness in terms of initial cost, license fees, maintenance, up-dating and replacement costs and the number of possible users”; the amount of technical support that could be depended on from within the parent institution (Parker & Jackson 1998:22); the level of accessibility allowed by the licenses, for example, on and off-campus use; their systems of authentication; their technical needs in terms of browsers, software; their cost levels in terms of money and staff time; their training requirements; the availability of back files, plus hidden costs like the possible need for greater bandwidth (Pinfield 2001:7-8).

In addition to the collection of material in various formats, some academic libraries instituted digital/digitization projects within which many subject librarians were heavily involved. Digitisation involved converting information, like printed text and images, into digital format, so

that it would be accessible using a computer; and this can be regarded as an efficient method of preserving data or re-formatting various materials (Reitz 2004-2013).

Some digitisation projects involved the library making scholarly output available by becoming electronic publishers of multiple media (ALA 2006a). Others involved the library setting up an institutional repository (IR), that is, a “set of services” offered by the university to its community of faculty, staff, students and researchers, for the collection, management, preservation, dissemination and distribution of their digital intellectual output (Lynch 2003). Output added to the IR was in the form of published articles, pre-prints, post-prints, reports, theses and dissertations, data sets, teaching materials and records of institutional events (Bailey 2005). Subject librarians were often regarded as the most logical library staff members to manage and administer these institutional showcases, due to their subject knowledge, which came in handy for the “scouting and identification, selection, digitization and description” of content (Feldman 2006:5). They were also the best staff members to promote these repositories to patrons, because of their faculty links (Rodwell & Fairbairn 2008:119), and to teach content providers/users the advantages and best use of IRs (Revell & Dorner 2009).

3.2.4.2.3 Collection of websites (subject portals)

Subject librarians were also involved in identifying, collecting, organising and making accessible other non-traditional formats of information like subject portals, subject guides and subject specific websites, all of which supported the learning and teaching aims of faculty (Kinengyere & Tumuhairwe 2009:3). Library portals provided lists of online collections of information including web addresses, similar to directories, and they were “designed to reduce information overload”, although in more recent times, they had become focussed on a particular subject, discipline, profession or industry (Reitz 2004-2013).

3.2.4.3 Collection management

With their new user-centred priorities in phase 4, many libraries removed the responsibility of routine duties like collection management, book selection, cataloguing and classification from subject librarians (Pinfield 2001). However, some LIS writers still envisioned future digital librarians/cybrarians cataloguing material (Sreenivasulu 2000:19), or at least helping library

cataloguers by suggesting terms for addition to the library's thesaurus or controlled vocabulary, so as to ensure that the correct terms were used to describe items (Agyen-Gyasi 2008:6). In the African context, some university libraries still expected subject librarians to assist with the cataloguing of materials in their subject areas, for example, at the Port Harcourt University Library (Oliobi 1994:35). Over the years, many new subjects were developed, while others became more complex, so processing them for library patrons to find required detailed and accurate cataloguing and classification skills, which many subject librarians possessed.

3.2.4.4 Reference, teaching/learning and research

Reference and research support work, usually subject-based, was an activity carried out by subject librarians since their inception, and it continued strongly in modern times. It stayed strong mainly because users continued to require access, not only to the material gathered in their university libraries, but also to information items found outside their borders and/or their subject fields (Fombad & Mutula 2003:65).

3.2.4.4.1 Reference services

With the advent of the World Wide Web, reference work was enhanced by electronic reference services (Horn 2001:320) which included the provision of subject gateways to online information, or subject portals as they were sometimes known (Awre 2003:8). It also included "specialist back-up" in the form of email, video-conferencing, and virtual reference systems like 'frequently asked-questions' sites (Pinfield 2001:6). Furthermore, a number of libraries in places like the USA, started offering real-time reference services using live interactive software like 'chat'; however, this type of service came with its own challenges, including the time problems experienced by librarians typing out their answers, and the need to sometimes keep a user 'hanging on' while a search was conducted (Horn 2001:323-326). Reference work was well suited to subject librarians because their subject knowledge allowed them to provide an effective service (Agyen-Gyasi 2008:9). This subject expertise led to them sometimes being likened to gate-keepers (Sturges 2001). Gray (2009:303) however, thought that a better term for subject librarians was "cultural ambassadors", because they were able to gain access to, and steer users to the most applicable items and formats of information in their subject fields, including sources that were not readily available online.

3.2.4.4.2 Teaching and learning support

Subject librarians also provided subject specific support for teaching and learning in the modern phase. In their assessment of the IMPEL2 project at University of Northumbria, Parker and Jackson (1998:24), found that many subject librarians in the UK had extended learning support to cover after-hours and weekend library users, plus they also compiled manuals, workbooks, guides and information sheets to assist these users to fully access and use e-resources. In the area of e-learning or resource-based learning, subject librarians helped faculty mainly by providing online access to library materials so as to facilitate their online teaching and learning activities. A search of the websites of most universities, including African ones, showed that academic libraries subscribed to various electronic databases, journals, books and other materials and provided their learning communities with access to these.

3.2.4.4.3 Research support

Their on-going and close work with lecturers and students in specific subject areas kept subject librarians aware of the type of research taking place within the faculty and it also helped them to determine basic and special user needs (Agyen-Gyasi 2008:5-6). They were thus, able to present users with different relevant choices of information “regardless of their discipline, level of research experience, or means of access to the library” (Libner as cited in Corral 2004:28). As part of research support, in various libraries, subject staff sometimes also helped patrons to follow the research process correctly from the start, by assisting them to track down citations and to compile grant applications, especially in situations where they had to address issues like the “capture, storage and dissemination of the research resulting from the grant funding” (Rodwell & Fairbairn 2008:120). In South Africa, in 2006, with funding from the Carnegie Corporation of New York, research commons were established in the libraries of 6 Universities, namely University of Cape Town, Witwatersrand, KwaZulu Natal, Pretoria, Rhodes and Stellenbosch. Subject librarians were expected to provide subject-specific assistance in some of these facilities.

3.2.4.5 Information literacy (IL) instruction

Traditionally, academic librarians were only involved with students during ‘orientation’ and at the reference desk, while faculty instructed them on how to find subject- based information (Powis 2004). They were especially useful to those freshman students who had had little

exposure to the independent learning environment, whom they helped to feel less disadvantaged (Feetham 2006:8). However, changes in higher education and the increased sophistication and difficulty of some information sources, motivated faculty to work with subject librarians to enhance the teaching and learning process, both in the physical library and in the online/virtual environment (Powis 2004:83-6). So subject librarians moved from the role of “initial mediator and facilitator of resource-based open learning, with increasing responsibilities for first line instruction and supervision of students”, to fully-fledged information instructors; with many of them, in the UK at least, even going so far as to obtain teaching qualifications to increase their value as instructors (Feetham 2006:12). Some of them were also able to assist faculty with issues brought about by new methods like problem-based learning, so that in time, with library modules being included in the curricula of some universities, learning became more meaningful (Friden as cited in Kiran 2004).

Furthermore, the technological advances of the late 20th and early 21st century, brought about increased information items, formats, sources and the ICT applications needed to access them. At first readers were excited by these developments, and eager to search and retrieve information by themselves, thus rejecting the help offered by information intermediaries or ‘infomediaries’, like subject librarians. Eventually however, this increased accessibility of information in many different formats made it clear to them that access to relevant information had become more difficult (Campbell as cited in Feldman 2006:5). Locating, retrieving, evaluating, using information now required certain skills, making even experts like Google’s Director of Technology acknowledge the importance of infomediaries:

Information professionals are needed to help people articulate their information needs, to help form queries, and to engage in the back and forth dialogue that result in finding appropriate information. Searching in the future will require a greater role for discernment. There will be more information, but it will not necessarily all be good information (Breen 2007)

Furthermore, the increase in web-based teaching and learning in universities, and the greater availability of e-resources in libraries, made the passing on of library and information skills to users another obvious task for subject librarians (Pinfield 2001:8-9). They did not shy away from

these duties, but increasingly became involved in instructional activities. With their possession of various technological skills, and with their knowledge of user needs, subject librarians were able to assist users to become 'information literate'. Information literacy (IL) sessions in various libraries fell anywhere on a continuum from the basic training carried out within the library, whereby users were taught how to locate information on the shelves, to the more sophisticated sessions carried out online and covering issues like web/database search and retrieval, web logs and wikis and how to create them, and increasingly important issues like copyright and other ethical concern brought about by the new ICT environment (Feldman 2006:5).

At Yale University, in the USA, two models of faculty-librarian cooperation in IL were proposed: Firstly, co-teaching, where subject librarians would attend a few of a lecturer's classes per term, and build on these by marrying information literacy tools and techniques with the subject/course content; Secondly, faculty-liaison cooperation, whereby lecturers would instruct students on topic selection and refinement, content evaluation, and the utilisation of research tools, while the subject librarian would show them how to select, access and evaluate information sources and content, and both the librarian and the lecturer would then teach them how to use information items ethically by citing sources (Campbell 2010:33). In the UK, Brewerton (2011) found some subject librarians provided questions for inclusion in exam papers, while some even marked assignments.

In Africa, universities were also required to produce graduates who could survive in the knowledge economy, so IL training, which promoted lifelong learning, was carried out in African libraries (Muswazi & Yumba 2007:124). This training involved teaching users to independently "search for quality information on the Internet using search engines, subject directories and subject gateways" (Agyen-Gyasi 2008:6-8). Some faculty members helped to promote this library function by carrying out resource-based teaching and learning (Qobose 2000:3), which 'forced' students to make fuller use of all library resources. Osei (1996:36) wrote that he would have liked to see IL made mandatory for every student, with none of them being allowed to graduate without having passed this course. However, not many libraries were able to achieve this ideal. But some at least, were able to get IL courses offered regularly. At Port Harcourt University Library, advanced instruction in library use was offered to final year and

post-graduate students by subject librarians (Oliobi 1994:38). At the Polytechnic of Namibia, library and information skills training (LIST) was compulsory for some modules, while periodic training was offered to other students and lecturers on request (Chanetsa & Grobler 2009).

At the College of Education Warri, in Delta State Nigeria, traditional library instruction (covering broad areas like the library services and online resources), as well as modern instruction (which was subject specific) was carried out, due to the belief that in order to succeed in higher education, students had to have the ability to work independently in multiple formats, to evaluate information, and to understand issues related to copyright and censorship (Awale-Ale 2007:4). At the University of Botswana Library, subject librarians gave library orientation sessions to new faculty and students, taught information literacy to undergraduates, held seminars and workshops for postgraduate students and were responsible for producing library user manuals, guides and library web pages (Qobose 2000:3). Fourie (2004:64) predicted that IL instruction activities would probably increase in African libraries as the demand from distance learners or remote users grew, and as “problem-based and resource-based learning” took a firmer hold. However, a look at SACU library websites also revealed that in some universities, IL training sessions were conducted, not by subject librarians, but by dedicated training departments or librarians, for example, the Cape Peninsula University of Technology had a training department and the Tshwane University of Technology had an information training librarian.

The increasing pedagogic duties of subject staff led to a discussion of faculty status, which includes, for the holder, academic freedom, tenure, research funding, faculty-ranked salaries, promotion opportunities and sabbatical leave, as well as peer review/assessment, research and publishing obligations (ALA 2007). Osei (1996:33) wrote that, the University of Science and Technology (UST) Library had an academic department, with academic staff grades, and that librarians, like other academic staff, also had the privilege of going on sabbatical leave after six years of employment by UST. Oliobi (1994) stated that the establishment of subject specialisation in the University of Port Harcourt library resulted in such an improvement in faculty-librarian relationships that when librarians applied for faculty status they did not have to lobby too hard for faculty support before this was granted by Senate. Their librarians were thus allowed to take fully paid study and sabbatical leave. Crossley (1974:242) recommended that

senior library staff, including subject librarians, be granted academic faculty status and be put on lecturer grade with lecturer pay scale, while Onyechi (1975:194) advocated full faculty status for the library as a whole, with the university librarian being equated to a Dean, each subject divisional head being equated to a Professor or Associate Professor and each subject division being regarded as an academic department with a number of staff.

3.2.4.6 Marketing

Information literacy instruction and other library services had to be marketed if they were to benefit an adequate number of users. Marketing helped to change some negative perceptions held by the faculty about the library, and although it was a job for every member of the library staff, subject librarians were well placed to handle it because of their faculty liaison function (Agyen-Gyasi 2008:6). This function saw them constantly liaising with “faculty, students, vendors” and other users, which allowed them “to be recognised as being the face of the library and a key marketing force” (Feldman 2006:7). Their knowledge of the library collection also helped them to promote those information collections, traditional and modern, that were not fully used in the library (Pinfield 2001). This marketing function was also carried out in African university libraries, by subject librarians, who were clearly visible in the academic community, as they attended various academic functions, programmes and gatherings, for example, academic boards or boards of study meetings and departmental gatherings. At Port Harcourt University Library, for example, attendance at faculty board meetings was required of subject librarians, by order of Senate (Oliobi 1994:39). In fact, “faculty perception of librarians is partly shaped by the role subject librarians play in committees” where faculty/librarian relationships often began (Qobose 2000:2). Attendance at academic gatherings/meetings by subject librarians served to keep faculty aware that, the library’s position had to be considered in their decisions.

3.2.4.6.1 Current awareness services (CAS)

Subject librarians also marketed the library by providing CAS to their user communities, thus keeping them aware of available resources, facilities and services. CAS made use of, amongst other things, environmental scanning, which Choo (as cited in Fourie 2004:68) defined as finding information “about events, trends and relationships in an organisation’s external environment” that could impact its survival and/or performance. This information helped those

faculty members who taught subjects, that they could take into account what was happening locally, nationally, regionally and internationally. CAS was essential because in its absence students sometimes developed wrong ideas about the library, with these ideas sometimes being conveyed and/or confirmed to them by those of their lecturers who were not ‘au fait’ with the developments and/or services of the library (Dale 2006:13). An example of CAS was found at the University of Botswana, where subject librarians circulated the ‘contents’ pages of new journal issues, produced a faculty newsletter, put up displays and exhibits, and prepared subject guides and bibliographies (Qobose 2000:4).

3.2.4.6.2 Selective dissemination of information (SDI)

In addition to Current Awareness Services, subject librarians used their subject expertise and knowledge of the information needs and research interests of faculty to provide an SDI service. This service included bringing information, on particular subject areas or topics, to the attention of those patrons who had shown or expressed an interest in them (Yan & Garcia-Molina 1994). It also included providing patrons with information about their subjects or research areas, before they asked for it and proactively compiling subject bibliographies for them.

3.2.4.6.3 Library guides

As an extension of their research support, faculty liaison and IL functions, subject librarians were also responsible for compiling and/or distributing library guides, both print and electronic. They were also increasingly required to assist with the development of library websites by, for example, providing subject and other online guides and links to useful online resources (Pinfield 2001:10). These included “web training materials, help sheets, training manuals” as well as subject and other guides (Fourie 2004:67). Many subject librarians also assumed responsibility for “the electronic distribution of institutional information such as student handbooks, exam papers and reading lists” (Feetham 2006:11), and the web sites they managed sometimes also included syllabi, information literacy items, “annotated references and links to specific sources (e.g. web portals, databases, directories, other web sites)” (Awale-Ale 2007:5)

3.2.4.7 Other functions

Besides the above-mentioned responsibilities or functions, every subject librarian was involved in management at some level, including the management of projects. In some universities, they participated in bidding for funding for projects, which sometimes involved developing new library services (Pinfield 2001:11). Other projects they worked on sometimes originated from faculty, for example, grant application projects. However, their involvement required understanding from library managers, who were occasionally asked to release them from routine duties, thus allowing them to plan and be involved in various faculty-library partnership activities and to exercise their innovative abilities (Rodwell & Fairbairn 2008:121).

Some LIS writers predicted that the future information role of subject librarians would be “hands-on”, with knowledge being disseminated through various team positions, like information skills training programmes (Gray 2009:310). Team membership also meant that subject librarians worked at establishing connections with colleagues working in other university libraries, so as to share tips, experiences and training. According to Simester (as cited in Feetham 2006:13), these could be successful, since subject staff sometimes had “more in common with subject librarians in other universities than with their own colleagues”, thus making inter-university projects a ‘no brainer’.

3.2.4.8 Other issues related to subject librarian responsibilities

Related to the key responsibility/performance area was the issue of subject librarian assessment, which was needed so that these staff could get feedback on their performance, so that they could improve. During their study on the performance appraisal of subject librarians in the KwaZulu Natal region of South Africa, Neerpath, Leach and Hoskins (2006), determined that guidelines for performance appraisal were generally unavailable, but very necessary. Assessments were also important as they enabled subject librarians to evaluate their services and to correct any imbalances or weaknesses in their performance.

In the UK, in order to ascertain the success of library staff members and to plan the type and level of training they needed in order to improve, assessments took place annually (Paterson 1999:145). Unfortunately, in some countries, the assessment of university subject librarians

seldom occurred (Fourie 1999), and where assessment measures existed at all, they were “poorly defined” and supervisory management was inadequate (Martin 1996:166). This lack of assessment, worked against some subject librarians, for example, in situations where they were seeking promotion or tenure.

In order to counteract this disadvantage, and to prove their worth to university administration if ever there was a review or, if they needed to go job hunting, Van Duinkerken, Coker and Anderson (2010:166) advised subject librarians should keep academic portfolios documenting their professional responsibilities, performance, achievements, goals, projects, published articles, policies, guides, course syllabi and student evaluations. In the same vein, Dale (2006:2) suggested they keep training diaries, logs and journals and other records of their subject librarian work and achievements. She believed that these records meant that subject librarians were unlikely to forget even unstructured or accidental contacts with other professionals, which could add to their professional development and prepare them for any assessments or promotion opportunities. Unfortunately promotion opportunities were few for subject librarians. According to Avafia (1983), because of their focus on subject specific services, they often found themselves with limited knowledge of other library functions, thus making it difficult for them to be promoted to positions requiring overall knowledge.

3.2.5 Qualifications, 1965-present

Because of their myriad duties, subject staff needed to be multi-skilled, and to possess both traditional qualifications and modern skills or competencies. Qualifications are evidence that a person has passed the relevant examinations required to fill the post (Reitz 2004-2013)

3.2.5.1 Non- LIS qualifications

Although some universities, especially in the previous phases of subject librarian development, required subject staff to have non-LIS first degrees as well as LIS qualifications, the issue of whether or not subject librarians needed to be qualified in the subject they represented continued to be discussed. Herubel (2005) supported the idea of subject knowledge, writing that PhDs not only understand the research process, but their subject expertise was also valuable in the collection management area. However he also noted that LIS qualifications were important as

theoretical knowledge and principles were still useful. Morgan (1996:44) argued in favour of subject skills; stating that a subject librarian with a subject qualification achieved credibility due to his/her subject knowledge. Hooper-Lane (1999) agreed with him, stating that subject training was important since experts or practitioners in the scientific field were often of the opinion that “if the librarian has no grounding in the discipline there is no personal knowledge base to aid the researcher and no common frame of reference”. His study of subject librarians in the field of chemistry in the USA revealed that 64% of them had a degree in a scientific subject, while 43% had a chemistry degree. He warned however, that since “the shelf life of a college degree is three to five years”, subject librarians had to find ways of staying up to date in their subject fields. On an encouraging note, his study also found that respondents were very focussed on enhancing their skills, with many of them spending at least 12% of their working week on self-education, and an hour a day perusing discussion lists, journals and web sites and attending classes or workshops to improve their subject knowledge.

In Africa, the requirements for subject librarians in terms of LIS and/or non-LIS qualifications varied. With regard to non-LIS degrees, university libraries in countries like Nigeria, for example, which ran academic libraries within subject-divisional model, Agyen-Gyasi (2008:9-10), considered subject-specific qualifications to be important. At the University of Botswana Library, according to Qobose (2001:141-2), the requirement for subject librarians was a degree in a subject other than LIS, plus a professional qualification in LIS, for example a post-graduate diploma or Master’s degree. Meanwhile writers like Agyen-Gyasi advocated a change in the recruitment system so that graduates in a particular subject could be trained to become subject librarians. He believed that this change could be successful, especially if as a result, subject librarians were treated like, and given the same conditions of employment as lecturers. Unfortunately, holders of non-LIS degrees, with training in the library field, or who wanted to be trained as librarians, were limited.

Stuart and Drake (as cited in Hooper-Lane 1999) recommended three alternatives as a solution for those university libraries that found it difficult to find non-LIS degree holders to employ as subject staff, that is: to continue training those librarians who had no science or engineering training, to continue to try and employ graduates in the field to provide for users’ subject needs,;

or to train scientists to carry out their own information searches. The second suggestion however, could only succeed if holders of non-LIS qualifications had the desire to become library professionals.

3.2.5.2 LIS qualifications

By the 2000s, non-LIS qualifications were no longer so important for subject librarians in many countries. In the USA, Gilman (2008) complained that many job adverts ignored the aspect of subject expertise and asked for library experience instead. In fact he found that subject proficiencies were only acknowledged as 'preferred' and, according to him, they were easily ignored qualifications. So subject librarians, were no longer always expected to have a degree in the subject area they worked in, and the preference was for formal LIS qualifications, obtained at institutions of higher learning, which guaranteed that subject staff were in possession of the 'old-fashioned' library skills that were still integral to the profession/degree. In his content analysis of advertisements for academic subject specialists in the USA, between 1990 and 1998, White (1999) found that a Master's degree in Library Science (MLS) was considered important, with about 18% of the advertisements/notices requiring a second master's degree or a PhD.

In the United Kingdom, Garrod (1998:249-250) also found that subject librarians were required to have the core traditional skills obtained during studies for an LIS qualification. He noted that, during the Plymouth University-based Skills for Information Professionals (SKIP) programme, which was set up to assess the impact of IT on university libraries, although most library managers interviewed claimed not to place much importance on formal library qualifications, the LIS professionals themselves set a lot of store on these, as they felt that knowledge of how information was structured, organised, accessed and gathered was important, and they could only obtain this competency through formal LIS training. In Australia, most modern advertisements for library positions required applicants to be members of the Australian Library and Information Association (ALIA), meaning that they needed to at least have a library degree, or a subject-based degree plus a post-graduate qualification in library and information science (Gray 2009:303).

In the Southern African Customs Union (SACU) region, most job advertisements for professional staff, including subject librarians, almost always mandated the possession of an LIS degree. However the requirements in terms of type of degree and level varied according to the country or institution. For example, at Makerere University in Uganda, not only was a degree important, according to Kinengyere and Tumuhairwe (2009:3) but the level or grade of the degree was what determined any librarian's status; therefore those librarians who had obtained an upper second-class degree were designated as 'academic' staff, while those who had obtained a lower grade were designated as 'administrative' staff. This appeared to imply that since 'academic' staff were qualified to teach, those LIS graduates who wanted to work as subject librarians (and teach information literacy) would be expected to have an upper second class degree or a higher qualification. At the University of Botswana Library, according to Qobose (2001:141-2), the requirement for subject librarians was a degree in a subject other than LIS, plus a professional qualification in LIS, for example, a post-graduate diploma or Master's degree, while at the Rand Afrikaans University in South Africa, subject librarians needed a diploma, Honours or Master's Degree in LIS, and a subject-based qualification, though not a requirement, was considered an advantage.

Overall, the LIS degree or subject degree remained a big selling point for library directors employing subject librarians in the late 20th and early 20th century; with most libraries also requiring post-graduate LIS qualifications. Morgan (1996:44) stated that it was an advantage for subject librarians to obtain a higher degree in librarianship, as it helped them to cultivate an affinity with academic staff who held similar qualifications, and with post-graduate students whose information needs at that level they had to meet.

With regard to the educational courses provided, Womboh (1999:81) in his study of LIS education in African academic and research libraries, found that there was no standard system of training. Courses were offered in polytechnics, institutes, colleges and universities; the qualifications ranged from certificates to diplomas, higher diplomas, degrees, post-graduate qualifications, Master's and doctoral degrees; and some courses received library association accreditation, while others did not. He therefore concluded that no single formula of training would ever suit all countries, therefore African universities needed to develop their own training

for subject specialisation, which would be relevant to the situation and circumstances of their countries. However, he also felt that LIS teachers needed to remain aware of what LIS practitioners expected from their programmes as their institutions were the ones which were expected to employ LIS graduates.

3.2.6 Skills, 1995 -present

In order to perform their duties well, subject librarians needed skills and competencies as well as formal qualifications. The Reference and User Services Association (RUSA 2003:para. 2) defined competencies as the activities or “behaviours that excellent performers exhibit more consistently and effectively than average performers”. Larsen (2007:para. 13) defined them as the combination of “theoretical knowledge and practical experience” that enabled staff to make the correct decisions in any work situation. The nature, depth and breadth of their jobs required subject librarians to know how information was structured and organised, so that they could efficiently retrieve it; and they had to be able to combine this knowledge with traditional competencies like indexing, cataloguing, authority control and information retrieval structures (Gulati & Raina 2000).

With the tools of globalisation, like ICTs constantly changing, subject and learning support librarians also had to keep adapting to these by learning newer and more sophisticated technological skills. These skills required them to integrate and balance traditional collections and models with the resource requirements of the 21st century, especially since the characteristics of user groups (older, more independent, often from outside the university), their areas of study (multi-disciplinary and/or more specialised), their library use patterns (technologically-based and/or remotely accessed) and their methods of learning (lifelong, distance, online) were changing and becoming more varied (Association of South Eastern Research Libraries [ASERL] 2000).

In the UK a Delphi study, conducted by Feret and Marcinek (1999), between 1998 and 1999, which reflected the views of 23 expert respondents from 10 different countries, asked participants what role the academic library would play in 2005 and what skills librarians would need in order to play this role. The study results predicted that academic library functions would

consist of teaching and collection building, and that the skills librarians would need include training ability, IT proficiency and subject knowledge; and the results suggested that if subject librarians acquired these skills, they would be high on the scale of the most valuable employees of the academic library of the future.

According to the Cultural Human Resources Council of Canada (CHRC 2002), the Association of South Eastern Research Libraries (ASERL 2000), Hardy & Corral (2007:84), White (1999) and Rodwell (2001), subject librarians needed the following general skills:

- Business or management skills: the ability to display strategic thinking; display planning skills by creating, maintaining and evaluating programmes and services; display organizational, people management, financial management, project management, problem solving and decision-making skills; provide services that met individual user needs and supported the Library's mission, vision and goals;
- Interpersonal skills: the ability to display customer/user care, leadership, negotiation, interviewing, teamwork and training skills;
- Personal skills: the ability to display integrity and conceptual, analytical, time-management and innovation skills; pay attention to detail; be aware of or attuned to corporate culture; manage one's own professional development and growth;
- Subject-based reference and research skills: the ability to connect users with information useful and appropriate to their needs; provide reference, research and advisory services by responding to user information requests; prepare and disseminate information tools and research documents; provide current awareness and selective dissemination of information services; provide excellent subject services by knowing the client's discipline and its major information sources well, and by cultivating expert knowledge of its key tools and how to exploit them best; know the information resources in related fields and how to assist clients to locate information outside their area of specialty; and know local and relevant remote resources and how to access them;
- Pedagogic skills: the ability to provide access teaching and learning support services, for example user education, in the form of library and information skills training;
- ICT skills: the ability to be computer literate; have web skills; provide electronic services by developing user interfaces, websites, databases and electronic networks; acquire and

use software; carry out imaging and digitizing activities; have the expertise to use MS-Office and other software commonly used in universities;

- Communication skills: the ability to communicate and/or negotiate orally and in writing; cultivate cooperative relationships by collaborating with and establishing relationships and/or partnerships with different useful groups so as to enhance services;
- Professional skills: the ability to commit to the values and principles of librarianship, by connecting people to ideas and information; make information freely and openly accessible; promote literacy, respect individuality and diversity, and support freedom of speech and beliefs.

As the profession developed and progressed, subject librarians transformed from gatekeepers of information, to gateways to information, and they assumed the responsibility for scanning, selecting, acquiring, organising, synthesising, interpreting, evaluating and integrating information “into the existing body of knowledge”, as well as helping patrons to access, use and cite it optimally (Gulati & Raina 2000). Reference and research support thus grew in importance. Since a major part of subject research and the postgraduate research process was to find literature for studies, research articles, theses and dissertations, subject staff also needed the ability to impart search and retrieval techniques to their users, that is, to empower them to become independent information seekers or researchers.

3.2.6.1 Reference skills

Reference work can be seen as helping users to connect with information, regardless of format (Morgan 1996:42). Subject staff thus required a detailed knowledge of the information sources that existed, as well as the skills to access, retrieve, evaluate and use information, that is, information literacy had to start with them. In one of their guides, RUSA (2003) listed various competencies for successful reference librarians, which were also applicable to subject librarians as they carried out their subject based reference work. Subject librarians had to be able to provide a successful and responsive research service that met user needs by developing the ability to:

- Understand the research and information needs of users; determine the kind of subject reference service most useful for their patrons; and review, assess or evaluate the subject reference services, so as to correct any perceived weaknesses and build on any strengths;
- Understand and appreciate environmental scanning and use it to monitor important subject-based information sources and reviews so as to keep up-to-date with developments in information sources and services for that field;
- Read and be actively enquiring, and use any new knowledge, information acquired in this reading to enhance subject-based reference services;
- Analyse and re-structure research queries using critical thinking; work in partnership with users, by establishing good relationships with them and by involving them in the information search and retrieval process; acquire the ability to translate an information or reference request and answer to it completely;
- Market/explain the library's resources and services to users using various tools/media;
- Learn from and share expertise and learning experiences with colleagues through meetings, email professional discussions and other methods of communication;
- Collaborate with colleagues in the profession, working in other institutions, in order to get tips and advice on how to enhance subject reference services;
- Work in a team with internal and external colleagues (soliciting their advice, expertise and opinions) so as to provide, improve and/or enhance subject reference services.

RUSA (2004) explained that strong communication skills and patience were necessary for reference work, whether it was face-to-face, virtual or by telephone. They urged reference librarians (and by implication the subject librarians who performed subject-based reference work) to be aware that their behaviour played a large part in whether or not the user considered the reference transaction to have been a success. They added that reference (subject) librarians had to become good listeners, be approachable and interested in the query, and that they had to be effective searchers who followed up with patrons when there was a need.

3.2.6.2 Subject specific information skills

Subject librarians also needed subject-specific skills, which again touches on the previous discussion about non-LIS qualifications. A survey of a library liaison programmes, by Tennant *et al.* (2005) discovered that despite some of the liaisons in their study not having an academic background in their subject areas, they still proved popular with their clients; they therefore concluded that subject qualifications were not imperative in order for subject/liaison librarians to develop the skills needed to provide subject services to faculty and students, but that they did need to be given on-the-job subject-related training, to participate in continuing education and to join professional associations in their subject areas.

In the same vein, Feetham (2006:9) found that although traditional subject librarians sometimes had a first or second degree in the subject they represented, current surveys in the UK had revealed that many of them were not qualified in, but were expected “to cover a wider subject remit than the subject in which they have a qualification”. Therefore, Pinfield (2001) wrote that while there was an advantage in a subject librarian having a background in his/her subject field, a degree in it was not necessary; he considered their main requirement to be “an appreciation of teaching and research techniques in the subjects, of the structure of the literature and of the key terminology and concepts”. Battin (2005:56) added that they required familiarity with the information seeking behaviour of their subject specialists/practitioners and a wide knowledge of the impact of ICTs on their “patterns and methods” of teaching, learning and research in the subject field. Therefore, the practice was to employ professional librarians, who were then expected to become familiar with the subject material of their faculty, so as to successfully complement their work and provide them with general and subject-specific information (Feetham 2006:10).

3.2.6.3 ICT skills

Automation, when it came to African and other university libraries, not only allowed subject staff to “offer better and faster services than ever before” (Qobose 2001:144), but it also resulted in students and other patrons demanding a higher quality of service from their library and from other information services. Thus academic librarians in general, had to acquire ICT skills - this was “non-negotiable” (Fourie 2004:69). Unfortunately, on the whole, the ICT skill training of

subject librarians in Africa was poor or minimal. Fourie (2004:63-66) mourned the fact that, despite the amount that had been written about the ICT and other skills that academic librarians needed, they still seemed not to be prepared, so they ended up lagging behind developed country librarians with each new ICT advance. She added that this slow reaction meant that instead of already possessing the skills that had been discussed for many years, and instead of becoming “competent organisers of web sites or competent teachers of internet research skills”, academic librarians were only now focussing on obtaining these in the 2000s.

In Nigeria, Awale-Ale (2007:7) stated that ICT training was inadequate, and that the syllabi of the seven Nigerian universities that she had looked at, highlighted this inadequacy:

Most computer-related courses terminate at the level of appreciation of the capabilities of computers. Student-computer contact is virtually non-existent as those resources are not within the reach of most departments. Thus the few librarians who are computer literate in Nigeria today were either trained abroad or through private initiatives in the universities, private study or through the existing numerous and private computer business houses.

In South Africa, a 2003 study by Hoskins (2005:160), at the University of KwaZulu Natal and the University of Zululand, found that although most of the responding subject librarians had received training in the Windows operating system, word processing, presentations and keyboarding skills, over half of them had not received formal training in file management, spread sheets, database and email usage, internet and networking and “the setup, maintenance and troubleshooting of computers”. That is, they had not been trained in the basic skills offered by courses like the International/European Computer Driver’s Licence. The ICDL or ECDL taught basic concepts of IT, how to use a computer and manage files, word processing, spread sheets, databases and presentations (ECDL Foundation 2010), and Hoskins (2005:162) believed that this course incorporated all the skills and competencies needed by the subject librarian at that time.

Besides receiving basic training in computer appreciation or in the various ICDL modules, subject librarians also needed training about the internet, the World Wide Web and other important applications. This was because ICTs were increasing in African universities, although

there were continuous challenges related to bandwidth (Chiwere 2010), and although in some southern African universities, as recently as in 2007, there was an average of only “four teaching staff per computer, three administrative staff per computer and seventy students per computer” (SARUA 2009:28); the number of people in southern Africa with access to computers and the internet continued to grow, making online search and retrieval training necessary. Furthermore, in 2010, it was reported that, a company called Seacom was in the process of completing the construction of a “1.28 terabyte 17,000 km fibre optic cable linking Southern and East Africa to global networks via India and Europe”, which would increase the bandwidth and make information search and retrieval faster (Chiwere 2010). Thus proactive library managers had to prepare for this and ensure the efficiency and effectiveness of their subject-based services by redressing the ICT skills deficiencies of their subject staff.

According to Garrod (1998:255-6), the QCA (as cited in Fisher 2004:69), Morgan (1996:48), Hoskins (2005) and Sreenivasulu (2000:19), subject librarians had to:

- Understand the internet and web technologies, know how the internet differed from other information sources and media; and be able to design, create, develop and use superior web pages, systems and computer applications;
- Understand and be able to use various search engines, web 2.0 and social media tools; locate and identify various Internet resources; critically evaluate information accessed from the Internet; understand and use information in various formats;
- Know and understand issues like imaging technologies, mark-up languages, user interfaces and programming;
- Know their parent institutions’ networks and the ICT services available to them;
- Know their central processing unit (CPU) and the how and why of its attachments and perform basic troubleshooting tasks; be familiar with different operating systems; Know how to solve the information problems of users; be able to carry out word processing and desktop publishing and use bibliographic software packages, spread sheets, and graphic packages;
- Use email facilities including discussion lists and bulletin boards.

All the above-mentioned necessary skills meant that subject librarians had to continually self-train or attend training sessions, online or face to face. Furthermore, Bell and Shank (2004) encouraged academic librarians to collaborate with instructional technologists, so as to add instructional design knowledge to their skills base, thus enabling them to provide an enhanced teaching and learning service to patrons.

3.2.6.4 Pedagogic skills

The possession of good ICT and information skills was not enough. Subject librarians also had to possess the skills to pass these competencies on to university users, including faculty members. With the spread of the internet and web-based resources, a number of users began conducting their own information searches. However, instead of conducting database searches, they tended to conduct keyword searches of the world wide web, using search engines, and since many of them did not understand how this process worked (Feetham 2006:8), they did not get the results they wanted or expected.

Furthermore, as the demand for general non-discipline based skills rose, due to the growth of ICTs, a number of academics found that they were out of their depth and that they - and their students - required guidance from library/information experts. This resulted in some of them recognising the importance of information skills training for the university population, from trained and skilled information workers. Students and faculty realised that they needed skilled staff, like subject librarians, to act as intermediaries between them and the information they required. So in order to actively participate in the learning and teaching process, subject librarians had to receive instruction in various training or teaching methods (Corrall 2004:33; Powis 2004:83), and library and information skills instruction became a major part of the functions of the subject librarian in university libraries all over the world. In fact, Biddiscombe (2001) advocated a formal pedagogic qualification for subject librarians, stating that it would give them an advantage.

The American Library Association (ALA 2008) listed twelve technical proficiencies or competencies necessary for academic librarians involved in instruction, including subject and

learning support librarians; and these were supplemented by ideas from Selematsela and du Toit (2007:307-308) and Morgan (1999:45). Subject librarians needed:

- Administrative skills: The ability to coordinate with colleagues, to document instruction activities and to keep accurate records and statistics;
- Assessment and evaluation skills: The ability to assess the impact of instruction activities;
- Communication skills: The ability to non-judgementally communicate at the level appropriate to particular users, and to solicit feedback about their instruction techniques;
- Curriculum knowledge: The ability to analyse the curriculum in their subject area, and the interest to remain aware of student assignments and/or projects and to identify areas where instruction would be beneficial;
- Information literacy integration skills: The ability to work with faculty to integrate information skills into the curricula;
- Instructional design skills: The ability to work with faculty to identify and implement the most useful instructional designs and to utilise technology in teaching/instruction;
- Leadership skills: The ability to search for teaching opportunities both in and outside the library and to inspire colleagues to discuss, question and share ideas and expertise;
- Planning skills: The ability to plan for and prepare lesson content and delivery;
- Presentation skills: The ability to use various processes, approaches, techniques and technologies to present content - including physical methods like eye contact/gestures;
- Promotion skills: The ability to establish a rapport with faculty, new and old, in order to sell the advantages and/or benefits of the information skills training programme;
- Subject expertise: The ability to understand the vocabulary of the subject areas, to identify primary and secondary subject information resources, to stay current with topics, theories, methods, concepts and other issues in the subject area and to integrate relevant ones in their instruction plans;
- Teaching skills: The ability to create a learner-centred instructional environment, to use or modify the teaching styles and methods most appropriate to a situation and to encourage student participation and constructive teacher-student exchanges;
- Language skills: The ability to be sensitive to and accommodative of language preferences in IL instruction and to explain in a way that all students understand;

- Interpersonal skills: The ability to be approachable, to empathise with and interact effectively with students, to encourage them to participate, and to understand and respect their thoughts, feelings, values and beliefs;
- Collaborative skills: The ability to share knowledge and to establish and nurture good working relationships with colleagues;
- Innovative skills: The ability to be innovative, proactive, and to initiate useful functions;
- Critical thinking skills: The ability to make critical decisions, to follow up with students experiencing problems, to be objective, and to display logical reasoning, critical thought, analytical thinking and judgement;
- Personal skills: The ability to remain comfortable whether teaching few or many students, whether presenting training sessions in a formal, informal or unfamiliar setting.

Unfortunately, as observed by Powis (2004:88-89), although ICT training was added to the LIS curricula in many countries, teaching skills were not, resulting in new subject librarians having to learn ‘on the job’, using material not compiled by themselves, and often having to teach after having only observed someone else’s session. He put forward two proposals to counter this lack of pedagogic instruction in LIS education:

- That subject librarians, hopefully with the acceptance and encouragement of faculty and administrators, be allowed to attend the teaching sessions often offered by their parent institutions; but he warned them that the difference in the type of teaching carried out by librarians, their non-involvement in assessment and their limited access to students had to be taken into account during these sessions;
- That subject librarians attend library-based training workshops, which specifically tailor training to their needs, “recognize the different context that librarians work in, and offer a ‘safer’ environment for staff to discuss issues that affect them in their teaching”.

3.2.6.5 Liaison/communication/negotiation skills

One of the main responsibilities for subject staff, as already mentioned, involved faculty liaison. In order to be able to build relationships with faculty, subject librarians had to have good communication skills. Biddiscombe (2002) saw them as learning support professionals, who complemented the subject specialisation of faculty members, and he believed that with more

courses going online and providing links to online items, many lecturers were more appreciative of the support of subject staff, and were eager to have them conduct the initial training of students. Subject librarians needed to be innovative in their partnerships with faculty and to become aware of faculty/client needs, so as to become embedded in faculty work and to raise the library's profile and value within the institution (Rodwell & Fairbairn 2008). In addition, with institutional repositories aiming to contain the intellectual output of a university, mostly in digital format, subject librarians involved with this endeavour, needed the skills to persuade faculty to contribute material to the repository.

Furthermore, since electronic information items made up part of most modern library collections, if subject librarians were responsible for subscribing to electronic databases, they needed to be able to negotiate so as to “agree licensing terms and access rights for electronic resources”; and they needed to be able to choose appropriate electronic resources from the vast quantities available, and to evaluate them, so as to only choose those of the best quality (Corrall 2004:34). In those libraries where selection was performed by the acquisitions department, they had to still have the above-mentioned skills so as to assist colleagues to select the most suitable items for their designated departments.

3.2.6.6 Collection development and management skills

Subject staff also had to be able to assess their subject collections in order to be able to make sure that they met user needs. They also needed to be able to promote the use of new types of information to patrons and to act as advisers on the best way to use new formats in teaching and learning Agyen-Gyasi (2008:5). The collection development function was one of the reasons why some LIS writers felt that the possession of a degree in the subject they looked after would be an advantage to subject librarians. However, some universities, like the University of Botswana Library, required subject librarians to either have a “strong subject background” or the motivation to develop one, plus the interest to build and/or expand their subject collections (Fombad & Mutula 2003:68). So subject librarians needed to know their faculty collections well, be aware of the weaknesses and strengths and be able to ascertain that the strengths prevailed.

With regard to collection management, traditionally some subject librarians were strongly involved with it, and were required to catalogue and classify subject collections because their

expertise and knowledge of the subject area ensured that materials were properly categorised. Subject-based access to materials was even more important in phase 4 than in previous phases. Fourie (2004:68) explained that this was due to the profusion of formats and sources of information, which meant that information still, had to be organised through traditional methods like “indexing, classification, cataloguing and abstracting”. Other libraries did not burden subject librarians with the cataloguing function. For example, the websites of the University of Namibia and the University of the Witwatersrand indicated that classification and cataloguing were carried out by dedicated cataloguers. However, strong bibliographic skills were needed by subject librarians so that they could keep track of the weaknesses and strengths of their collections, and also so that they could guide users to the correct items and to related items in different disciplines.

3.2.6.7 Marketing skills

Marketing was an important skill for all academic librarians, because they needed to make sure users were aware of all the Library’s resources, facilities and services. However, the skill was even more vital for subject librarians because they needed, not only to market the library, but to be personally visible, to raise their standing in the university, and to cultivate the confidence and skill to market themselves and their services (Morgan 1996:43). They also needed marketing skills because of their responsibility to their institutional repositories. They needed to be able to sell the IR concept to information seekers (Revell & Dorner 2009), by making potential content contributors aware of the advantages of their work being part of the institution’s show case, and in that way, acquire more content. As part of their marketing, they also had to provide effective current awareness services (CAS) and selective dissemination of information services (SDI). Both these services alert users in designated departments to the availability of recently published and essential literature in their subject area/s (Reitz 2004-2013) and they can also include information about methods of access.

3.2.6.8 Managerial/organisational skills

Subject librarians also needed managerial and/or organisational skills to be able to solve problems, make decisions and generally carry out their jobs well:

- **Legal/Copyright Skills:** Dealing with issues like institutional repositories turned subject librarians, through their institutions, into publishers. This according to Wherry (as cited in Fourie 2004:68).), meant that they needed to be knowledgeable about copyright and intellectual property issues, and to understand the issue of standards and metadata. They also needed to know about compiling metadata schema and about data curation;
- **Political Skills:** Subject librarians employed by universities needed to participate in and/or contribute to the policies that were essential to their work in the library or that had an impact on it. This required them to have an understanding of how policies and strategies were developed, not only institutionally, but nationally, regionally and internationally (Corrall 2004:33). If libraries did not get involved in policy making, they could themselves have to work with restrictions, and their staff being left out of major developments taking place in the university;
- **Problem-Solving Skills:** Critical thinking and problem-solving skills were needed by modern subject librarians (Garrod 1998:250). They needed to develop the ability “to flourish in an ambiguous environment, and to design and execute creative solutions to new situations” (Battin 2005:55). In other words, they had to be able to see issues from all angles, and to ‘think outside the box’ when dealing with them;
- **Project Management Skills:** Phase 4 of subject librarian development saw an increase in the number of projects carried out by universities and/or university libraries. Examples of these were institutional repositories, retrospective digitisation of library materials and digital archive projects, all of which could require the subject and analytical skills of subject staff at some level. So according to Biddiscombe (2002) subject librarians had to develop strong project management skills, because they often managed, spear-headed or were closely involved in these projects;
- **Team Skills:** Since projects could not be run by one person or one department alone, subject librarians had to learn “non-hierarchical ways of working”, so that they could fit into various teams (Garrod 1998:243) and become team players or team builders capable of working with different people from various departments including ICT, faculty and the library itself (Feetham 2006:14). They also needed to become good financial managers (Pinfield 2001:11), since funds allocated for projects had to be accounted for;

- Personal skills: These skills, according to Morgan (1996:44, 53), included being very positive and professional in their approach to their work, and not easily intimidated. In fact, he urged librarians to stop being so modest about themselves and their services and instead to cultivate a “constructive arrogance” or self-confidence in their ability to carry out their duties well. They also had to have a strong “commitment to meeting the needs of library users, ability to balance work and home demands, adaptability and willingness to work under pressure, respect for ethics, integrity and quality assurance” (Kinengyere & Tumuhairwe 2009:5);
- Miscellaneous management skills: According to Fourie (2004), Larsen (2007), Neerpath, Leach and Hoskins (2006), and Morgan (1996), academic and/or subject librarians needed to acquire the following:
 - Interpersonal skills, that is, creative thinking, innovative and leadership skills, including the ability to understand human behaviour;
 - Behavioural skills, including curiosity, understanding, empathy and patience;
 - Lifelong learning skills, including an enthusiasm for new roles, and the ability to know, understand, assess, correct and enhance their own skills and competencies;
 - Environmental scanning, assessment and awareness skills;
 - Change management skills, including the ability to accept, adapt to and sell change to colleagues and patrons;
 - Financial management skills, including the ability to raise and manage funds for activities like projects and to be able to manage budgets for areas like subscriptions and licenses;
 - Strategic management skills, including an ability to work well within their work environment and to foster the organisation’s mission and vision.

3.2.6.9 Skills acquisition methods

Overall, it was absolutely essential for well-rounded subject librarians to possess a good combination of professional, technical and personal skills. Paterson (1999:145) warned that untrained staff would mean “dwindling competence, dismal morale, high staff turnover, absenteeism, avoidable accidents, complaints and information that is wrong or incomplete or too late in arriving”. Therefore library managers were advised to identify and raise funds for areas in

which subject librarians required training (Pinfield 2001:12). They were also warned that it was important to find ways to update and/or develop the skills of those who had obtained their qualifications and/or skills many years ago (Larsen 2007). However, LIS writers also stressed that training should not only be the responsibility of library managers. Both Fourie (2004) and Pinfield (2001) instead urged subject librarians to assume responsibility for updating their own skills. These skills, as well as traditional LIS qualifications, could be acquired in a number of different ways.

3.2.6.9.1 Formal degree programmes

The most obvious way of obtaining formal qualifications was through studying for the library and information science (LIS) degree. This however, was not always enough because, despite library schools doing an excellent job of training librarians in the traditional skills, some of them still needed strong encouragement to provide training in those ICTs that would enable LIS graduates to provide user-centred services (Hoskins 2005:162). In the UK, the Skills for Information Professionals (SKIP) programme discovered that many LIS programmes did almost nothing to provide students with detailed current knowledge (Garrod 1998). LIS schools therefore needed to provide modern skill sets to all potential graduates so that they were not overwhelmed with the new technologies when they entered the workplace. LIS writers, including Kinengyere and Tumuhairwe (2009:15), therefore urged library schools to overhaul their curricula to include new ICTs tools and applications. They also advocated inclusion into the curricula, of topics like “electronic publishing, database management, cybercafé development and management, digital libraries, geographical information systems (GIS) and monitoring and evaluation of information systems and services”, as well as hotspots and “libraries without walls”.

In order to help librarians and library schools in the UK to develop the right training modules, the Follett Report (1993), which like the SKIP programme (Garrod 1998), was set up to assess the impact of IT on university libraries, and to exploit and train staff on how to use it for the maximum benefit, recommended a national training programme to cover areas like:

- The development of in-service training sessions/workshops to learn about the networked environment, aimed separately at librarians and users;

- The development of materials on using the network for users and other librarians;
- The marketing of online information materials;
- The development of pilot projects allowing for the sharing of training materials;
- Cooperation with library schools to cover professional training plus continuing education.

3.2.6.9.2 Informal training/continuing development

Once trained, subject librarians who were accepted into the profession, needed to enter further education programmes in order for them to continue to develop their competencies and acquire lifelong learning skills. Unfortunately, the continuous “professional development” that subject librarians needed in order to make them the multi-skilled information professionals they should have been was often lacking (Agyen-Gyasi 2008:10). RUSA (2001) advised institutions to develop liaisons’ knowledge and skills in other informal ways like continuing education, in-service training and release time to enable them to develop liaison relationships with various groups. Regrettably, instead of being managed by people with vision and management skills, who allowed them to thrive, some library staff were stifled by an organizational culture that did not encourage initiative and was suspicious of innovations (Garrod 1998:249).

However, successful subject librarians could assume responsibility for their own further training without depending on institutional encouragement. However this meant that they needed certain personal qualities, like the willingness and ability to learn, and a strong belief in their own skills base (Qualifications and Curriculum Authority [QCA] as cited in Fisher 2004:69). According to Corral (2004:31), they required the ability to recognise short-comings in their own skills and a willingness and knowledge to mend these. She added that, since continuous technological advances ensured that new skills were soon outdated, personal development was “really about developing the ability and the willingness to learn new tools and techniques continually, rather than developing specific technical expertise” (Corral 2004:31). Subject staff were therefore urged to attend the training sessions offered by their universities in areas like conducting research, teaching and learning techniques and stress management; and those offered by their professional associations in areas like new ICTs, library 2.0 technologies, institutional repositories, and managing e-resources. LIS writers, like Dale (2006:3), also recommended that they participated in the type of online training that used methods or tools like weblogs

(accessible over the intranet or the web), podcasting and programmes arranged by virtual CoPs or communities of practice. Any skills that they thought they might somehow need in the future they had to try and acquire.

However, Larsen (2007:4) warned subject and learning support librarians that it was not always possible to predict which skills would be required in the future, and for what functions. He urged them to remember that various external factors, which they had to keep in mind, could have an effect on the profession, including: changes in the content and level of university curricula; legal issues like copyright and digital rights management; developments in technology in various areas of research; demands made of the library by the university, academics, researchers and other users; the government's approach to issues like digitisation, education and globalisation; and the status of collaboration between related organisations like museums, archives and libraries.

Encouragingly, many academic librarians rose to the challenge of continuing professional development. A study conducted by Gosine-Boodoo and McNish (2005:376), in mostly Caribbean and developed North American countries, revealed that most respondents, no matter what the level of their IT skills, wanted to improve their skills base. Many subject librarians worldwide, faced with a barren training landscape, were innovative and looked for ways 'outside the box' to increase and enhance their skills. They contributed to the development of their personal skills base by participating in research project projects, and by reading (Osei 1996). Due to the fact that they were always under pressure to be timely and to predict what information their users needed before they needed it, and to know what was available, they needed to use personal alerting tools like "Google Alerts, Change Detect, Spy-on-it etc." (Abram as cited in Kinengyere & Tumuhairwe 2009:2). In her study of a community of 25 business subject librarians employed at 15 university libraries in Ontario Canada, Lowry (2006) found that some of the ways they acquired their training included: attendance at continuing education programmes at parent universities, attendance at LIS conferences and professional association workshops, database vendor-provided training, and subscription to LIS email lists.

Other skills acquisition methods that were or could be used by subject librarians included:

- In-service training: Although Fourie (1999:12) found “little evidence of formal in-service training of intermediaries in searching skills”, it *was* carried out in a few institutions. For example, at Makerere University in Uganda, new staff received on-the-job training which allowed them to collaborate with, and be mentored by older staff and, after probation, to receive internal or external leadership training. As part of in-service training, Larsen (2007) recommended that subject librarians be involved in job rotation, the testing of new products and services, and “trial and error” activities;
- Conference/workshop training and attendance ensured that subject staff acquired more knowledge and/or skills. At the University of Science and Technology in Kumasi, staff attended local, regional and international workshops and conferences, received internal and external computer literacy training and were sponsored by the library to attend post-graduate library training in an effort to retain staff (Osei 1996). At Makerere University, professional library staff that had completed the two year probation period was permitted to participate in informal continuing education training events like conferences, workshops and seminars (Kinengyere & Tumuhairwe 2009);
- Learning from library users like faculty, students and other users also helped subject librarians to add to their skills. In their 2005 evaluation study at the University of Florida, Cataldo *et al.* (2006:447) found that liaison librarians learnt from academics because they attended faculty gatherings, meetings and events, kept themselves current with research by students in their faculties, carried out literature searches within publications and kept current with the content of faculty web pages, newsletters and other information items;
- Library surveys could also help subject staff to increase their skills. For example, through action research they could learn who their users were and what they knew about the resources, services and facilities offered by the library; and they would also be able to evaluate their functions and activities, find out their strengths, and discover and correct their weaknesses (Fourie 2004);
- Counterparts outside the organisation/library were also useful training tools. Subject librarians were therefore urged to persuade their library managers to facilitate “learning from the successes of other liaison librarians” as a way of learning (Cataldo *et al.* 2006:447). This would require the swapping of ideas, processes and procedures, through the swapping or exchanging of subject librarians (Osei 1996:36). Staff exchanges

encouraged and promoted standardisation. Referring to the importance of standardisation in Africa, the African Union stated in 2007 that uniformity would benefit the continent by encouraging “intra-regional mobility”, cooperation, the sharing of “information, intellectual resources, and research” and by fostering reliance on African instead of other country’s experts (as cited in SARUA 2009:24);

- Communities of Practice (CoPs) also facilitated the exchange of ideas, experiences, challenges and solutions to common problems. The formation of distributed CoPs, that is, communities that could not meet on a face-to-face basis due to challenges like distance, was also advocated by writers like Lowry (2006). She listed the possible advantages of this learning technique as the ability to: share expertise; solve common problems; encourage professional identity/development among practitioners; pool resources so as to employ various experts; create joint and standardised training resources and; foster an interest in subject librarianship by allowing LIS instructors to join the community thus helping them to learn more about the profession;
- Colleagues within the organisation, including from other parts of the library and from within the subject section were also an important learning method for subject librarians. In her study of subject librarians in special libraries Gibbs (1993:5) found that some of them learnt about developments in their field by interviewing subject specialists in their organisations, discussing the subject informally, discussing online search results or by conducting “an in-depth reference interview”. To encourage this colleague to colleague training, Marfleet and Kelly (1999) recommended managers to hold off-site brainstorming sessions, at least once a year, so that past actions could be reviewed and future plans made, with individuals being assigned certain tasks that would steer their counterparts and employers in new directions.

3.3 CHAPTER SUMMARY

Chapter Three reviewed literature relating to the roles, responsibilities and skills of subject librarians from 1995 to the present day. This research assumed that technological advances had an impact on and therefore changed the roles, responsibilities and skills of subject librarians in university libraries in the SACU region. The research problem concerned the investigation of

how, why and when these changes occurred and what these changes were. The literature review put the research problem in context by establishing its background and the environment in which it occurred, consulting primary and secondary sources of information related to it and summarising, commenting on and discussing these (Wisker 2001).

The types of models in operation during the modern phase included traditional ones like the dual, subject-divisional and faculty library models. Aspects of more modern models were also being added to existing models, for example from the embedded, commons (knowledge and research commons), digital and library 2.0 models. The convergence model was mainly found in developed country academic libraries.

Advances in technology had a major impact on the teaching, learning and research activities of universities, and also on the role, responsibilities and skills of subject librarians. From a situation in phase 3, in developed countries, where they were in danger of extinction, together with other traditional information search and retrieval tools, like the manual library catalogue, subject librarians gradually found themselves back in favour with their users. In Africa, subject and learning support staff continued to find employment in university libraries, since many users were not comfortable with the new technological and information environment and required their intervention or mediation. The main role of the subject librarian from 1995 to the present day appeared to be that of learning support. Their main functions remained reference, instruction, liaison, collect development, collection management, marketing of the library, and teaching, learning and research support. However the ways of carrying out these duties had expanded and become more sophisticated. Therefore, according to the ALA (2006a) and other LIS writers, subject librarians had to:

- Tread a fine line between the traditional (printed book and journal) and modern (digital, electronic, online) formats and sources of information, in an age where the internet and World Wide Web ruled;
- Acknowledge that many teachers, students and researchers were already able to complete articles, research, essays or assignments without setting foot in a library;
- Make various formats and sources of information from within and outside their own university walls accessible to users;

- Update their traditional skills and acquire new technical and/or ICT-based ones in order to use these new formats and sources;
- Teach users how to access, retrieve, evaluate and use information within the new formats and sources;
- Guide faculty and students in utilising the new formats, sources and applications for teaching, learning and research activities;
- Continue to act, for their communities, as “navigational guides” on the information superhighway.

In terms of formal qualifications, subject librarians were no longer expected to be subject specialists, that is, to have a non-LIS degree. However, they were expected to have an LIS degree, as well as a strong knowledge of and interest in the designated subject area/s and the literature related to these. In the ICT era, new technologies resulted in new information needs, related “to the centralised storage, description, and delivery of academic resources” (ALA 2006a), and if subject librarians wanted to remain at the core of their universities, they had to find ways to satisfy these new needs. They had to cultivate proactive characteristics, be forever aware of current and future technologies, and to be prepared to adopt them or to adapt to them. If they managed to do this successfully, as well as to acquire “in-depth subject knowledge” and sharp search and retrieval skills, they would continue to serve the function of ‘sign posts’, on the information highway, giving directions to users. And within the academic library, they would remain as core members of the team (Batt as cited in Gray 2009:301).

In conclusion, in phase 4 of their development, subject librarians were still at the core of the university library all over the world. The LIS literature, as a whole, was of the view that they would be found in university libraries worldwide for many years to come. In Africa, a 2004 survey (Mbambo 2006:183) revealed that subject staff felt that they did a good job, should be employed in greater numbers, should be taken more seriously by their universities, should be accepted by and get more cooperation from faculty, and should be granted faculty status.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Chapters Two and Three established the theoretical framework for this study by outlining what studies have already been carried out in the field of subject librarianship. Furthermore, by supporting the *raison d'être* for this study - that not enough studies have been carried out about subject librarianship in the SACU region – it established that this research study was necessary. This chapter deals with the theoretical framework for this study, which Ngulube, Mathipa and Gumbo (2014) state “should guide and inform the whole research process”. It covers the research design which includes discussions about the research approach, research question/s, study variables, survey design, reliability and validity, population, data collection and data analysis methods – that is, it explains how the research was actually conducted.

4.2 RESEARCH

The term “research” can be defined as the collection of data, in a logical way, in order to explore, describe or explain things, to find, generalise, correct or create knowledge, solve problems and answer questions (Eldredge 2004:83; Rugg & Petre 2007:61; Vogt 2007:5). It is “a movement from the known to the unknown” and it can also be seen as an “academic activity” that must be conducted scientifically (Kothari 2004:1). Research involves a researcher’s ability to quantify the impact of various variables on an outcome, by carrying out careful procedures and following logical steps, and this research must be so free of major problems that it can be repeated by other researchers following the same steps (Kumar 1996:7).

There is no single way of carrying out a research study, but there are at least two types of research which are in wide use today, that is, basic research (sometimes known as pure, theoretical or scientific research) and applied research. Although these form two points on a continuum, they overlap on some aspects.

Basic research consists of studies carried out in order to add to or advance scientific knowledge laws, inquiry and methodology (Robinson n.d.:4; McMillan & Schumacher 2001:18). It does this by constructing theories and testing hypotheses (Powell & Connaway 2004:19), but with no intention of being applied to or solving real-life or existing problems (Robinson n.d.:4).

According to Hernon (2001:81-89), basic research considers the following issues:

- Research approaches, which can be qualitative, quantitative or mixed;
- Reflective inquiry, including the statement of the problem, literature review, theoretical framework, structure, objectives, research questions or hypotheses;
- Study population, including decisions about samples;
- Research procedures, including research designs, data collection methods, data processing, analysis and interpretation techniques;
- Response rate;
- Quality or generalisability issues, that is, validity and reliability measures;
- Study findings and their presentation.

Applied research is more practical in nature than basic research, and its aim is to collect evidence that can be used to solve problems or to predict or control behaviour (Robinson n.d.:5). According to Busha and Harter (1980:8), most library science studies to date fall into the category of applied research, as they were more concerned with gathering data that identified and described what was happening in the library environment, instead of trying to find out why or how it was happening. An example of applied research is action research, whereby the researcher carries out a study in order to find solutions to problems in his/her own workplace (Powell & Connaway 2004:55).

As stated above, although pure and applied research tends to be conducted separately, they are not really mutually exclusive, because just as applied research can act as the basis for future pure/basic research, basic research can lead to practical usage or to solutions to practical problems (Powell & Connaway 2004:2; Busha & Harter 1980:8).

This study was largely geared towards basic research, but it also contained elements of applied research. On the one hand, it generated new knowledge about the ways and/or extent to which

the roles, responsibilities and skills of subject librarians have changed over the years; and on the other, it generated practical suggestions for guidelines for subject librarians working in new subject and learning support services.

4.3 RESEARCH APPROACH

A research methodology encompasses the various approaches, designs, methods, techniques and instruments that are used for a study. It helps us to answer the research question/s or to solve the research problem scientifically (Kothari 2004:8). Just as there different ways of conducting research, there are also different approaches to research.

4.3.1 Types of approach

Research can be quantitative, qualitative or mixed, all of which sit on different points of a continuum, with qualitative (composed mainly of words and open-ended type questions) and quantitative (composed mainly of numbers and closed-type question), on opposite ends, and with the mixed approach, which includes aspects of both, falling somewhere in between (Creswell 2009:3).

4.3.1.1 Quantitative research

Quantitative research is suitable for studies where variables can be quantified or measured (Hopkins 2000:2), that is, it is an approach which generates numerical or statistical data by comparing “the amounts or frequencies” of the characteristics or variables being studied (Thomas 1998:4). Variables are measured using tools or instruments that facilitate the use of statistical techniques to analyse the data that has been collected (Creswell 2009:4).

Quantitative studies can be descriptive or experimental (Hopkins 2000). When researchers carry out descriptive research, they ask “what is going on?” and when they conduct explanatory research they ask “why is it going on?” (De Vaus 2001:1).

The quantitative approach includes experimental and non-experimental (e.g. descriptive, comparative, and survey) designs (McMillan & Schumacher 2001:31). Conclusions are drawn

from the samples and related or generalised to the population under investigation (Powell & Connaway 2004:59). According to Blaxter, Hughes and Tight (2010), quantitative studies are a little easier to analyse and more practical than qualitative studies.

4.3.1.2 Qualitative research

The qualitative approach falls at the opposite end of the continuum to the quantitative approach. It tends to be more subjective in nature than the quantitative approach because, not only does it usually take place in a natural setting, that is, in the environment of the study participants (Jha 2008:45), but it also tends to explore life experiences, the causes of certain behaviours, the results of those behaviours and the meanings that participants attach to them (Newby 2010:116; Powell & Connaway 2004:59; Creswell 2009:4). In contrast, quantitative studies tend to be more objective as they are more likely to stick “to the scientific method of enquiry” (Powell & Connaway 2004:59).

The qualitative approach includes non-interactive and interactive designs, for example, the ethnographical study, case study, interview, personal experience, observation, grounded theory and historical designs (McMillan & Schumacher 2001:31; Jha 2008:45). These designs help researchers to collect quantities of verbal data from respondents, organise these into a logical format, describe them and then use the findings to form hypotheses and build theories “from the ground up” (Leedy and Ormrod (2005:95). Qualitative data is usually non-numeric (Blaxter, Hughes & Tight 2010).

4.3.1.3 Mixed method research

Although research approaches are often discussed in terms of ‘quantitative’, for example surveys and experiments, versus ‘qualitative’, for example case studies, “it is erroneous to equate a particular research design with either quantitative or qualitative methods” (De Vaus 2001:10), and it is also incorrect to categorically describe one as being better than the other (Newby 2010:93), since both have their pros and cons. The circumstances and the nature of the research question determine which approach or technique should be used and whether or not it should be modified (Thomas 1998:5; Newby 2010:93).

In fact, the use of a combination of approaches or techniques, that is, a mixed approach, is increasingly being used by researchers to add value to their studies. Johnson, Onwuegbuzie and Turner (2007:123), define mixed method research as whereby researchers mix components, like data collection and analysis techniques, from both the qualitative and quantitative methods so as to add “breadth and depth of understanding and corroboration”. Vogt (2007:8), gives the following example:

If you conduct a survey you can ask your respondents open-ended questions about public policies that require them to write paragraphs and that require you to use qualitative techniques to analyse the paragraphs; or you could ask respondents to rate public policies on a scale from 1 to 10 and then use quantitative techniques to tally and analyse the results (Vogt 2007:8):

However, there have been criticisms of the mixed approach, including that it does not have an “accepted conceptual infrastructure” (Newby 2010:126); and that a standard definition and description of the benefits, challenges, logistics and the stages within which a different method could or should be incorporated, is still under wide discussion by various scholars (Fidel 2008:269).

Nevertheless, some researchers still find the mixed method valuable and, according to Johnson, Onwuegbuzie and Turner (2007:112) it is becoming widely “recognised as the third major research approach or research paradigm” next to the quantitative and qualitative approaches because, as Blaxter, Hughes and Tight (2010:85) explain, it enhances the information gained and increases the validity of the data collected.

This research study used a mixed method approach to collect data from participants. Using the quantitative approach it investigated and quantified relationships between variables, so as to generalise from the sample to the population and to add to theory (Leedy & Ormrod 2005; Hopkins 2000:1-2). It also used the qualitative approach so as to gain in-depth/expanded answers and insights from participants. The approach was determined by the research problems being studied (Creswell 2009:21), that is, the roles, responsibilities and skills of subject librarians in the SACU region.

4.4 RESEARCH DESIGN

Once an approach for the study had been selected, the researcher had to choose a design so as to ensure that the research study would progress logically. The chosen design also explained to readers how the study would be conducted and it outlined the decisions that had been made for it (Cresswell 2003:5), it ensured that the researcher collected data or evidence that clearly answered the research question, and it ensured that the findings would be believable (De Vaus 2001:9; McMillan & Schumacher 2001:166).

As with research approaches, research designs can be either quantitative or qualitative. Quantitative research designs include experimental studies, case studies and surveys (Ngulube 2009:223). This study used the survey design.

4.4.1 The survey design

A survey design can be defined as “a scientifically conducted study, or account of a study, in which data is systematically collected from a selected group of sources or informants, usually concerning general conditions, practices, habits, preferences, etc.” (Reitz 2004-2010). It can also be seen as a “group of research methods commonly used to determine the present status of a given phenomenon” (Powell & Connaway 2004:83).

The survey design was considered to be the most suitable design for the situation the researcher was in when the study began, that is, not being able to directly observe the subjects in the study (Balnaves & Caputi 2001:75), because of their location in different countries. It was therefore used to plan, collect, summarise, quantify, describe and analyse data, in order to make deductions about the population it was drawn from (Leedy & Ormrod 2005:184), that is, subject librarians from the SACU region.

Surveys can vary by type, for example, they can be exploratory, explanatory or descriptive (Babbie 2007:244), and each type has its own features, strengths and weaknesses.

4.4.2 Types of surveys

Exploratory surveys help researchers to clearly identify ideas and issues, develop hypotheses and suggest areas that still need to be investigated (Powell & Connaway 2004:85). On the one hand, the main aims of the exploratory study include getting to know the phenomena under study better, determining whether it is possible to conduct a more in-depth study, and/or coming up with methods that can be used in future investigations. On the other hand, the main aim of the explanatory study is to answer the question ‘why’ (Babbie 2007:88-90). The explanatory survey often starts with a hypothesis that needs to be proved or disproved; and it applies “inferential techniques” to the data that has been collected, in order to pinpoint and explain the relationships between variables, which the researcher has not tried to control or direct in any way (Pickard 2007:97).

Since it was not merely exploring the field in order to identify topics for future research, nor testing hypotheses, this study did not use either the exploratory or the explanatory survey. Instead it used the descriptive survey to describe the population, make predictions and test relationships; that is, it dealt with the ‘whom’, ‘what’, ‘where’, ‘when’ and ‘how’ type questions (Babbie 2007:89), and the findings added to the existing knowledge about subject librarianship.

Descriptive studies, also known as “observational” studies (Hopkins 2000), use instruments such as questionnaires, interviews and participant observation (Busha & Harter 1980:54) to investigate viewpoints, attitudes and experiences, and to examine current and past conditions, phenomena, services or programmes; and they do this by measuring things as they stand, without controlling or directing any of the variables (Eldredge 2004:86; Kumar 1996:9). They add to knowledge (which was a major aim of this research), “challenge accepted assumptions about the way things are” and “provoke action” (De Vaus 2001:1-2).

Data collected using the descriptive survey can be quantitative or qualitative, and it is analysed using descriptive statistical techniques like central tendency (average value) (Pickard 2007:96). This type of survey worked well for this study which, as explained above, used the mixed method approach to data collection.

4.4.3 Strengths and weaknesses of surveys

Unfortunately surveys, like all data collection techniques, do not only have strengths, they also have a number of weaknesses.

4.4.3.1 Weaknesses

Blaxter, Hughes and Tight (2010:80) and Babbie (2007:276-277), point out the following disadvantages of surveys:

- Once the data is collated and presented in various statistical formats, it can become the main focus of the study, to the detriment of linking it to various theories and topics;
- The information, instead of making processes and changes their focal point, can instead give a brief overview of a specific period in time; however this weakness can be eliminated through a review of the literature, which supplies data about other periods;
- They can face problems like respondent truthfulness and/or accuracy as the researcher may not be in a position to check if respondents understand what they are being asked;
- They can sometimes be validated in terms of their breadth instead of their depth.

4.4.3.2 Strengths

However, because the advantages of surveys generally seem to outweigh their weaknesses, librarians have been conducting them for many years. They have used surveys to investigate various issues, including types of libraries, library systems, communities and networks (Busha & Harter 1980:53), and they will probably continue to use them to varying degrees in the foreseeable future. This study used the survey because of the following advantages (Blaxter, Hughes & Tight 2010:79; Babbie 2007:276; Powell & Connaway 2004:84):

- They are useful for describing the characteristics of large populations;
- They facilitate the collection of large amounts of data, in a relatively short space of time, and from places that are far apart geographically;
- They are useful for examining and analysing personal aspects and relationships;
- They are fairly easy to construct and administer;
- They do not necessarily require the researcher to go out into the field;
- If well-constructed, they are repeatable at different times and in different places; and
- They are able to produce results that are both representative and generalisable.

4.5 THE SURVEY DESIGN PROCESS

According to Busha and Harter (1980:57), Creswell (2009:146-151) and Hernon (2001:82-84), the research process includes various aspects, including the research question that one would like answered; the population which would be included in the study; the sample of the population that would actually be surveyed; the variables that would be considered; the data collection tools that would be used, for example, the questionnaire and interview; and the methods that would be utilised to analyse data. The survey design process for this study looked at the following issues/features:

- Research questions/problems;
- Research variables;
- Reliability and validity;
- Population and sample;
- Data collection - Questionnaires;
- Data Collection – Interviews;
- Data analysis and presentation.

4.5.1 Research questions

Before looking at any other areas of the research design, the study had to ascertain that the research questions were clear and researchable. Research questions can be defined as statements about the areas, topics or issues that the researcher wants to investigate (Newby 2010:65; Powell & Connaway 2004:22). They can be about the “states of nature” or about the “relationships between variables” (Kothari 2004:24); and they can be asked by anyone connected to the question in any way, including the service provider, the service user or consumer, the service manager (Kumar 1996:4) or, as with this study, by a service professional and researcher.

Research questions require answers and they provide a focus for every stage of the study, including the literature review and the data collection sections (Jansen 2007:3). The way they are asked can influence or guide the direction of the study and the methods that will be used to collect and analyse data (Newby 2010:65). Therefore they need to be clear, concise and easily understood, because if they are not well thought out, they can weaken the study (Jansen 2007:3).

This study was guided by research questions which narrowed down the objectives of the research and gave it direction (Hernon 2001:82). That is, it was driven by the following research questions relation to subject librarians in the Southern African Customs Union (SACU) region:

- What models of subject librarianship are in place in the SACU region?
- What are the roles, of subject librarians; have these changed, and if so how and why?
- What are the responsibilities of subject librarians; have these changed, if so how/why?
- What are the skills required by subject librarians; have these changed, if so how/why?
- Are there any guidelines for universities wanting to establish a new subject and learning support service, and if there are, who compiled them and so are they accessible?

4.5.2 Research variables

Linked to the research question are the variables connected to a study. A research variable can be defined as an image, event, perception, concept, category, behaviour, or attribute that can assume different values and that can be measured (McMillan & Schumacher 2001:82; Kumar 1996:47). The relationships between the different variables that are identified as being part of a study must be significant enough to give the researcher justification for investigating their nature, reason for, or causes (Powell & Connaway 2004:26). This study investigated whether or not there were any variables that had an impact on the roles, responsibilities and skills of subject librarians in the SACU region, and the effects of these variables on the profession.

4.5.3 Reliability and validity

In order for the findings of this study to make a significant and useful addition to knowledge about subject librarianship, the research itself had to be objective and impartial. It had to follow a design which used procedures, methods, techniques and/or instruments whose reliability and validity had been previously established (Kumar 1996:4). In other words, reliability and validity have an impact on the extent to which researchers are able to learn from and generalise about the issues they have investigated (Leedy & Ormrod 2005:27).

The reliability of a study refers to its consistency, stability and dependability, that is, whether or not it will produce the same results if repeatedly measured under similar circumstances (Babbie

2007:143; Vogt 2007:114). For this to happen, researchers have to take great care when constructing their research instruments.

The validity of a study refers to whether or not the concept being measured is what the study actually intended to measure, or “the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration” (Babbie 2007:146). Research writers, over the years, have written about different types of validity, including internal, construct and external validity.

Content validity looks at “how much a measure covers the range of meanings included within a concept” (Babbie 2007:147), for example “a test designed to measure a student’s mastery of library skills must measure what the student was supposed to learn” (Powell & Connaway 2004:45). Construct validity exists in a study if the researcher can clearly identify and name the *variables* being investigated (for example, the roles, responsibilities and skills of subject/learning support librarians); while internal validity exists when the researcher can identify the “causal relationships” between these variables and how they came about (Powell and Connaway 2004:44). External validity refers to “the extent to which results of a study can be generalized beyond the particular study” (De Vaus 2001:28), in other words, external validity proves that the study’s findings are true if these can be repeated various conditions and situations (Powell & Connaway 2004:44).

According to Singleton and Strait (2005:105), reliability and validity measures are often complicated, so to get around possible difficulties, many researchers choose to apply often simpler procedures, whose reliability and validity have already been proved in earlier studies, instead of developing their own. However, this is not necessarily a bad thing, since it saves researchers from having to carry out complicated validation processes for their own research studies, that is, from having to ‘reinvent the wheel’.

4.5.4 Population

This study used the survey design to give it direction, thus allowing it to collect data from a large population, which can be a target population or an experimentally accessible one. A target or

theoretical population can be defined as a group of people who share one or a number of characteristics, of interest to researchers, which identify them or set them apart from other persons or groups (Best & Kahn 2006). In the case of this study, the fact that subject librarians have knowledge of the resources in a specific subject area or faculty, and the information search and retrieval skills to assist users to access these, sets them apart from other library professionals, for example, acquisitions librarians who purchase information items, library cataloguers who process it, and circulation desk staff who handle the issue and return of library items. The target population for this study, as shown in Table 4.1, consisted of subject and learning support librarians working in university libraries in the SACU region, which consists of five southern African countries: Botswana, Lesotho, Namibia, South Africa and Swaziland. The study noted that Botswana, Lesotho, Namibia and Swaziland each had one established university, while South Africa had twenty-three.

Table 4.1: Target Population: Subject Librarians in SACU Universities

NO.	NAME OF UNIVERSITY	URL	COUNTRY
1	University of Botswana	www.ub.bw	Botswana
2	National University of Lesotho	www.nul.ls	Lesotho
3	University of Namibia	www.unam.na	Namibia
4	Cape Peninsula University of Technology	www.cput.ac.za	South Africa
5	Central University of Technology	www.cut.ac.za	South Africa
6	Durban University Of Technology	www.dut.ac.za	South Africa
7	Mangosutho University of Technology	www.mut.ac.za	South Africa
8	Nelson Mandela Metropolitan University	www.nmmu.ac.za	South Africa
9	North-West University	www.nwu.ac.za	South Africa
10	Rhodes University	www.ru.ac.za	South Africa
11	Stellenbosch University	www.sun.ac.za	South Africa
12	Tshwane University of Technology	www.tut.ac.za	South Africa
13	University of Cape Town	www.uct.ac.za	South Africa
14	University of Fort Hare	www.ufh.ac.za	South Africa
15	University of the Free State	www.ufs.ac.za	South Africa
16	University of Johannesburg	www.uj.ac.za	South Africa
17	University of KwaZulu Natal	www.ukzn.ac.za	South Africa
18	University of Limpopo	www.ul.ac.za	South Africa
19	University of South Africa	www.unisa.ac.za	South Africa

20	University of Venda	www.uni ven.ac.za	South Africa
21	University of Pretoria	www.up.ac.za	South Africa
22	University of the Western Cape	www.uwc.ac.za	South Africa
23	University of Zululand	www.uzulu.ac.za	South Africa
24	Vaal University of Technology	www.vut.ac.za	South Africa
25	University of The Witwatersrand	www.wits.ac.za	South Africa
26	Walter Sisulu University of Technology & Science	www.wsu.ac.za	South Africa
27	University of Swaziland	www.uniswa.sz	Swaziland

Although the Polytechnic of Namibia (PoN) was granted university status, this only occurred late in 2012, so the subject librarians working in its library were not included in the study. However, one of the reasons the study was conducted, was to provide guidelines for the establishment of subject and learning support services in new universities like the one that the PoN will transform into. Table 4.1 therefore lists the twenty-seven SACU universities, which officially existed and which were already firmly established by the time the data for this study was collected, during the 2012 to 2013 period. These are arranged alphabetically by country and then alphabetically by the university name.

4.5.4.1 Experimentally accessible population

In order for it to be useful to the study, the study population had to be “accessible and quantifiable and related to the purpose of the research” (Balnaves & Caputi 2001:91). As already mentioned, the target population, to which the researcher wanted to generalise the study findings, consisted of librarians specifically designated as subject/information/faculty/personal librarians or subject specialists, working in the twenty-seven SACU universities.

However, the experimentally accessible population, the one that was actually studied (Huysamen 1994:45-7), differed from the target population as only those subject librarians who were accessible/whose contact details were accessible were surveyed. Electronic mail (email) was used as the questionnaire distribution tool and it proved to be the most useful tool since the study involved groups with easy access to the internet (Bachmann, Elfrink & Vazzana 1996:35), that is, it was assumed that subject and learning staff, by the nature of their jobs, would have access

to email. However, one of the major challenges of using email for data collection was acquiring a comprehensive list of email addresses (Powell & Connaway 2004:145). Most of the universities listed the contact details of their subject staff online, so the subject librarians included in the study were those whose names and contact details which were available on the websites of their university libraries, or accessible from another source.

4.5.4.2 Evaluation of the sample frame

Before proceeding with the data collection, the sample from for the study had to be evaluated. According to Ngulube (2005:128), those who read research studies “have a right to know how the study was conducted”, including any limitations experienced, thus allowing them, if they so wish, to repeat the study and to “test methods used in the study”. Ngulube (2005:128) further explains that knowing how the study was conducted allows researchers, who try to answer the same research questions, to explain the differences in their results, especially if they decide to modify or change the procedures.

Neill (2003) defines a sampling frame as those units with an equal chance of being chosen for the sample of the study, and he warns that if sampling is not done correctly, it can result in a biased study. Ngulube (2005:134) adds that the sampling frame has an impact on the generalisability of a study, and since some units can be absent or repeated in a sampling frame, it must be evaluated for comprehensiveness, and readers of the research must be informed about this limitation.

This study consisted of subject librarians working in SACU university libraries. It aimed at a census approach, that is, the inclusion of all units in the study. The main weaknesses of this sampling frame were:

- That some libraries did not list the contact details of their subject staff online;
- That some websites were not regularly updated, so that at the time that contact details were extracted from them, details of some new subject librarians had not been added, while the details of some ex-subject staff were still listed;
- That some subject staff ignored the questionnaire, deeming it unrelated to them despite the inclusion of a covering letter explaining which staff were included;

- That some email addresses posted online were incorrect and ‘bounced back’;
- That some subject staff was unable to answer the questionnaire for a number of reasons, for example, that they were out of office on maternity leave, attending conferences or other events.

However, despite these potential problems, the researcher felt that the advantages of the sample frame outweighed the potential problems.

4.5.5 Data collection - questionnaire

Once the population had been delineated, the researcher had to decide on the data collection method to be used for the study. Survey research uses a number of data collection techniques, including questionnaires, observation and interviews (Powell & Connaway 2004:123). Observation was not used in this study because the researcher felt that it would be too costly in terms of time and money to travel to various countries to observe subject librarians in their work environments. Since the study was cross-sectional in nature, with data being “collected at one point in time” (Creswell 2009:146), the literature review was used (in Chapters Two and Three) to collect historical/past facts about the roles, responsibilities and skills of subject librarians in SACU and beyond. The questionnaire was used as the main research instrument/tool with which to collect current data/information about subject librarian in SACU and, the interview was used to supplement/confirm the data collected using this method.

The questionnaire, which was chosen as the main data collection tool, is one of the most popular and widely used data collection instruments (Newby 2010:297). It consists of written questions, which must be clear and easy to understand, as participants are expected to read, interpret and then give written answers to them (Kumar 1996:110). It also has to ask “the right questions, phrased in the least ambiguous way” (Best & Kahn 2006:324), for the responses to be as useful as possible.

4.5.5.1 Levels of measurement

The questionnaire measures variables at various levels, using nominal, ordinal, interval or ratio scales to assign numbers to observations (Kothari 2004:69), so as to make analysis easier. The scales vary descriptively.

4.5.5.1.1 Nominal data

The word ‘nominal’ is derived from the Latin word ‘nomen’ which means ‘name’ (Leedy & Ormrod 2005:25), so using nominal scales involves measuring or counting data by naming them, classifying them or putting them into groups (and sometimes sub-groups) based on a shared characteristic, for example age, gender, political party, religion etc. (Kumar 1996:59; Denscombe 2007:255). Within these categories would then be codes, for example, in the gender category of this study, all male subject librarians were coded as ‘1’ and all female subject librarians were coded as ‘2. Sometimes the counting that occurs with nominal scales is the only way that data can be quantified or statistically analysed (Best & Kahn 2006:290).

4.5.5.1.2 Ordinal data

Ordinal scales, like nominal ones, are based on counting data and categorising them. However, the groups are ranked or put in some sort of order, for example ascending or descending, thus allowing the categories to be compared as higher or lower (Denscombe 2007:255). For example, using income, the researcher can order it as high/above average, moderate/average or low/below average (Kumar 1996:59), or as with this study for example, respondents were asked their level of satisfaction with a certain aspect of their work, with their answers ranging from 5 very satisfied, 4 somewhat satisfied, 3 moderately satisfied, 2 somewhat unsatisfied, 1 very unsatisfied. Leedy and Ormrod (2005:27) explain ordinal data as a case where “one object is bigger or better or more of anything than another”.

4.5.5.1.3 Interval data

Like ordinal data, interval data are arranged in ascending or descending order, with the zero or starting/ending points being chosen “arbitrarily” (Kumar 1996:60). Data are placed in equally spaced intervals, with an item being “so many units (degrees, inches) more than another” (Leedy

& Ormrod 2005:26-27). An example of interval measures is calendar years, where a certain year can be earlier or later than another year “by a known time-span interval” (Denscombe 2007:256).

4.5.5.1.4 Ratio data

Like interval data, ratio data are ranked on a scale. However, the ratio scale not only has “equal measurement units”, it also has a true or absolute zero (Denscombe 2007:256), with zero meaning, for example with salary, that a person has none. Leedy and Ormrod (2005:27) state that with the ratio scale “one object is many times as big or bright or tall or heavy as another”. An example of ratio scales is a salary scale, that is, if A is unemployed, he/she has a zero income, if C earns 20,000, he/she earns \$10,000 more than B who earns \$10,000 and 10,000 less than D who earns \$30,000. Or, as with this study, if A has been employed as a subject librarian for less than 1 year, s/he has zero experience, if C has been a subject librarian for 10 years, s/he has 5 more years of experience than B who has been employed for 5 years and 5 less than D who has been a subject librarian for 15 years.

4.5.5.2 Type of questions

Most of the questions asked in the questionnaire used in this study (see Appendix C) were structured questions. Powell and Connaway (2004:127-129) explain that, because of the limited responses that can be given to questions, structured questions produce more reliable responses than unstructured ones, especially when the questions are straightforward and limited in number, and when all the alternative answers are known. They further note that structured questions are quicker and easier to ask, understand, answer, administer and analyse, because they can be pre-coded.

4.5.5.2.1 Structured questions

Different kinds of structured questions were included in the questionnaire, including demographic, checklist and rating-type questions. Demographic, factual or background questions were straightforward because they asked respondents for basic information concerning issues like age, gender, years of service or other personal characteristics or historical data. Unfortunately, they also depended on respondents’ recall, which is not always reliable (Powell & Connaway 2004:126). Nevertheless, for the collection of more general information,

questionnaires allowed this researcher to be flexible in the way questions were asked, and to be able to insert a number of structural options as possible answers.

Checklist questions asked respondents for simple choices or answers to questions, for example, respondents were sometimes asked to indicate (tick) 'yes' or 'no' as an answer, or to circle an option to represent grouped responses, for example, which age-group do you belong to 21-30, 31-40, 41-50, 51-60, 61 and above (Wisker 2001:149).

Rating, attitude or belief scale types of questions were also used in the questionnaires. These asked respondents to rate certain clearly defined or explained items, on a continuum or scale, using a particular rating system. The following are a number of different rating scales as described by Blaxter, Hughes and Tight 2010:203, Mertens 2010:193-199, Powell and Connaway 2004:127, Robinson n.d., and Wisker 2001 149-150, which were used in the study (see Appendix C, the questionnaire):

- *Itemised* rating was used to rate, for example, the level of satisfaction with some aspect of the job, on a continuum, from the very positive to the very negative, for example, from 5 labelled as 'very satisfied, to 1 labelled as 'very unsatisfied' to give guidance, but with the points 4, 3 and 2 not being explicitly labelled (for example questions 4b, 7c, 10b);
- *Ordering* allowed respondents to put answers in order of importance or priority or regularity, but to avoid confusion, the number of items in this type of scale were not too many, for example questions 11-13 used a scale from 4 meaning 'regularly/routinely/always' to 1 meaning 'never';
- *Opinion* scales like the 'Likert Scale' assess people's views, using a number of favourable and unfavourable statements. For example, question 15b asked respondents how important faculty status was to them: very important, important, not important, no opinion;
- *Self-perception* or behaviour scales asked respondents questions about how they saw/viewed themselves (for example questions 37).

Structured questions limited the responses to set answers. However, Kumar (1996:119) warns that response options occasionally reflect what the researcher expects them to be, rather than

what they actually are to the respondent (Kumar 1996:119). Researchers also have to be aware that set answers can also force respondents to select any answer, even if it is wrong, if none of the categories or possible answers given correspond with what they feel or believe, if they do not know the answer, or if they do not have an opinion about the topic or issue covered by the question (Powell & Connaway 2004:129). To limit the disadvantages that accompany set answers to structured question, the researcher often included options like 'other' and 'not sure', as advised by Powell and Connaway (2004:127).

4.5.5.2.2 Unstructured questions

To further limit the disadvantages that come with structured questions, the questionnaire included unstructured or open-ended questions. These were not accompanied by limited response options (Newby 2010:298), thus allowing respondents to provide detailed information and to answer questions in their own words, without restrictions (Kumar 1996:118). This technique of mixing structured and unstructured questions allowed different points to be highlighted. Combining structured and unstructured questions in both instruments enhanced the research findings because on the one hand, the answers to structured questions added reliability, uniformity and ease of analysis. On the other hand, the answers to unstructured questions allowed the researcher to dig deeper on a number of issues which required more information (for example questions 3c, 14b, 17f, 19c, 20b, 21b, in Appendix C), or when asked of managers, they helped confirm data taken from questionnaires.

4.5.5.3 Layout/design/wording of the questionnaire

Best and Kahn (2006:313) warn that a questionnaire may result in a low response rate if it is too long, is poorly designed or if it investigates a trivial issue. Sheehan (2001) agrees that the more relevant a topic is to prospective respondents, the more likely they are to respond. However Sheehan (2001) has an opposing view (see bullet 7 under 4.4.5.3.1).

4.5.5.3.1 Layout

Another aspect of importance to the response rate is the layout of the survey instrument. A good layout can encourage respondents to complete the questionnaire, especially if something about it catches their attention at the outset. Powell and Connaway (2004:126-137), Mertens (2010:190),

Newby (2010:326), Rugg and Petre (2007:147), Wisker (2001:148-149) and Best and Kahn (2006:314-320) offer the following advice for the design of a questionnaire, which this researcher tried to follow:

- *Design:* The appearance of the instrument should be attractive enough to catch the respondents' interest and attention;
- *Ease of use:* The questionnaire should look and be easy to complete;
- *Numbering:* All questions and pages should be numbered so as to give a sense of order;
- *Format:* A uniform format or consistent scale should be used, for example, the answer section should be standardised, with the area for answers being in the same place for all questions, so as to avoid distracting the respondents from the questions;
- *Question layout:* Questions should be logically placed. On the one hand, the simpler more easily answered questions should be at the beginning, so as to encourage respondents to start completing the questionnaire, and on the other hand, the most important questions should not be right at the end of the questionnaire, as they require the respondent's full attention;
- *Instructions:* Brief but clear instructions should be included in the questionnaire, for example at the beginning, for clarification;
- *Length:* Researchers should keep in mind that the shorter the questionnaire, the more likely it is to be completed. However, Sheehan (2001) states that sometimes long questionnaires have a high response rate and sometimes short ones do too. He cites a 1981 study by Eichner and Habermehl which found that longer questionnaires resulted in a higher response rate than shorter ones; as opposed to a 1993 study by Jobber and Sanders which found the opposite (Sheehan 2001). The questionnaire for this study was 14 pages long and consisted of 39 questions, some of which had sub-questions. Ten of the sub-questions were open-ended, whilst 7 sub-questions were open-ended depending on the answer to a previous sub-question, for example, in question 29, the first sub-question asked "Do you think you need more or new skills for your job?" and the second sub-question followed up with "If YES, in what areas do you feel the need for more or new skills?"
- *Editing:* Before questionnaires are emailed, they should be thoroughly edited, so that grammatical or spelling errors are omitted, as these are off-putting to most respondents;

- *Contact information:* Researchers should claim ownership of their data collection instruments by including their contact details in the data collection instrument.

4.5.5.3.2 Wording

Phillips and Starwaski (2008:30), advise that questions should be appropriately worded and easily understood by respondents. The wording of the questionnaire can be a large part of whether or not the instrument succeeds in what it sets out to do. Powell and Connaway (2004:135) state that each question must be necessary and that the number of questions asked about a particular issue must be adequate enough to get all the information required.

To ensure that the wording of the questionnaire was appropriate, the researcher followed the advice of Mertens (2010:181), Kumar (1996:119-121), Babbie (2007:245-247) and Blaxter, Hughes and Tight (2010) to:

- Avoid ambiguous questions (it is better to ask two to three simple questions than one complex one);
- Avoid questions that are too long (shorter ones are more likely to be answered);
- Avoid questions which depend on a respondent's memory of events;
- Avoid biased questions or questions written in negative or positive terms;
- Avoid offensive questions (they could impact on the response rate);
- Avoid questions based on assumptions;
- Avoid too many open-ended questions (they take a lot of time to answer and can also be difficult to analyse). As already stated above, 10 of the sub-questions were open-ended, whilst 7 sub-questions were open-ended depending on the answer to a previous sub-question.

4.5.5.3.3 Pre-testing the questionnaire

Once the questionnaire was constructed and considered complete, it had to be pre-tested so as to iron out any problems that may have been over-looked. Pre-testing refers to the administration of the questionnaire, prior to the data collection stage, to a small sample of respondents with similar characteristics to the population of the study. The pre-test for this study followed the five steps

outlined by Thomas (1998:172), that is, selection, explanation, administration, evaluation and review:

- *Selecting pre-testers*: Babbie (2007:257) states that, although they do not necessarily have to be part of a representative sample, pre-testers should find the issues under investigation relevant to their lives, while Phillips and Starwaski (2008) add that pre-testers should at least be on an equivalent job grade to the potential respondents. This study therefore pre-tested the questionnaire on librarians who were not part of the study, but who were on an equivalent job level to subject librarians in the SACU region;
- *Pre-testing the questionnaire*: According to Singleton and Strait (2005:248), pre-testing allows the researcher to find out whether or not the questionnaire tests what it claims to test, and it assists in making any corrections or adjustments that are necessary. Babbie (2007:257) adds that pre-testers should be asked to complete the whole questionnaire rather than to just edit it. The researcher therefore, asked the pre-testers to complete all the questions;
- *Evaluating the questionnaire*: Once the pre-testers had completed the questionnaire, the researcher had to evaluate it, by getting their views as to what they found difficult to understand, confusing, offensive, and so on;
- *Reviewing the questionnaire*: The input from the pre-testers was then used to revise the questionnaire, so as to improve the data collection instrument.

The questionnaire was fine-tuned using the comments and opinions offered by the pre-testers. On the one hand, respondents mentioned the length of the survey, and on the other hand they expressed the opinion that all the questions were necessary. However, the researcher still cut down on some questions, resulting in 14 pages instead of 19 and changed or simplified those questions that were described as difficult to understand.

4.5.5.4 Administering the questionnaire

Once the questionnaire had been developed, pre-tested and edited, it had to be administered. Administration covered issues like inclusion of a cover letter, guarantees of anonymity, and decisions on the initial emailing date and dates for the follow-up emails.

4.5.5.4.1 The cover letter

When initially emailing the questionnaire to subject librarians, the researcher included a brief email explaining that the survey was part of the research for a doctoral study, and directed the addressees to the more detailed cover letter which was included with the questionnaire (Appendix B). The letter explained the following:

- What the research investigated;
- What was meant by the term subject librarian;
- What the potential benefits of the study were;
- Who the participants of the study were;
- A guarantee of anonymity and confidentiality;
- An assurance that participation was voluntary.

4.5.5.4.2 Anonymity

Guarantees of anonymity are very important to many study participants, as it allows them to answer questions freely. First and foremost participants were not asked any harmful questions, and they were also told that their participation was strictly voluntary. “Anonymity means nobody knows who the participant is; confidentiality means nobody will be told the identity of the participant” (Pickard 2007:77). To ensure the anonymity and confidentiality of their responses, the questionnaires were analysed anonymously and the findings of the study were presented without identifying them as the respondent.

4.5.5.4.3 Emailing the questionnaire

Blaxter, Hughes and Tight (2010) state that questionnaires can be emailed, posted, or administered telephonically or face to face, and they add that each method has pros and cons attached to it. This researcher chose to email the questionnaire as this was the quickest way to deliver it. Although some researchers advise the use of preliminary notification before a survey is mailed, Chiu and Brennan (1990:15), cite various authors like Jobber and Sanderson, as having obtained a lower response rate when they used this method, as opposed to when they did not use it. This researcher chose not to use preliminary notification, but to just email the questionnaire, with a cover letter attached. In this first mailing, prospective respondents were asked to return the completed questionnaire within ten days if possible. However, to avoid a

situation where prospective respondents would not fill in the questionnaire because the deadline had passed, the follow-up emails did not include a deadline.

4.5.5.4.4 Follow-up emails

According to Powell and Connaway (2004:144) and Chiu and Brennan (1990:15), follow-up emails can increase the response rate. While Brennan (1992), in his discussion of ordinary mail surveys, advises the sending of at least two reminders, each with a copy of the questionnaire attached. Sheehan (2001) stated that there was no guidance available to researchers, about the number of follow-up emails that should be made and the length of time that should elapse between each email.

The researcher decided to send three follow-up emails, the first one ten days after the initial email, the second one ten days after the first follow-up and the third one two months after the second follow-up. As further advised by Powell and Connaway (2004:144) the researcher decided beforehand to attach another copy of the questionnaire with each mailing, as it did not cost anything in terms of money, and because the researcher felt that having the questionnaire on hand might encourage non-respondents to fill it in immediately, as opposed to abandoning it because of the “hassle” of having to look for it in previous emails.

4.5.5.5 Advantages of the questionnaire

Like all data collection tools, the questionnaire has its weaknesses. However, the researcher chose to use it to collect data, as its advantages out-weigh its disadvantages. Powell and Connaway (2004:124-125) described the following advantages of questionnaires:

- They encourage honest and truthful answers as respondents can answer questions in their own time and at their own pace;
- They encourage consistency in the question and answer process, and they limit respondents' ability to qualify answers, especially if the question has a fixed format;
- They are relatively cheap to administer;
- They limit researcher bias because of their remote administration;
- It is relatively easy for the researcher to give and support a guarantee of anonymity;
- It is relatively easy to collect large amounts of data in a short amount of time;

- It is relatively easy to extract and analyse data, if the instrument is well constructed.

4.5.5.6 Disadvantages of the questionnaire

As mentioned above, questionnaires have disadvantages, some of which can be minimised, and some which cannot really be controlled. Powell and Connaway (2004:125), Kumar (1996:114) and Denscombe (2007:170), mention the following disadvantages which may be beyond the researcher's control:

- That the response rate could be low;
- That some respondents may not answer spontaneously, as they have enough time to think about how to answer;
- That some respondent may ask other people to assist them with their responses;
- That some respondents may allow their responses to later answers to be influenced by their responses to earlier questions;
- That they do not allow the researcher to explain questions or get clarification of confusing answers, resulting in different respondents understanding and responding to questions in different ways.

The researcher can try to minimise some of the other disadvantages of questionnaires. Powell and Connaway (2004:125), Kumar (1996:114) and Denscombe (2007:170) note the following weaknesses of emailed questionnaires, some of which also have advantages attached to them:

- They cut out human contact between the researcher and the respondents (which can also be considered an advantage as it also limits researcher bias);
- They do not allow the researcher to question the honesty or truthfulness of some responses, using clues like facial expressions and contradictory answers given to earlier questions (which can also be an advantage as it also prevents the researcher from visibly reacting to what he/she feels are contradictions, a reaction which might annoy, upset, and/or confuse the respondent);
- They facilitate researcher bias if closed questions are structured according to what the researcher believes the answers will be, rather than what they actually are (but this weakness can be minimised if extreme care is taken with the wording).

4.5.5.7 The response rate

As acknowledged above, one of the major disadvantages of the questionnaire is that it can result in a response rate as low as 20% Kumar (1996:114). This response rate tends to be low no matter the mode of distribution of the questionnaire, that is, by ordinary mail, electronic mail or the web (Powell & Connaway 2004:126). This can be very problematic, as non-respondents may differ from respondents in a number of ways (Babbie 2007:262), one of them being that the more opinionated participants are more likely to respond, and it can also result in distorted returns which are not representative of the target population (Powell & Connaway 2004:126).

4.5.5.7.1 Mail surveys

Unfortunately, it is also a challenge to decide on an acceptable percentage for the response rate, since different writers express different views about this issue. Researchers tend to cite Babbie (2007), who states that a review of the literature indicates that a 50% response rate is sufficient, 60% is good and 70% is very good. However Robinson (n.d.) notes that a rate falling between 25 to 33% is considered to be good, while Vogt (2007:92) cautions that a response rate higher than 40% is uncommon for doctoral students. Hernon (2001:86) agrees with Robinson (n.d.) and Vogt (2007), stating that a more common response rate for the email survey is 20 to 40%.

4.5.5.7.2 Electronic mail surveys

This study used the electronic mail (email) method to distribute the questionnaire, since it is the quickest and cheapest way to collect large amounts of data. It also has the advantage over ordinary mail, in terms of how quickly people can respond (Sheehan 2001). However, Bachmann, Elfrink and Vazzana (1996:31-2) note that research on electronic mail as a mode of data collection is scarce. Sheehan and McMillan (1999) agree, adding that more research is needed, and noting that the potential benefits of email surveys are great. Unfortunately, these two authors also acknowledge that responses can be very low, with various researchers experiencing rates between 6 and 75%. In support of this view, Powell and Connaway (2004:145) cite a 2002 literature survey conducted by Schonlau, Fricker and Elliot which concluded that the response rate for email surveys falls somewhere between 6-68%, but encouragingly, they add that a number of surveys have managed to collect useful information with lower level response rates.

In their comparative study of electronic versus ordinary mail for data collection, whereby they achieved a lower response rate with the email survey as compared to the ordinary mail survey, Bachmann, Elfrink and Vazzana (1996:33) note that one of the reasons for non-response was “non-deliverable” emails, as some of their non-respondents stated that “they did not remember receiving the survey”.

4.5.5.7.3 Regional surveys

This study had the added challenge of being a regional survey, involving respondents from different countries in the Southern African Customs Union (SACU) region. According to Harzing (1996:3), even though the survey is often the only practical tool for collecting data across a number of countries, not much is known about response rates from different countries, as most articles are written about surveys conducted in one country. He adds that the few studies that have been conducted on industrial-type email surveys reveal a response rate of 6-16%; while the response rate for the study he conducted resulted in a response rate of 20% (1996:3-13).

The response rate can be raised, to a certain extent, if researchers carry out certain steps, for instance: including explanatory letters with the questionnaire, assuring prospective participants that participation is voluntary, guaranteeing them anonymity and confidentiality, and sending follow-up mailings. Furthermore, aspects like the layout and wording of the questionnaire which make it user-friendly, can help to increase the response rate.

4.5.5.7.4 Response rate for this study

Excluding those emails which were returned as ‘undeliverable’ and those from colleagues who communicated to the researcher that they were not subject librarians (despite being labelled as such on their websites), a total of 279 questionnaires were emailed. After the first emailing, 38 completed questionnaires were received, resulting in an initial response rate of 13.6%. The first follow-up/reminder email increased the response from 38 to 78, resulting in a new response rate of 27.9%. The second follow-up/reminder email increased the number of completed questionnaires to 108, resulting in a response rate of 38.7%. The third and final reminder, which was sent two months after the second one increased the number of completed questionnaires to 130, but 9 had to be discarded. Two of them were omitted because many questions had not been

completed and one was discarded as the respondent did not fall into the category of subject and learning support librarian. The final tally for the survey was therefore, 121 questionnaires, resulting in a response rate of 43.4%. All responses were acknowledged, even those where the respondent just wrote to say that he/she was not a subject librarian. Unfortunately, in a few cases, some acknowledgements were returned with an “undeliverable” message, even though previous emails had gone through.

The researcher faced a number of challenges in the questionnaire distribution and return process. As already mentioned, a number of emails were returned as undeliverable, despite the addresses coming from the university websites. Four respondents said that they had completed and sent back the questionnaire, but these were never received, and requests for them to re-send them were not acknowledged. Eight people promised to send the completed questionnaire, but did not do so despite reminders. A number of subject librarians were out of office during most of the data collection period, for reasons ranging from attending and/or facilitating workshops, seminars and workshops, maternity leave or study leave. Two wrote to apologise because they were unable to find the time to complete the questionnaire, while another simply wrote to say he/she declined to participate. Responses were not received from two of the SACU member state universities.

4.5.6 Data collection - interviews

In line with the choice of using a mixed method for this study, the interview was used as a data collection tool in order to supplement, enhance and augment the validity of the data collected using the questionnaire, and it allowed the researcher to see responses from various angles (Blaxter, Hughes & Tight 2010; Vogt 2007; Denscombe 2007).

The interview can be seen as a “vocal” (McMillan & Schumacher 2001:267) or “oral questionnaire”, and in the hands of a capable interviewer it can be superior to other data collection methods because respondents are often more prepared to tell the researcher their answers, rather than to write them down (Best & Kahn 2006). Furthermore, although interviews can also be used to collect factual data, they are more useful for getting answers to more complicated issues, including opinions, attitudes, feelings and experiences related to sensitive

issues (Denscombe 2007:174). As previously mentioned, this study used the interview in order to strengthen the findings of the email survey.

The researcher followed the seven stages of the interview process as described by Kvale (as cited in Pickard 2007:72), that is, “thematizing, designing, interviewing, transcribing, analysing, verifying and reporting”. Since the theme of the study was already well established, that is: the roles, responsibilities and skills of subject and learning support librarians, the researcher designed the interview schedule based on the questions that needed further exploration or clarification as shown by the questionnaire responses.

4.5.6.1 Choice of interview subjects

The study population consisted of subject and learning support service librarians from libraries in the SACU region, with the largest number falling in South Africa. In order to clarify and/or enhance answers given to questionnaire items, the researcher decided to interview 8 university librarians, directors, executive directors or heads of libraries, or their designated representatives. Two were selected because the contact details of their subject staff were not available online, three were chosen because few responses were received from their institutions, and three were chosen because they have well-established subject/faculty librarian programmes. However, the interviewer was only able to interview 6 of the selected managers as one did not respond, and in order to interview the other, permission had to be obtained from two institutions in his/her country, which proved to be difficult.

4.5.6.2 Types of interview

Interviews can be conducted in a number of ways, including face-to-face, via telephone or via Skype. Telephonic interviews were chosen because of the dispersed geographical location of the university managers, thus negating the need for the researcher to travel to these locations, and thereby cutting down on the cost of the study.

4.5.6.2.1 *Structured interviews*

Interviews can be flexible, in that a researcher can ask questions on the issue being investigated as they come to mind; or the researcher can follow a structured schedule, using pre-determined

questions with a limited set of answers, in an interview schedule, and without changing the wording or order in which they are asked (Kumar 1996:109; Pickard 2007). The structured format allows the researcher to have control over the process, to ensure standardization and consistency; and it facilitates easier data analysis (Denscombe 2007:17; Nieuwenhuis 2007b). It also has the added advantage of allowing the researcher to use the audio cues that emerge during the process (Pickard 2007).

4.5.6.2.2 Unstructured interviews

Unstructured questions can be used in interviews as they facilitate emphasising the thoughts, ideas, opinions, feelings etc. of the person being interviewed (Pickard 2007). The researcher starts “the ball rolling by introducing a theme or topic and then letting the interviewee develop their ideas and pursue their train of thought” (Denscombe 2007:176). The researcher can have a guide, but questions are asked spontaneously, which is good when the researcher needs in-depth information, especially when little is known about the topic being investigated (Kumar 1996).

4.5.6.2.3 Semi-structured interviews

Semi-structured interviews, while allowing the researcher to have some control on the process by having “a clear list of issues to be addressed and questions to be answered”, also allow him/her more flexibility as to the order in which questions are asked (Denscombe 2007:176). As previously emphasised, it is also often used to confirm answers and to confirm information collected using other techniques (Nieuwenhuis 2007a).

This study used the semi-structured interview to collect data from library management. Most questions were open-ended, thus allowing respondents to “develop ideas and speak more widely on the issues raised” and to expand where necessary (Denscombe 2007:176).

4.5.6.3 Layout/design/wording of the interview

The interviewer used a guide/schedule to conduct the interview, as an indicator of the questions to be asked. However, although the basic order of questions asked was followed, some were asked out of order depending on the answer given by the interviewee. As each question was answered it was ticked off on the schedule/guide.

4.5.6.4 Pre-testing the interview

As with the questionnaire, after an interview schedule has been compiled, it must be pre-tested in order to check for procedural, interviewer and/or question bias, to determine the amount of time that will be needed for each respondent to be interviewed, and to obtain an idea of how easy it will be to analyse responses (McMillan & Schumacher 2001). The interview instrument for the study was pre-tested using a manager whose library was not included in the study. This allowed the researcher to clarify and rectify any ambiguous and/or unnecessary questions in the interview schedule, that is, to revise it.

4.5.6.5 Administering the interview

The interview schedule was only constructed after the initial tabulation and analysis of the questionnaire responses, in order to determine which areas needed further clarification, and to add questions which were inadvertently omitted from the questionnaires. Once the interview schedule had been constructed, pre-tested and revised, it was administered.

4.5.6.5.1 Deciding on the time-line

The researcher contacted prospective interview participants by electronic mail to explain about the research and to request an interview. The email:

- Introduced the researcher;
- Explained what was being investigated by the study;
- Asked the respondent for permission to interview him/her;
- Asked for permission to tape-record the interview;
- Assured him/her about the confidentiality and anonymity of responses/respondents.

4.5.6.5.2 Recording interview data

Nieuwenhuis (2007a) states that writing down answers can take a lot of time and can distract the researcher, therefore taping the answers, with the permission and knowledge of the respondent is a better option. The researcher used a tape recorder during the interview, with the permission of the respondent. Recordings can also offer protection to both the interviewer and the interviewee about what was said. However, since the interviews were telephonic and thus interviewees could not be distracted by the actions of the researcher, the researcher also took notes, as advised by

Pickard (2007) who regards note-taking as a safe-guard in case problems occur with the recording. Before starting the interview, the researcher briefly explained the reason for the research. Soon after the process was completed, the interviews were transcribed for the purposes of analysis. Pickard (2007) states that quick analysis is advisable as the amount of data can be overwhelming; plus an initial interpretation and noting of recurring themes can be done at the same time.

4.5.6.6 Advantages and disadvantages of the interview

As with questionnaires and many other data collection techniques, interviews also have their strengths and weaknesses.

4.5.6.6.1 Advantages of the interview

According to Powell and Connaway (2004) and Kumar (1996), interviews are useful because they allow the researcher to:

- Collect in-depth information by probing certain areas;
- Supplement his/her information;
- Establish a rapport with the interviewee;
- Encourage respondents to answer more fully through the personal contact;
- Correct any misunderstandings held by participants by explaining questions;
- Save in time and money, especially if conducting the interviews in person and by telephone;
- Get a high response rate.

4.5.6.6.2 Disadvantages of the interview

Singleton and Strait (2005), Best and Kahn (2006), Powell and Connaway (2004), McMillan and Schumacher (2001), Mertens (2010) and Kumar (1996) note that the interview has a number of drawbacks as a method of data collection; for example:

- It can be time-consuming;
- It can be costly in terms of telephone charges;
- It lacks the anonymity of the questionnaire;

- It is always shadowed by the possibility of bias or subjectivity, especially if the interviewer is not practised, objective, sensitive or insightful;
- The quality of the information can be negatively affected by the quality of the researcher/interviewer, especially if he/she has biases and is unable to control these;
- Although the interviewer can repeat questions, telephone respondents tend to give shorter, less complete answers for open-ended questions than those interviewed face-to-face;
- Developing a rapport with respondents telephonically can be difficult, and a lack of empathy can result in them being less responsive than they would normally be, or avoiding giving honest responses to sensitive questions;
- The interviewer is not able to note the body language of the respondent. However, this could also be an advantage as the interviewer cannot then re-phrase a question or show a negative or positive reaction to this body language.

In an effort to minimize the above-mentioned difficulties, as already mentioned, the researcher contacted the respondents beforehand, requesting an interview and informing them about what was being investigated by the study. The researcher also took the opportunity to request permission from the respondents to tape-record the interview and to assure them that their responses would be kept confidential and anonymous.

4.5.7 Data presentation/statistical analysis

The data collected for this study was both quantitative - with numerical values, and qualitative - with values falling into categories (Goddard & Melville 2001). Once data had been collected, it had to be cleaned (with errors found being resolved), then analysed and “manipulated further so that their meaning and bearing on the problems and hypotheses that initiated the inquiry can be extracted” Singleton and Strait (2005:71).

4.5.7.1 Statistical techniques

In librarianship statistical analysis can be used, amongst other things, to:

Test hypotheses; compute means and other measures of central tendency; assess the relationship between one variable and another; make predictions; determine the reliability

and validity of instruments and measurements; generalize conclusions from sample data to populations; present research data in graphic and tabular formats; calculate the variability of research data; determine the significance of the difference between the performance of two groups (Busha & Harter 1980:193).

Statistical analysis was used by the researcher to understand “disparate data as an organized whole”(Leedy & Ormrod 2005:31), and to organise, evaluate or analyse this data and to set down conclusions related to the findings (Kothari 2004:131; McMillan & Schumacher 2001:206). There are two main types of statistical techniques in wide use today - inferential and descriptive statistics. These use different statistical techniques, work with different types of data, and each has its own advantages and disadvantages (Kumar 1996:59-62). This study employed descriptive statistics in its analysis of data.

4.5.7.2 Descriptive statistics

Descriptive analysis, is the main type of analysis carried out by library science researchers (Powell & Connaway 2004:231), and it limits generalisations to the group of people studied (Best & Kahn 2006:355). Descriptive statistics are used to describe, organise, analyse, summarise and characterise quantitative data, variable by variable, to make it more understandable; and it is used to suggest possible relationships (Leedy & Ormrod 2005:30; Vogt 2007:11,57-60; McMillan & Schumacher 2001:206; Powell and Connaway (2004:232-237),.

A large amount of data was reduced through the use of various classification systems (Phopalia 2010:81), including:

- *Central tendency or statistical average:* This indicates the “central value of the data about which the observations are concentrated” (Phopalia 2010:81), that is, what is typical or representative of a distribution or group. It measures data using well-known averages like mean, median and mode. Kothari (2004:133) states that the mean or arithmetic average is arrived at by adding the values of all the items and then dividing it by the number of items; the median is the middle value of a distribution when it has been organised in ascending order, and when the distribution is divided in two, one half of the

items are less than the median and the other half are more than the median; and the mode is the value that appears most often;

- *Frequency distributions*: These show how many people, objects etc. fall into a particular category. They are usually presented in tables and can include percentages;
- *Graphical or pictorial representations*: These can show the relationships between variables. For example, bar graphs and pie charts, can illustrate the characteristics related to various variables in a clear and concise manner, but unfortunately these can also have the disadvantage of omitting some detail;
- *Dispersion or variability*: These show the way data is spread out and it includes range of scores, mean deviation, standard deviation and variance (Powell & Connaway 2004:234). Range measures the difference between the highest and lowest scores, variance allows the researcher to measure how each data value differs from the mean or average value (Pickard 2006), standard deviation measures the spread of data “in association with the mean” (Newby 2010:534);
- *Descriptions*: These allow researchers to describe “the difference between two or more groups of individuals (Powell & Connaway 2004:237).

This study mainly used frequency distributions, in tabular format, to present findings.

4.5.8 Data analysis

Data analysis can be defined as something that is carried out in order to determine the features, understand the nature and find the “meaningful patterns or trends” of the data collected (Eldredge 2004:84), and researchers are urged to report their findings honestly, including the limitations experienced (UNISA 2007). There are various ways of managing data for easier analysis, for example, during the process of questionnaire construction, always keeping in mind how each question will affect issues like data tabulation, analysis and presentation (Phillips & Starwarski 2008). In order to maintain a logical structure in the analysis process, this study, adapting recommendations made by Creswell (2009:151-153), explained the following:

- The data presentation methods used;
- The number of questionnaires returned;
- The response rate and its implication;

- The descriptive and statistical data analysis and interpretation techniques used;
- The statistical software package used;
- The relevance of the research findings to the research questions;
- The possible reasons for the research findings;
- The implications/conclusions of the research findings;
- Recommendations for future research;
- Guidelines for subject services.

4.5.8.1 Preparations for quantitative data analysis

The following techniques helped the researcher to organise and manage the data collected, and they also facilitated data analysis:

- *Annotating* which involved adding notes and comments to material as reminders, and to draw attention to certain answers (Blaxter, Hughes & Tight 2010:221). Annotating by theme when transcribing interviews, as described by Wisker (2001), was also helpful;
- *Labelling* which refers to the compilation of a scheme of analysis, whereby the researcher goes through questionnaires/schedules, labelling answers e.g. ‘techno-phobe’, ‘IT savvy’ etc. was avoided. This was because the researcher kept in mind the warning by Blaxter, Hughes and Tight (2010:221) that “labelling smacks of stereotyping, of having your ideas or prejudices worked out in advance, whereas annotating seems more open and flexible”;
- *Selecting*, “whereby interesting, significant, unusual or representative items are chosen to illustrate arguments” (Blaxter, Hughes & Tight 2010:221). was used for emphasis and discussion or to illustrate an important point or significant answer;
- *Summarising* involved drawing “relative generalisations” from data, like noting the responses and themes that kept coming up, and using examples to illustrate them (Wisker 2001:247);
- *Categorising* involved organising data into categories. Each category came about because of the research question and was “exhaustive” and “mutually exclusive” (Powell & Connaway 2004:229). Data coding then allowed the researcher to classify these categories and their sub-categories, thus facilitating analysis. It linked “together similar words, ideas, action or behaviour” and then tried “to build them into an interpretative

hierarchy” (Newby 2010:651). According to Blaxter, Hughes and Tight (2010:221), coding often happens prior to the administration of the questionnaire, for example:

Characteristics like sex, marital status or occupation are replaced by numbers (e.g. replacing ‘male’ by ‘1’, ‘female’ by ‘2’). Or the process may involve some reduction in the quantity of the data, as when ages, locations or attitudes are categorized into a limited number of groups, with each group then assigned its own numerical identity (e.g. categorizing ages as ‘under 21’, ‘21-64’ and ‘65 and over’, and then replacing these by ‘1’, ‘2’ and ‘3’ respectively).

A *Code Book*, which is “a document that describes the locations of variables and lists the assignments of codes to the attributes composing those variables” (Babbie 2007:408) was also used. The researcher’s code book contained all the codes used for items in the questionnaire, including indications of the variables they related to and how they would be used to analyse data. Labels and values were assigned to various answers, for example, as part of question 27 which looked at technological skills, respondents were asked “do you have an international/computer driver’s licence (ICDL)?” The label for this question was “ICDL” and if a respondent answered “yes” to the question, this response was given the value “1” and if he/she answered “no”, this response was assigned the value “2”.

Content analysis (as explained further in 4.5.8.3) was used to analyse the answers given to qualitative questions, so they were not numerically coded like the responses given to quantitative questions.

4.5.8.2 Qualitative data analysis

Part of this study involved asking some open-ended questions, resulting in the collection of qualitative data. This type of data is “textual, non-numerical and unstructured” (Basit 2003:152), and it also needs to be qualitatively analysed. As explained by Blaxter, Hughes and Tight (2010:233), the researcher had to first become familiar with the data, then had to generate initial codes, and name, define, note and review themes, before actually compiling the report.

Coded/organised data was easier to understand and explain in that format. It involved “data reduction, condensation, distillation, grouping and classification” and, although it was a long and tedious process, it enabled the researcher “to communicate and connect with the data to facilitate the comprehension of the emerging phenomena and to generate theory grounded in the data” (Basit 2003:152). Following the recommendations made by Denscombe (2007:289-295), the researcher made preparations for qualitative data analysis which included:

- Transcribing and organising data in a comprehensible and compatible format;
- Backing up all original materials because they are valuable and irreplaceable;
- Becoming very familiar with all the data so that its organisation and analysis was easier;
- Coding or tagging data, based on a kind of event, action or opinion, and using, for example, names, which linked data to an idea used in the analysis;
- Placing the codes into categories or “key headings”;
- Identifying themes or relationships between categories;
- Developing general statements, conclusions, concepts etc., based on the previously identified themes and relationships;
- Comparing these concepts, statements and conclusions with alternative theories and conclusions as found in the literature.

4.5.8.3 Content analysis

Once preparations for the qualitative data had been finalised, content analysis was used to analyse answers to the open-ended questions from the questionnaire. Content analysis “identifies and summarises message content” (Nieuwenhuis 2007a:101) and determines “the proportions of a message that fall into clearly defined, conceptually valid, and mutually exclusive categories” (Busha & Harter 1980:172). It also identifies “patterns, themes and biases” (Leedy & Ormrod 2004:142).

Using content analysis, the researcher was better able to understand and interpret the information or data collected (Basit 2003:143). This technique was used because it reduced and arranged into categories, the responses given to the open-ended questions in the questionnaire (Powell & Connaway 2004:196). As Basit (2003:151-152) so clearly explained it:

While it may be interesting to know how many people feel positively about something ... the idea is to ascertain 'what' they feel, and 'why' they feel that way. This will also incorporate 'who' feel the way they do, and 'where', 'when' and 'how'. Such a detailed scrutiny clearly cannot be carried out by using numbers, percentages and statistics. This applies to all qualitative data, whether they are analysed manually or by using a package to code them.

4.5.8.4 Computerised data analysis

Once data has been prepared, it can be analysed, manually and with the help of computer programmes and/or techniques. Kumar (1996:221) states that when the number of respondents in a survey is relatively small, and if one has no real computer knowledge, analysis can be done manually by:

Coding it directly onto large graph paper in columns in the same way as you would enter it into a computer... Detailed headings can be used or question numbers can be written on each column to code information about the question.

Unfortunately, manual data analysis, besides being extremely boring, can take up a lot of time, which can be avoided through the use of computers and various computer software packages. Computer technology is widely used today, especially when there is a lot of data which is numerical and can be easily inserted into existing packages. Computers can speed up the process of analysis, "handle complicated statistical and mathematical procedures, type the report, display the analysed data and present them graphically", however, a good knowledge of the analysis software package is necessary for the computer assistance to be optimal (Kumar 1996:222-223).

As explained above, before analysis, computerised data is organised into variables, with each variable representing a question contained in the questionnaire; it is then analysed, using a reputable statistical software package (Pietersen & Maree 2007). Sometimes electronic spread sheets or software programmes like Microsoft Excel are used by researchers to enter data into the cells that form the grids of the spread sheets, and then the software is used to calculate, manipulate, save, manage, update and print the information (Leedy & Ormrod 2005:249-251). This researcher entered the quantitative data into Microsoft Excel spread sheets, but then used

the statistical software package like SPSS to do the quantitative analysis. SPSS has become the standard or most commonly and widely used statistical package for quantitative researchers (Pickard 2007; Belnaves & Caputi 2001). This study used version 21 of the SPSS statistical package (IBM 2012).

Each respondent was given an ID/accession number (not a proper identifier) then, using the code book containing variable names and values, the variable view in SPSS was used to list, enter and describe the variables, while the data view was used to enter the data, with the columns representing the variables and the rows containing the actual data for each respondent (Bian 2011). The data entered into the SPSS data view had previously been entered into Microsoft Excel spread sheets, as already mentioned, but some analysis was also performed using MS-Excel.

Computers were also useful for the qualitative analysis. Microsoft Word allowed the researcher to enter, store, code and manage qualitative data, and to identify key words or phrases that were helpful in the analysis of data; however, the package could not interpret the research data (Nieuwenhuis 2007a), so the researcher, with the study objectives in mind, interpreted these.

4.6 ETHICAL CONSIDERATIONS

Throughout the study, ethical issues were kept centre stage by the researcher. Ethics are crucial in any research that involves human beings (Powell & Connaway 2004:68). Leedy and Ormrod (2005:101) emphasise that prospective participants should be told that their participation is voluntary, which was done by the researcher in the cover letter that accompanied the questionnaire.

Furthermore, the University of South Africa (UNISA 2007) has a *Policy on Research Ethics* in place, which applies to the completion of research by staff and students. This policy facilitates the protection of the rights, privacy and dignity of respondents, especially those that are vulnerable in any way. It also ensures that researchers:

- Practice integrity, excellence, competence and responsibility in their studies;

- Respect cultural differences, for example, in the wording of questions;
- Are honest, fair, accurate and truthful in all phases of the research, including in the data collection, analysis, presentation and reporting phases; even if the findings do not support the expected outcomes;
- Conduct research that benefits society or contributes to the body of knowledge;
- Bring the findings to the public domain in an appropriate and responsible manner, which does not have an adverse impact on respondents, or harm them in any way;

Ethical research also involves getting the agreement of participants about how the findings will be used, reported or disseminated (Blaxter, Hughes & Tight 2010:164; Punch 2000:59). Creswell (2009:89) discussed the development of an “informed consent form” to be signed by participants prior to taking part in the research, and Fumento (n.d.) discussed the inclusion of a cover letter to be sent with the questionnaire. As informed consent, this study included a cover letter with each questionnaire that was emailed, which informed prospective respondents that participation was voluntary.

The letter contained the following points, as advised by research writers, and as required by the UNISA *Policy on Research Ethics* (UNISA 2007):

- Details about the researcher, that is, name, degree course, university;
- Contact details for the researcher in case of queries;
- An explanation of the term ‘subject librarian’ which explained why they were chosen as participants;
- An explanation about the what the study was investigating, and its potential benefits;
- A guarantee of confidentiality and anonymity;
- An assurance that their participation was voluntary, as indicated in the UNISA Policy on Research Ethics.

4.7 EVALUATION OF THE RESEARCH METHODOLOGY

No research methodology is perfect; therefore this study also had some problems/issues. The main problem experienced involved distribution of the questionnaire. Contact details for subject

staff were taken from their library websites and some were wrong and came back as undeliverable, some potential participants were out of office throughout the research period, other subject staff did not respond despite three reminders. One university library required permission from two institutions within the country in order for its staff to participate in the study. Two universities did not include contact details for staff online, so future researchers are advised to collect contact details from the heads of sections for subject librarians in each library.

4.8 CHAPTER SUMMARY

Chapter Four began with a discussion of what makes up a research project and clarified the difference between basic and applied research. This study fell more into the basic research category as its aim was to add to scientific knowledge; but it also had practical aspects as it ended with suggested guidelines for the profession which emanated from the findings. This chapter also examined the value of undertaking quantitative research as opposed to qualitative research. The study critically looked at various research designs before settling on the survey design, deeming it to be the most suitable for collecting data from a large number of respondents, who were widely dispersed. The descriptive survey was selected because it allowed for the collection of both qualitative and quantitative data. A mixed method approach, consisting of two data collection methods, questionnaires and interviews, was used, both of which contained structured/closed questions (quantitative) and unstructured/open-ended questions (qualitative).

The research questions, which were what focussed the study, were revisited and ways of ensuring the validity and reliability of the study were discussed. A decision on the population of the study was made and the census method was chosen. The limitations of the data collection tools were anticipated, for example those relating to contact details. In the final analysis a mixed method was used to collect data. Interviews were used to supplement the data collected using questionnaires, and they enabled the researcher to clarify answers that were not too clear, plus to get the viewpoint of management about the profession. Both instruments contained structured and unstructured questions. Data was analysed using a number of techniques, including the use of the statistical software package SPSS to analyse quantitative data and the use of content analysis to analyse open-ended questions.

CHAPTER FIVE

DATA PRESENTATION AND ANALYSIS

5.1 INTRODUCTION

Chapter Four dealt with the collection of data for the study, that is, the methods used to gather the information. A survey design was chosen as it allowed the researcher to collect large amounts of data from a large number of respondents located in a number of different countries. Electronic mail questionnaires and telephonic interviews, consisting of both quantitative and qualitative questions, were the instruments used to collect the data. Interviews with library management were used to supplement or clarify responses given by subject librarians to questions in the questionnaire. The research had to be conducted in such a way that the findings could be generalised to the population of subject and learning support librarians in the SACU region.

In this chapter, after data was edited, coded and classified (Kothari 2004), the SPSS statistical programme was used to tabulate and calculate percentages and display data/study findings in tabular format. Tabulation was used because it kept explanations short and comprehensible; it also helped with summarising and comparing data, and if there were any errors, it made them clearly visible (Kothari 2004), thus allowing the researcher to re-check and re-calculate data. Percentage distribution tables were used to display data because they are easy to read and interpret (Alreck & Settle 2004:272). Data was collected from a population whose units were taken from various libraries in the SACU region. As stated in Chapter Four, 121 (43.4%) useable questionnaires were analysed and data from six managers was used to confirm, clarify and/or explain any areas that were not clear. In order to keep the promise of confidentiality, the respondents and/or the institutions from which specific responses emanated are not identified.

The major objectives of this study, with reference to subject librarians in the Southern Africa Customs Union (SACU) region, were: to investigate the traditional roles, responsibilities and skills of subject librarians, to determine whether, how and why these had changed and to establish their current status; to add to the existing knowledge about the profession and; to compile guidelines for the establishment of new learning support services.

According to the Survey Analysis Guidelines (2009:36), in order for survey analysis to be useful, it must be linked to “clear research questions”. Therefore, the data analysis for this study tried to answer the following questions, which emanated from the research objectives:

- What models of subject librarianship are in place in the SACU region?
- What are the roles, of subject librarians; have these changed, and if so how and why?
- What are the responsibilities of subject librarians; have these changed, if so how/why?
- What are the skills required by subject librarians; have these changed, if so how/why?
- Are there any guidelines for universities wanting to establish a new subject and learning support service, and if there are, who compiled them and so are they accessible?

The research study provided the answers to these questions and data analysis helped the researcher to tell the “story of the survey results to others” (Survey Analysis Guidelines 2009).

This chapter is arranged in the order in which the questions were asked in the questionnaire, while Chapter Six interprets data in the best order that answers the various research questions asked. To avoid confusion, subject, faculty, information, personal and learning support librarians are collectively and primarily referred to as subject librarians or subject staff in this chapter; those who filled in questionnaires are mainly referred to as respondents or participants. Information gleaned from management interviews is added whenever it adds information or provides clarification to the information given by respondents.

Tables and charts are numbered with the chapter number first, for example, 5.1 and then 5.2 and so on, and whenever the initials NR are used, they meant ‘No Response’.

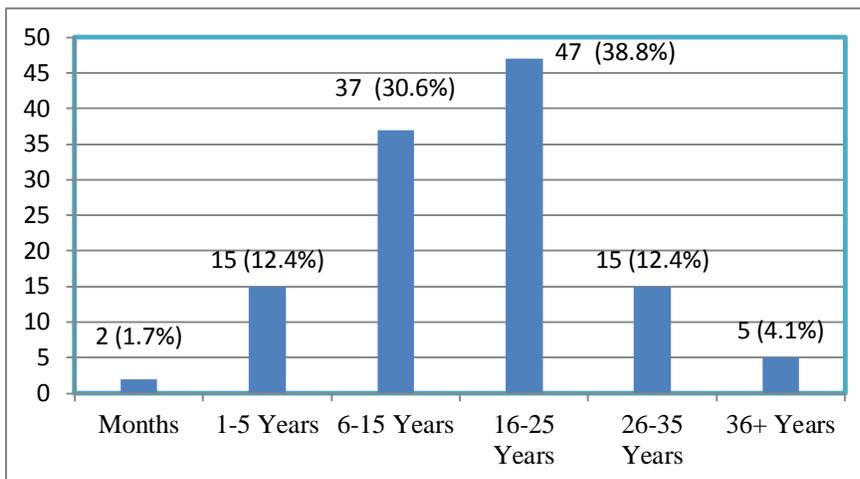
The results of the study however, must be used with caution as subject librarians from three SACU member state university libraries were not included in the study, and although two of their managers were subsequently interviewed, one was not. Furthermore, the response rate for the questionnaire was only 43.4%.

5.2 BACKGROUND INFORMATION

The first questions in the questionnaire were asked mostly to set the stage for the study and to ‘ease’ the respondents into the questionnaire. However they also provided useful information, as discussed in Chapter Six. In terms of age, the study revealed that the profession tended to attract more mature respondents, with experience, as 54 (44.6%) were over 50 years of age, 48 (39.7%) were between 35 to 50 years old and only 19 (15.7%) were under the age of 35.

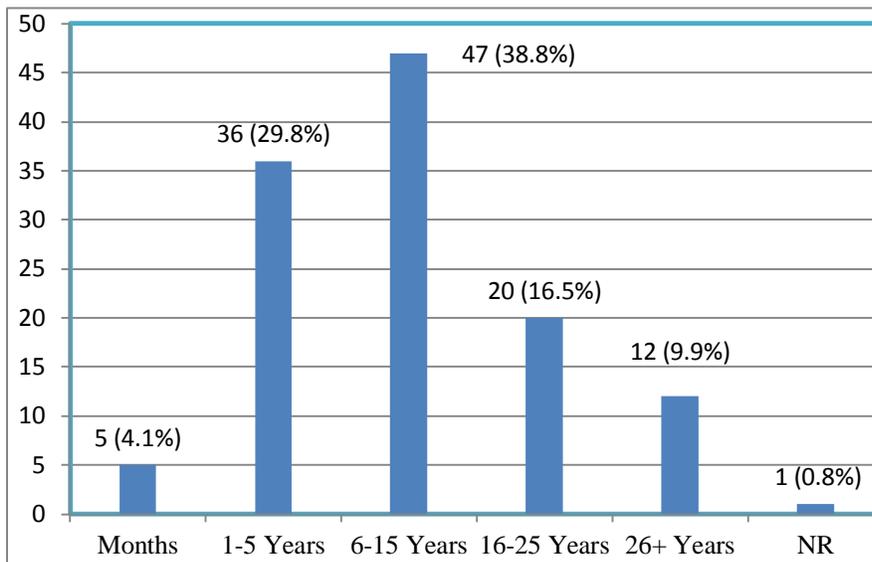
Interviewees explained that three to four years or more of working experience was required from applicants for subject librarian posts, thus ensuring that successful candidates already had knowledge of the academic environment, and were aware of the teaching, learning and research support needs of students and faculty. As shown in Chart 5.1, 104 (86%) respondents had more than five years’ experience in an academic setting. However, it was not surprising that two respondents had only a few months’ experience because, as confirmed by some interviewees, some libraries employed new graduates at trainee/assistant level, mainly as a way to bring young people into the profession; while in some other libraries; and where subject staff work in teams, staff were employed at various levels, including at trainee/assistant level. But in both scenarios, these posts were at lower grades and pay scales, until incumbents had gained the requisite experience and skills.

Chart 5.1: Years of experience in an academic library



The fact that 80 (66%) respondents, as shown in Chart 5.2, had more than five years' experience as subject librarians was an advantage as they answered survey questions from experience. However the responses from the 41 (33.9%) respondents with less than five years' experience were also beneficial to the study, as they added fresh points of view to the various issues investigated in the study.

Chart 5.2: Years of experience as a subject librarian



Note: NR – No Response

In terms of gender, the literature tends to classify professions like librarianship, nursing and social work as female professions (Simpson & Simpson 1969 as cited in Carmichael 1992), and this research did not dispel this impression, as it revealed that 95 (78.5%) of the respondents were female and only 23 (19%) were male; however, 3 (2.5%) did not answer the question.

5.3 ROLES/TITLES OF SUBJECT LIBRARIANS

This research study next sought to determine the roles of subject and learning support librarians, and also what titles they are known by.

5.3.1 Roles

By the term “role”, this study referred to what was expected, on a regular basis, from the subject and learning support librarian, that is, their purpose or value to the organisation. Of the 121 participants, one described his/her role as: ‘*to give the right information, at the right time, to the right person, at the right location, and in the right format*’. Another described it as: ‘*to be an information broker for print and electronic media, a change agent, a facilitator, an educator and/or an image maker*’. Three participants did not describe their roles at all, while 116 described their roles in the form of the duties that they had to perform, most of which were very closely related to their key responsibility/performance areas (Table 5.6). The main roles/duties that are listed in Table 5.1, do not total 121 as some respondents listed more than one.

Table 5.1: Roles of subject librarians

<i>Roles/duties</i>	<i>Frequency</i>	<i>%</i>
IL training; user education; user orientation	70	57.9
Information search and retrieval; literature searches	68	56.2
Collection development including for the Institutional Repository (IR)	58	47.9
Teaching and learning support	47	38.8
Faculty liaison; general liaison; relationship building and networking	46	38.0
Reference consultation	14	11.6
Marketing of library services, including current awareness services	12	9.9
Database evaluation, e-Learning, web design, other ICT support	7	5.8
Embedding services; providing outreach or inter-library loan services	4	3.3
General administration; administration of branch libraries	2	1.7
Personal and professional development	2	1.7

Note: The percentage does not total 100% as some respondents listed more than one role.

One of the assumptions of this study was that the library profession in general, and subject librarians in particular, had been affected by information and communication technologies (ICTs), and by other factors emanating from the new information environment. To determine the truth of this assumption, respondents were asked if they felt that the role of the subject librarian had changed since they joined the profession. More than half, that is, 71 (58.7%) of the respondents, said that it had, 48 (39.7%) said it had not, 1 (0.8%) was not sure and 1 (0.8%) did not respond to the question. The respondents, who indicated that their roles had changed, were

then asked how these had changed. Their responses are summarised in Table 5.2, but they do not total 71, as some of the participants gave more than one reason for the change.

Table 5.2: Type of role changes

<i>Type of change</i>	<i>Frequency</i>
Electronic information delivery systems/new technologies increased	45
Information literacy training and empowerment became more important	33
Liaison/relationship building with both faculty and students increased	9
Research support to post-graduates/researchers/academics grew	8
Proactive and innovative subject librarianship became the norm	6
Embedded librarianship became more widespread	5
Subject librarian responsibilities increased	4
Funding continued to decrease, inspiring innovation by subject staff	2
Fulfilling the changing needs of the knowledge economy became a challenge	2

Note: The percentage does not total 100% as some respondents listed more than one role change.

As seen in Table 5.2, in relation to type of change, a number of respondents mentioned the steady development of new technologies. These resulted in the role of subject staff changing, for example, by increasing the need for the provision of information literacy (IL) training so that users could more easily locate and retrieve the information they needed. Strengthening the faculty-librarian relationship, providing research support and practising proactive, innovative and embedded librarianship was also mentioned as a change in the subject role. Some respondents explained that in their university libraries, the job of the subject librarian had been divided and was now performed by three different categories of staff, that is, search librarians, collection developers and personal librarians. This study was interested in the latter.

Referring to embedded librarianship, interviewees explained that this was practised to differing extents in libraries. In one library subject/faculty librarians had been allocated space within their faculties, where they spent a certain number of scheduled hours, thus making them more visible to their constituents. In another library online embedding was so well established, that subject staff not only used the learning management system to develop their individual websites or subject guides, where they posted subject-based information which was accessed by both staff

and students; but academics also gave them access to their websites so that could upload relevant subject specific information. In other libraries, while physical embedding was regarded as the ideal, it had not yet been put in place, but the online embedding of IL training within the curriculum had already taken place.

However, one interviewee felt that the term ‘embedded librarianship’ had been misunderstood, that merely being given time during a lecture to talk about IL or other library issues could not be regarded as embedding, and that librarians should rather focus on becoming fully and actively engaged in the teaching, learning and research cycle, which was where they fell short, before thinking about taking on embedding. S/he added that, in the existing research setting, where open scholarship and the digital environment allowed the user to become a creator, distributor and facilitator of information, subject librarians needed to respond to this change by getting involved in the whole research cycle - by creating, publishing and disseminating their own research, and by facilitating the creation of knowledge by others.

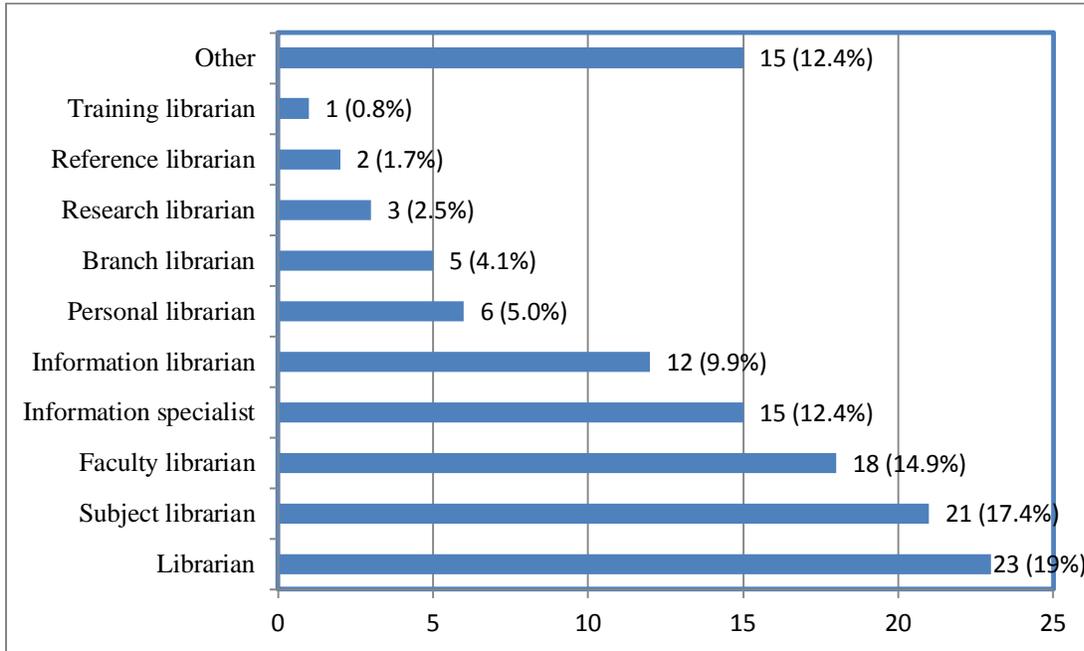
5.3.2 Titles

A review of the literature indicated that different titles were used for subject and learning support librarians in different parts of the world, and this situation could be confusing for researchers, especially those who used different academic libraries. This study set out to determine the most common title used for subject staff in the SACU region. As shown in Chart 5.3, a total of 23 (19.0%) of the respondents were called ‘librarian’, with variations like assistant librarian, senior librarian or ‘librarian’.

Fifteen respondents (12.4%) also indicated that they were known by various other titles including a combination of existing ones, and rarer ones like manager, section manager, and head, principal, and/or postgraduate librarian. One respondent and some interviewees explained that a ‘branch librarian’ was like a ‘jack of all trades’, who carried out various duties, including subject work. One interviewee also explained that, with the exception of a few, most subject staff were not subject specialists, they were just very familiar with the subjects taught in their faculties/departments, therefore a more appropriate title for them would be ‘liaison librarian’.

However, as shown in Chart 5.3, neither this title nor that of ‘subject specialist’ was in use in SACU, but ‘information specialist’, was used instead.

Chart 5.3: Current job titles



Respondents were next asked their rate of satisfaction with their titles, on a scale between 5, meaning ‘very satisfied’ and 1, meaning ‘very unsatisfied’, and it was interesting to note, as shown in Table 5.3, that only 10 (8.2%) respondents were not satisfied with their titles, while 20.7% were neither satisfied nor dissatisfied.

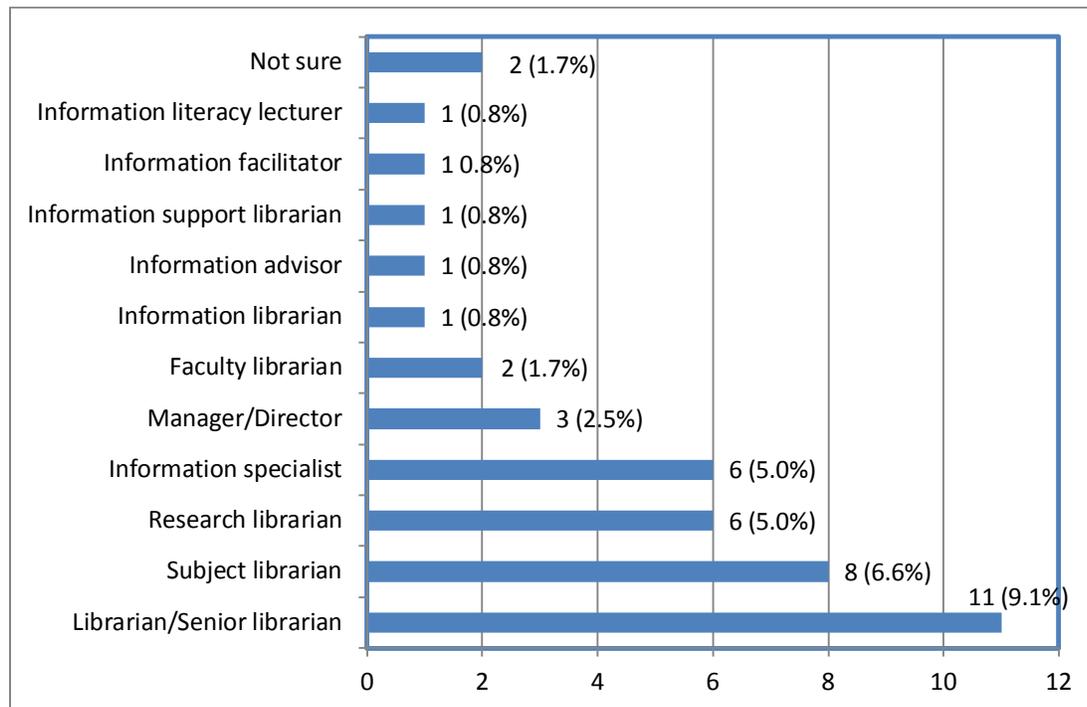
Table 5.3: Level of satisfaction with job title

Level	5-High	4	3	2	1-Low	NR	Total
Frequency	42	41	25	3	9	1	121
Percent	34.7	33.9	20.7	2.5	7.4	0.8	100.0

Those respondents who were not totally satisfied with their titles were asked to indicate what they preferred to be called. However, some respondents who had indicated satisfaction with their titles also suggested alternatives, while some who were not fully satisfied did not suggest

alternatives. Chart 5.4 reveals that out of 121 respondents 11 (9.1%) preferred to be called ‘librarian’ or titles that included the word ‘librarian’.

Chart 5.4: Preferred job titles



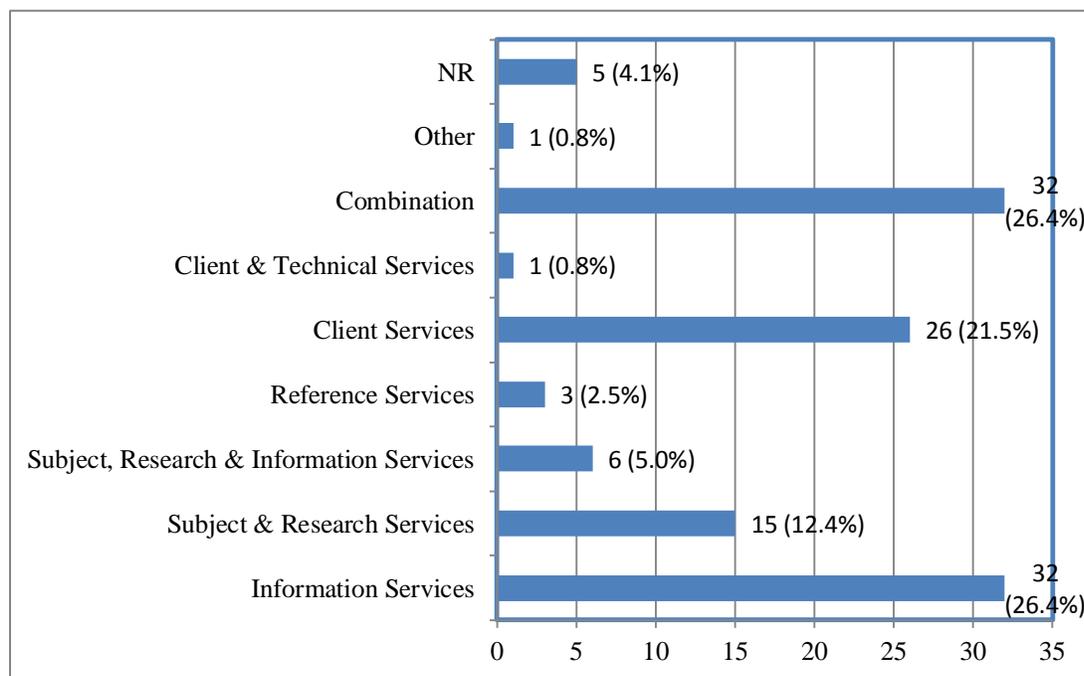
5.4 LIBRARY ENVIRONMENT

In order to see the roles, responsibilities and skills of subject librarians in context, this study looked at the environment in which subject staff were found, that is, the academic library model or structure that was in operation in their institutions and the library service units or departments within which they worked.

5.4.1 Library unit

The researcher was interested in finding out if subject staff were located within their own library units or if they all fell under the client/user/access services department as noted by Reitz (2004-2013). Chart 5.5 reveals that 43.8% of the respondents worked within separate information, subject or subject and information services (or a combination of these); while 21.5% indicated that they worked within the Client Services division.

Chart 5.5: Library unit or department



Five interviewees clarified these results, explaining that even when subject staff worked within their own units, or as part of a team, each with its own team leader/manager, they generally fell under the supervision of the head/manager/deputy director of client/user/access services. However, one manager indicated that subject staff in their library worked within a unit headed by a deputy director of research and subject services, that is, a service that was separate from the client/user/access service.

5.4.2 Academic library model

Using three of the five classifications put forward by Martin (1996:160-161), the researcher asked respondents to indicate the academic library model in place at their universities, that is, the dual model whereby subjects staff only carried out subject work, the hybrid model whereby subject staff carried out both subject and non-subject work, or the subject-centred model whereby subject staff teamed up with other library staff to perform library work on a subject basis. The category “other” was added to allow respondents to describe any models not covered in the questionnaire. Table 5.4 shows that 50.4% of the respondents worked under the dual library model.

Table 5.4: Academic library model

<i>Model</i>	<i>Dual</i>	<i>Hybrid</i>	<i>Subject</i>	<i>Combined</i>	<i>Other</i>	<i>Total</i>
<i>Frequency</i>	61	50	5	4	1	121
<i>Percent</i>	50.4	41.3	4.1	3.3	0.8	100.0

Interviewees generally confirmed the findings in Table 5.4, but they referred to the faculty library model rather than the dual model. Under both these models subject staff focussed on subject-specific or faculty/department-specific work. One interviewee further explained that in their library the structure was not clear-cut since they also employed branch librarians who carried out most of the professional library functions including subject and research support.

5.4.3 Research / learning commons

Another structure, model or facility that was increasingly found in libraries, especially in the bigger or more established ones, was the research or learning commons (RC). This structure catered mainly to academic staff, post-graduate students and researchers, giving them a well-equipped comfortable space where they could conduct research, hold discussions and network (Boakye 2010). In order to find out how prevalent this facility was in SACU university libraries, respondents were questioned about it. Seventy-nine (65.3%) revealed that they had a research commons in their library, 33 (27.3%) did not, 6 (5.0%) were not sure and 3 (2.5%) did not respond to the question. All the managers interviewed confirmed that their libraries had a research commons (RC), with two of them explaining that theirs had just started.

The respondents who indicated that their institution had an RC were asked if it was the responsibility of the library; 66 out of the 79 said it was, 2 said it was not, and one did not answer the question.

The respondents who said the RC was a library responsibility were then asked, on a scale from 5 meaning 'very much' to 1 meaning 'not at all', how involved subject librarians were with it. As shown in Table 5.5, only 36 of the 76 said they were either 'involved' or 'very involved' with this facility.

Table 5.5: Level of subject librarian involvement in the RC

<i>Level</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	24	12	14	10	14	2	76
<i>Percent</i>	31.6	15.8	18.4	13.1	18.4	1.7	100.0

5.5 RESPONSIBILITIES OF SUBJECT LIBRARIANS

Determining the responsibilities or functions of subject librarians was one of the main objectives of this study. This researcher wanted to establish whether or not all the six key responsibility areas (KRAs) or key performance areas (KPAs) most associated with subject librarians in the literature, were performed by SACU subject staff. Once this had been established, the researcher went on to establish the duties associated with each of them. But before doing this, the availability of job descriptions for subject staff had to be determined.

5.5.1 Job descriptions

A job description consists of a statement outlining the duties and responsibilities of a particular job, and it helps employees to carry out their jobs effectively and efficiently. Without a job description, or with one that is incomprehensible, subject staff could not carry out their duties well, as they would not know everything that was expected of them. Respondents were therefore asked if they had written job descriptions, and if they did, whether or not they understood them. Most of them, that is, 119 (98.3%), indicated that they had written job descriptions, while the other 2 (1.7%) did not answer the question. Furthermore, 112 (92.6%) respondents indicated that their job descriptions were easy to understand, 7 (5.8%) said they were not, while 2 (1.7%) did not answer the question.

5.5.2 Key responsibility areas (KRAs)

Job descriptions stipulate the key responsibility areas (KRAs) of subject librarians. Respondents were therefore given a list of the six KRAs most mentioned in the literature in relation to subject librarianship, and were asked to indicate the percentage of time they spent on each. The six KRAs listed were: faculty liaison, reference/research support, information literacy training, collection development/management, marketing/promotion, and duties in other sections of the library.

5.5.2.1 Time spent on each listed KRA

Table 5.6 revealed that out of 121 respondents, 101 indicated the time spent on the KRAs out of a total 100%, while 5 did not respond to the question. The other 15 participants did not give their responses out of a total 100%, so they are listed as ‘misc.’ (miscellaneous) in the table. Table 5.6, revealed that 114 (94.2%) respondents performed IL instruction, 113 (93.4%) reference/research support, 110 (90.9%) faculty liaison, 109 (90.1%) collection development, 103 (85.1%) marketing and promotion and 73 (60.3%) performed duties in other units of the library.

Table 5.6: Percentage time spent on each KRA

<i>Percent</i>	<i>IL</i>	<i>Ref &Res.</i>	<i>F. Liaison</i>	<i>Coll. Dev.</i>	<i>Marketing</i>	<i>Other</i>
<i>NR</i>	5 (4.1%)	5 (4.1%)	5 (4.1%)	5 (4.1%)	5 (4.1%)	5 (4.1%)
<i>0</i>	2 (1.7%)	3 (2.5%)	6 (5.0%)	7 (5.8%)	13 (10.7%)	43 (35.5%)
<i>1-10</i>	19 (15.7%)	16 (13.2%)	40 (33.1%)	47 (38.8%)	77 (63.6%)	54 (44.6%)
<i>11-20</i>	33 (27.3%)	30 (24.8%)	35 (28.9%)	32 (26.4%)	10 (8.3%)	4 (3.3%)
<i>21-30</i>	31 (25.6%)	22 (18.2%)	9 (7.4%)	12 (9.9%)	3 (2.5%)	3 (2.5%)
<i>31-40</i>	6 (5.0%)	13 (10.7%)	6 (5.0%)	2 (1.7%)	0 (0.0%)	0 (0.0%)
<i>40+</i>	10 (8.3%)	18 (14.9%)	6 (5.0%)	2 (1.7%)	0 (0.0%)	0 (0.0%)
<i>Misc.</i>	15 (12.4%)	14 (11.6%)	14 (11.6%)	14 (11.6%)	13 (10.7%)	12 (9.9%)
<i>Total</i>	121 (100.0%)	121 (100.0%)	121 (100.0%)	121 (100.0%)	121 (100.0%)	121 (100.0%)

KEY: IL = Information literacy instruction;
F. Liaison = Faculty liaison;
Marketing = Marketing and promotion;

Ref &Res. = Reference/research support;
Coll. Dev. = Collection development/Management;
Other = Duties in other sections of the Library

Not taking into account the respondents referred to as ‘other’, Table 5.6 revealed that 83 (68.6%) respondents spent over 10% of their time on reference/research duties, 80 (66.1%) on IL activities, 56 (46.3) on faculty liaison work, 48 (39.7%) on collection development tasks, 13 (10.7%) on marketing and promotion and 7 (5.8%) on duties in other units of the library. However, the time spent on each KRA depended on the emphasis placed on it by the university library. One interviewee stated that collection development was the primary KRA for their subject staff. Another indicated that faculty liaison, in the form of relationship building, took up 60% of the time of their subject staff, and that all the other KRAs emanated from it, even though less time was spent on them. However, one manager stated that the six KRAs were still prominent only because subject staff were still trying to do what they had always done while

trying to graft new functions on to their job descriptions; instead they needed to focus more on assisting users to help themselves with the aid of new information retrieval tools.

5.5.2.2 Other KRAs

Although the questionnaire listed six KRAs and asked respondents to indicate the time they spent on each, it also listed a category called 'other' so that respondents could indicate any KRAs they performed which were not listed. However, although 22 (18.2%) respondents mentioned 'other' KRAs only 8 (6.6%) specified these, and they all mentioned management, which involved the administration or management of a branch, unit or section, including the supervision of junior staff. All the other areas they mentioned as KRAs were classified in this study as duties within specific KRAs, and they are discussed as such in later sections.

5.6 DUTIES RELATED TO EACH KRA

After ascertaining the amount of time spent on each of the six KRAs listed in the questionnaire, as shown in Table 5.6, the researcher went on to examine, in more detail, the activities or duties associated with each KRA.

5.6.1 Faculty liaison

The results of this study revealed that faculty liaison, which involves a number of duties that ensure that there is communication between the Library and faculty, and that the library efficiently and effectively serves the teaching, learning and research needs of the university community, was the third major KRA. It was performed by 110 (90.9%) respondents, with 46.3% spending over 10% of their time on it and 33.1% spending up to 10% of their time on this KRA.

5.6.1.1 Departments served

In order to get a general idea of their workload in relation to faculty liaison, respondents were asked how many departments they served. In their study, Prozesky and Cunningham (1986) found that five to eight areas were usually served by subject librarians. In this study, as illustrated in Table 5.7, most respondents served up to five departments, but this number varied

from university to university. The 8 (6.6%) respondents shown as ‘Misc.’ in Table 5.7 indicated that they served whole faculties, colleges or schools.

Table 5.7: Number of departments served

<i>Number</i>	<i>1-5</i>	<i>6-10</i>	<i>11-15</i>	<i>16-20</i>	<i>20+</i>	<i>Misc.</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	67	33	5	2	3	8	3	121
<i>Percent</i>	55.4	27.3	4.1	1.7	2.5	6.6	2.5	100.0

Respondents were next asked how they felt about the number of departments they served, on a scale between 5 meaning they served ‘too many’ and 1 meaning they served ‘too few’. As shown in Table 5.8, more than half of the respondents (45.5%) selected levels ‘5’ and ‘4’, thus indicating that they felt that they served too many departments.

Table 5.8: Workload in terms of departments served

<i>Level</i>	<i>5-too many</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-too few</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	29	26	58	2	0	6	121
<i>Percent %</i>	24.0	21.5	47.9	1.7	0.0	5.0	100.0

5.6.1.2 Faculty liaison duties

The questionnaire then listed the duties or activities most commonly associated with faculty liaison, as taken from the websites of various universities worldwide and from various LIS writings, and respondents were asked to indicate the amount of time they spent on each, on a scale between 4 meaning ‘regularly/routinely/always’, and 1 meaning ‘never’.

The results are shown in Table 5.9. The duties performed most regularly by half or more than half of the respondents were: general faculty liaison, staying abreast of new courses, representing library issues to departments and vice versa. The questionnaire also had a section for respondents to indicate ‘other’ faculty liaison duties not listed in the questionnaire. However, what they added were duties included, and discussed, as part of other KRAs.

Table 5.9: Time spent on each faculty liaison duty

<i>Duty</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Liaise with faculty	84 (69.4%)	28 (23.1%)	6 (5.0%)	1 (0.8%)	2 (1.7%)
Stay abreast of new courses	71 (58.7%)	42 (34.7%)	6 (5.0%)	0 (0.0%)	2 (1.7%)
Represent library issues to depts.	68 (56.2%)	39 (32.2%)	9 (7.4%)	2 (1.7%)	3 (2.5%)
Represent department needs to library	60 (49.6%)	49 (40.5%)	6 (5.0%)	2 (1.7%)	4 (3.3%)
Support faculty e-learning	45 (37.2%)	42 (34.7%)	25 (20.7%)	6 (5.0%)	3 (2.5%)
Work with departmental reps.	44(36.4%)	45 (37.2%)	16 (13.2%)	11 (9.1%)	5 (4.1%)
Prepare accreditation reports	13 (10.7%)	39 (32.2%)	25 (20.7%)	41 (33.9%)	3 (2.5%)

5.6.1.3 Methods of communication with faculty

Since faculty liaison is an important function for subject staff, how they communicated with faculty was crucial, therefore respondents were asked how often they used the various modes of communication listed in the questionnaire, to keep in touch with them - on a scale between 4 meaning 'regularly/routinely/always' and 1 meaning 'never'. As shown in Table 5.10, only the email and telephone modes were regularly used by more than 50% of the respondents.

Table 5.10: Modes of communication with faculty

<i>Mode of Communication</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Email	106 (87.6%)	10 (8.3%)	1 (0.8%)	0 (0.0%)	4 (3.3%)
Telephone	70 (57.9%)	43 (35.5%)	2 (1.7%)	1 (0.8%)	5 (4.1%)
Informal or chance meetings	58 (47.9%)	45 (37.2%)	7 (5.8%)	4 (3.3%)	7 (5.8%)
Visits to faculty offices	49 (40.5%)	49 (40.5%)	16 (13.2%)	3 (2.5%)	4 (3.3%)
Department meetings	30 (24.8%)	48 (39.7%)	23 (19.0%)	12 (9.9%)	8 (6.6%)
Board of Studies meetings	30 (24.8%)	29 (24.0%)	20 (16.5%)	26 (21.5%)	16 (13.2%)
Presentations	22 (18.2%)	52 (43.0%)	27 (22.3%)	12 (9.9%)	8 (6.6%)
Blogs (weblogs)	7 (5.8%)	10 (8.3%)	21 (17.4%)	66 (54.5%)	17 (14.0%)
Facebook	6 (5.0%)	12 (9.9%)	20 (16.5%)	68 (56.2%)	15 (12.4%)
Twitter	3 (2.5%)	7 (5.8%)	14 (11.6%)	79 (65.3%)	18 (14.9%)

Surprisingly, since it is a major mode of communication these days, the social networking mode, which includes weblogs, Facebook and Twitter were only regularly used by 16 (13.3%) respondents, but it could be that it was used mainly for communicating with students. A section called 'other' was also included so that respondents could add any methods they used which had

not been listed in the questionnaire. Three respondents said that they were ‘embedded’ in the faculty, meaning that they spent set or specific hours in the department, or they had offices there, and this facilitated regular visits to them by lecturers.

5.6.1.4 Academic gatherings/meetings

As part of their jobs, subject librarians are sometimes expected or invited to attend various meetings and/or academic gatherings. The most common of these were listed in the questionnaire and respondents were asked to indicate how often they attended these, on a scale between 4 meaning ‘regularly/routinely/always’ and 1 meaning ‘never’. Unsurprisingly, as shown in Table 5.11, the most attended gatherings were library committee meetings, but even these were only attended regularly by about a third of the respondents.

Table 5.11: Academic gatherings attended

<i>Academic Gathering</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Library committee meetings	45 (37.2%)	35 (28.9%)	11 (9.1%)	23 (19.0%)	7 (5.8%)
Departmental meetings	30 (24.8%)	48 (39.7%)	22 (18.2%)	14 (11.6%)	7 (5.8%)
Board of Studies meetings	31 (25.6%)	27 (22.3%)	18 (14.9%)	33 (27.3%)	12 (9.9%)
Institutional TL* meetings	12 (9.9%)	40 (33.1%)	22 (18.2%)	36 (29.8%)	11 (9.1%)
E-learning or VLE meetings	17 (14.0%)	32 (26.4%)	30 (24.8%)	29 (24.0%)	13 (10.7%)
Research committee meetings	18 (14.9%)	23 (19.0%)	31 (25.6%)	38 (31.4%)	11 (9.1%)
Info. technology meetings	12 (9.9%)	28 (23.1%)	27 (22.3%)	43 (35.5%)	11 (9.1%)
Curriculum committee meetings	13 (10.7%)	22 (18.2%)	28 (23.1%)	49 (40.5%)	9 (7.4%)
Academic retreats	3 (2.5%)	12 (9.9%)	26 (21.5%)	68 (56.2%)	12 (9.9%)

KEY: TL: Teaching and learning;

Unfortunately, as shown in Table 5.11, departmental and board of studies meetings, where interaction with faculty is often at its greatest, were only attended regularly by 24.8% and 25.6% respectively. One manager emphasised that subject librarians should attend these as a matter of course, and that they should ask to be put on the agenda, if they have some important library related information to impart. Under ‘other’ respondents were given the opportunity to indicate any other meetings/gatherings they attended, and one or two of them added each of the following: database vendor meetings, publisher meetings, library management and branch library

meetings, information specialist/subject librarian meetings and departmental end-of-year functions.

5.6.1.5 Relationship with faculty

In light of the activities they carry out as part of their faculty liaison duties, it is logical to expect respondents to have a relationship with faculty members. Respondents were asked to indicate their level of satisfaction with these relationships, on a scale between 5 meaning ‘very satisfied’ and 1 meaning ‘very unsatisfied’. It was encouraging to note, as shown in Table 5.12, that 65.3% of the respondents were either ‘satisfied’ or ‘very satisfied’ with this relationship, indicating that their relationship building efforts were paying off.

Table 5.12: Level of satisfaction with relationship with faculty

<i>Level</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	40	39	30	8	2	2	121
<i>Percent %</i>	33.1	32.2	24.8	6.6	1.7	1.7	100.0

5.6.1.6 Faculty liaison challenges

Respondents who were not ‘fully’ satisfied with their relationship with faculty were asked to specify the reasons for their dissatisfaction. Although 47 (38.8%) did so, as shown in Table 5.13, these reasons do not total 47 as some respondents mentioned more than one area of dissatisfaction.

Table 5.13: Reasons for dissatisfaction with relationship with faculty

<i>Reason</i>	<i>Frequency</i>
Weak faculty support: Faculty did not visit, respond to, support or cooperate with the library	29
High faculty workload/lack of time: This made it difficult to make contact or build strong relationships	10
High subject librarian workload: This made it difficult to build or maintain strong relationships	7
New subject librarian role: Some incumbents were new and still feeling their way in the post	4
Limited meeting invitations: This meant that subject librarians couldn’t get totally involved	3
Lack of marketing: This meant faculty were not fully aware of subject librarian services or value	2
Limited subject knowledge: This made it stressful to deal with faculty	1

Note: Some of the 47 participants who answered the question gave more than 1 reason, so the table does not total 47

As shown in Table 5.13, the main reason given for dissatisfaction was weak faculty support, which was illustrated by the fact of faculty not visiting the library, not answering library communications, and not selecting books to be ordered for their subject fields when asked to do so.

5.6.1.7 Faculty status

In some developed countries, librarians pursue faculty status as a way of getting stronger academic recognition. Faculty status means that librarians have the same benefits and responsibilities as their academic colleagues, that is, they are paid faculty-level salaries and are eligible for the same “rank, promotion, tenure, leaves and research funds” (American Library Association [ALA] 2007a). Twenty (16.5%) respondents indicated that they had faculty status, 74 (61.2%) that they did not, 24 (19.8%) that they were ‘not sure’ and 3 (2.5%) did not answer the question. All the interviewees indicated that subject librarians from their libraries did not have faculty status. However, one interviewee explained that in their set-up, librarians could apply for 9 months leave to conduct research; and furthermore, in some cases, their job grades were even higher than those of faculty. Another manager stated that librarians’ grading was more or less equivalent to that of academic staff.

When asked how important faculty status was to them, 39 (32.2%) respondents indicated that it was ‘very important’, 37 (30.6%) that it was ‘important’, 23 (19%) that it was ‘not important’, 14 (11.6%) did not have an opinion on the matter, while 8 (6.6%) did not answer the question. Interviewees also had specific views on this issue. Only one said faculty status was important and that s/he would support his/her librarians getting this recognition since academics often stated that they should have it due to their teaching responsibilities and skills. Two noted that faculty status came with responsibilities like publishing, and that librarians should rather look at ways of consolidating their position in the university structure, while also conducting research and communicating their findings at conferences. Another was of the opinion that while some librarians supported faculty status for librarians in theory, very few of them understood its implications, which included having to conduct research, publish a certain number of articles per year, and in the case of South Africa, having to apply for National Research Foundation (NRF) rating and maintain it. S/he felt that few librarians would be able to fulfil these requirements.

5.6.2 Information literacy (IL) training

An information literate person recognises when s/he needs information, and has the ability to search for, locate, evaluate, and use that information effectively and ethically (ALA 2000). IL training developed from the traditional user education, to encompass training in information search and retrieval, using the new technologies. It was necessitated by constant technological advances, and the increasing availability of information in various electronic formats, whose use had to be taught to students and staff. One interviewee explained that some students come from very disadvantaged areas, where neither libraries nor computers are widely available, so they always needed assistance. Because of its information emphasis, IL is a natural responsibility for subject librarians, therefore it was unsurprising that, as revealed in Table 5.6, information literacy (IL) training was the most performed KRA as it was carried out by 114 (94.2%) respondents as compared to the 113 (93.4%) who carry out reference/research support as a KRA.

5.6.2.1 Information literacy (IL) duties

Respondents were asked how often they carried out certain information literacy (IL) duties that were listed in the questionnaire, on a scale between 4 meaning ‘regularly/routinely/always’, and 1 meaning ‘never’. As shown in Table 5.14, general orientation, general and advanced IL training - individually or in groups – of students, as well as the presentation of resources to lecturers, were routinely carried out by more than 50% of the respondents.

Table 5.14: Time spent on each IL duty

<i>IL Activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Gen. orientation: new students	93 (76.9%)	18 (14.9%)	3 (2.5%)	5 (4.1%)	2 (1.7%)
Individual IL training: students	90 (74.4%)	19 (15.7%)	6 (5.0%)	3 (2.5%)	3 (2.5%)
Class-based IL training: students	69 (57.0%)	29 (24.0%)	9 (7.4%)	12 (9.9%)	2 (1.7%)
Resource presentations/lecturers	62 (51.2%)	46 (38.0%)	(6.6%)	3 (2.5%)	2 (1.7%)
Advanced IL training: students	63 (52.1%)	35 (28.9%)	7 (5.8%)	12 (9.9%)	4 (3.3%)
Refresher IL training: students	58 (47.9%)	36 (29.8%)	12 (9.9%)	10 (8.3%)	5 (4.1%)
Gen. orientation: lecturers	52 (43.0%)	42 (34.7%)	17 (14.0%)	5 (4.1%)	5 (4.1%)
Resource use training: lecturers	51 (42.1%)	49 (40.5%)	14 (11.6%)	4 (3.3%)	3 (2.5%)
IL training promotion to faculty	50 (41.3%)	31 (25.6%)	20 (16.5%)	16 (13.2%)	4 (3.3%)
Online IL training: students	44 (36.4%)	27 (22.3%)	24 (19.8%)	21 (17.4%)	5 (4.1%)

In the section labelled 'other' five respondents added that they also taught students how to use certain online referencing and statistical tools, while 3 explained that since IL was part of the official curriculum for under-graduate students at their universities, they were involved, not only in teaching it, but also in the setting and marking of IL assignments, tests and examinations. One interviewee identified data curation as an additional duty that subject librarians needed to get involved in, while a second felt that subject librarians should add another duty to their repertoire: incorporating innovation and new technologies like Wi-Fi, tablet, and social media into each KRA, and marketing the use and benefits of these applications to the university community.

5.6.2.2 Student Involvement in Information Literacy Classes

As implied in the findings of Table 5.14, IL training was offered to students at various levels, individually or in groups, implying that the value of information literacy was becoming more recognised in a number of institutions. However, to further determine its importance, respondents were asked if attending IL training sessions was compulsory for students. A disappointing 35 (28.9%) said it was, 47 (38.8%) said it "sometimes" was, 30 (24.8%) said it was not, and 9 (7.4%) did not answer the question.

5.6.2.3 Subject Librarians' Role in Information Literacy Training

Having established the extent to which IL instruction was offered in institutions, the researcher wanted to determine if it was the responsibility of subject librarians. A total of 107 (88.4%) respondents said it was, 11 (9.1%) said it was not and 3 (2.4%) did not answer the question. The respondents who said it was not were asked to specify whose duty it was. Six indicated that their institutions had a dedicated IL trainer/librarian, training librarian or user education librarian who carried out IL duties, while the others indicated that this training was carried out by branch librarians, the marketing unit, all library staff or staff based in the Knowledge Commons facility.

5.6.2.4 Importance of IL Training

To further gauge the importance of IL training in institutions, the respondents who had indicated that IL was a KRA for subject librarians were asked if students were given IL assignments or tests. Out of these 107 respondents, 28 (26.2%) said 'yes', 44 (41.1%) said 'sometimes', 34 (31.8%) said 'no' and 1 (0.9%) did not answer the question.

This finding implied that subject librarians had a way to go in persuading faculty to take IL skills seriously. Having a standard or official curriculum could be of assistance to them in ‘selling’ IL to academics, so the respondents who had indicated that IL was a KRA for subject librarians were also asked if they followed a standard IL curriculum. Unfortunately only 37 (34.6%) said ‘yes’ and 26 (24.3%) said ‘sometimes’, while 43 (40.2%) said ‘no’ and 1 (0.9%) did not answer the question.

5.6.2.5 Information Literacy Challenges

As with all KRAs, IL training came with challenges, which participants were asked to indicate. Only 86 (71.1%) did so and these are listed in Table 5.15. However, they do not total 86 as some respondents mentioned more than one issue. The major challenges stated had to do with students: their lack of interest, their poor attendance of IL classes, the differences in ICT skills between students in the same class, and the struggle of getting students from faculty for IL classes. The limitation and inadequacy of venues and facilities, with which to train students, was another challenge mentioned.

Table 5.15: Information literacy challenges/issues

<i>Challenge</i>	<i>Frequency</i>
Lack of interest and/or poor attendance by students	37
Lack of computer literacy or differences in levels of computer literacy within a class	26
Lack of availability of students for classes	25
Lack of or limited facilities and venues	25
Large sizes of some classes which could be overwhelming	12
Lack of lecturer support	10
Lack of IL assignments/subject-specific IL classes which were more relevant/useful	4
Lack of language skills by students	4
Challenge of assessment and marking of large groups	3

Note: 86 responded to the question but the number does not total 86 as some gave multiple responses

Related to the IL KRA, especially orientation and familiarisation, was on-going assistance. One interviewee revealed an interesting and successful pilot ‘programme which was launched at their library for the benefit of first year students. At orientation they were so new that they took in

very little about the library's services and resources, therefore personal librarians (different from the category listed in 5.4) comprising volunteer librarians from all levels and all departments of the library, including technical services, were given a list of students with whom they engaged via email, SMS and face to face, about library resources, services, facilities and related issues.

5.6.3 Reference and research support

Research activities are assuming a greater importance in universities every year, with most higher education institutions including research in their strategic plans. Subject librarians, by the very nature of their jobs, provide much needed subject-specific reference/research support to researchers. As already mentioned, this study revealed that the reference/research KRA was carried out by almost as many respondents (113) as performed the IL instruction KRA (114), but with more respondents (68.6%) spending *over* 10% of their time on this KRA than those who spent it on IL instruction (66.1%).

5.6.3.1 Reference/research support duties

To establish the reference/research support duties performed by subject librarians, respondents were asked, on a scale of 4 meaning 'routinely/regularly/always', to 1 meaning 'never', which of the activities listed in the questionnaire they carried out. As shown in Table 5.16, information retrieval, subject-based reference, literature searches for staff and postgraduate students and citation support for students were regularly carried out by more than 50% of the respondents. A section labelled 'other' allowed respondents to indicate any other research-related activities, not listed in the questionnaire or in Table 5.16 that they performed. Ten (8.3%) respondents said that they provided support for various software and tools: referencing tools such as RefWorks, EndNote and Reference Manager, anti-plagiarism software such as Turnitin, and statistical packages such as SPSS. As part of this reference/research support, one interviewee explained that, in their library dedicated search librarians, who did not have direct-facing contact with patrons, carried out literature searches for everyone, with requests having to be emailed to them.

Table 5.16: Time spent on each reference/research support duty

<i>Reference/research activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Information retrieval: e- and print	101 (83.5%)	16 (13.2%)	1 (0.8%)	1 (0.8%)	2 (1.7%)
Subject-based reference services	97 (80.2%)	18 (14.9%)	1 (0.8%)	3 (2.5%)	2 (1.7%)
Literature searches for PG students	72 (59.5%)	31 (25.6%)	11 (9.1%)	5 (4.1%)	2 (1.7%)
Literature searches for staff	69 (57.0%)	35 (28.9%)	12 (9.9%)	4 (3.3%)	1 (0.8%)
Citation support/advice to students	68 (56.2%)	38 (31.4%)	11 (9.1%)	1 (0.8%)	3 (2.5%)
Citation support/advice to staff	58 (47.9%)	41 (33.9%)	13 (10.7%)	5 (4.1%)	4 (3.3%)
ILL requests for staff	50 (41.3%)	28 (23.1%)	17 (14.0%)	25 (20.7%)	1 (0.8%)
Literature searches for UG students	50 (41.3%)	37 (30.6%)	22 (18.2%)	9 (7.4%)	3 (2.5%)
Reference desk work	41 (33.9%)	39 (32.2%)	16 (13.2%)	22 (18.2%)	3 (2.5%)
Subject portal maintenance	37 (30.6%)	20 (16.5%)	27 (22.3%)	33 (27.3%)	4 (3.3%)
Copyright applications for staff	14 (11.6%)	10 (8.3%)	31 (25.6%)	63 (52.1%)	3 (2.5%)

Further to the reference/research duties listed in Table 5.16, 2 (1.7%) respondents evaluated, researched, identified or ranked accredited journals for lecturers who wanted to publish articles; one respondent assisted users to set up journal alerts while another assisted lecturers with their National Research Foundation (NRF) applications. One interviewee indicated that the task of assisting faculty with NRF requirements would be added to subject staff' job descriptions in the following year. Another interviewee explained that subject librarians sometimes assisted lecturers to complete their funding applications

5.6.3.2 Awareness of on-going research

Part of research support requires subject staff to be aware of the research going on in their designated departments. Participants were therefore asked, on a scale of 5 meaning 'very strong' and 1 meaning 'very weak', the level of their knowledge of the research being carried out by faculty. Table 5.17 shows that 79 (65.3%) indicated that their knowledge was strong/very strong.

Table 5.17: Awareness of on-going departmental research

<i>Level</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	29	50	34	4	3	1	121
<i>Percent %</i>	24.0	41.3	28.1	3.3	2.5	0.8	100.0

Participants were also asked, on a scale of 5 meaning ‘very strong’ and 1 meaning ‘very weak’ the level of their knowledge about the research being carried out by post-graduate students in their departments. Table 5.18 shows that 71 (58.7%) participants had a very strong/strong awareness of on-going student research.

Table 5.18: Awareness of on-going student research

<i>Level</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	20	51	39	4	4	3	121
<i>Percent %</i>	16.5	42.1	32.2	3.3	3.3	2.5	100.0

5.6.3.3 Reference/research support challenges

The researcher was also interested in the challenges respondents faced when they carried out their reference/research duties. However, only 72 (59.5%) indicated these and they are summarised in Table 5.19. Technological problems like slow internet, as well as heavy workloads, inadequate resources, vaguely worded search queries by some users, as well as the lack of ICT skills by some users, made assisting them difficult.

Table 5.19: Reference/research support challenges

<i>Challenges</i>	<i>Frequency</i>
Technological problems like slow internet	16
Heavy workloads	14
Inadequate information resources or databases	13
Vaguely worded research topics or search queries by patrons	12
Lack of information literacy or research skills by some patrons	11
Lack of, or differences in the computer literacy skills of patrons	7
Lack of communication from departments about on-going research	5
Weak subject knowledge and/or retrieval skills	5
Lack of language skills of some patrons	2

Note: 72 responded to the question but the number does not total 72 as some gave multiple answers

5.6.4 Collection development and management

Another KRA, often mentioned in the literature, that subject and learning support librarians are involved in, is collection development and/or management. The knowledge subject staff gained

from their involvement with faculty gave them an advantage when selecting subject materials. Table 5.6 revealed that 109 respondents (90.1%) performed the collection development function, with 48 (39.5%) spending over 10%, of their time on it, and 38.8% spending up to 10% of their time on it.

5.6.4.1 Collection development duties

Respondents were asked, on a level between 4 meaning ‘routinely/regularly/always’ and 1 meaning ‘never’, how often they carried out certain activities related to the collection development and management KRA, that were listed in the questionnaire. Table 5.20 shows that subject-based selection, soliciting book orders from faculty and circulating catalogues were carried out regularly by more than 50% of the respondents. Four respondents explained that book selection and collection development was carried out by dedicated ‘collection developers’ or acquisitions librarians, adding that they cooperated with them by soliciting orders and circulating catalogues to faculty and by personally making subject-based selections.

The researcher was also interested in determining whether or not traditional collection management duties, such as cataloguing and classification, were still carried out by subject librarians. Table 5.20 reveals that only 19 (15.7%) respondents still catalogued and/or classified.

Table 5.20: Time spent on collection development duties

<i>Collection Related Activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Subject-based selection for purchase	82 (67.8%)	33 (27.3%)	2 (1.7%)	2 (1.7%)	2 (1.7%)
Solicit book orders from faculty	82 (67.8%)	26 (21.5%)	6 (5.0%)	2 (1.7%)	5 (4.1%)
Circulation of resource catalogues	67 (55.4%)	37 (30.6%)	10 (8.3%)	6 (5.0%)	1 (0.8%)
Facilitating ILL for departments	40 (33.1%)	31 (25.6%)	25 (20.7%)	20 (16.5%)	5 (4.1%)
Weeding collections	31 (25.6%)	46 (38.0%)	24 (19.8%)	17 (14.0%)	3 (2.5%)
Stock-taking	23 (19.0%)	40 (33.1%)	20 (16.5%)	34 (28.1%)	4 (3.3%)
Cataloguing and classification	19 (15.7%)	5 (4.1%)	8 (6.6%)	84 (69.4%)	5 (4.1%)

5.6.4.2 Collection development challenges

As with the other KRAs, challenges were experienced by subject staff in the performance of their collection development duties. However, only 73 (60.3%) respondents indicated these

challenges, which are shown in Table 5.21. The biggest challenge experienced was a lack of cooperation from lecturers.

Table 5.21: Collection development challenges

<i>Challenge</i>	<i>Frequency</i>
Lack of lecturer cooperation or feedback	22
Lack of funding	21
Selection and/or supply problems	18
Lack of time	12
E-books and other electronic resource challenges	7
Weeding and/or stocktaking challenges	7
Lack of subject knowledge	2
Lack of a collection development policy	2

Note: 73 responded to the question but the number does not total 73 as a few noted more than one challenge

Other collection development challenges noted by at least one respondent, not listed in Table 5.21, included: the inability to find the best prices, due to a lack of relevant catalogues; the lack of authority to actually place orders; delays in receiving orders from suppliers, especially for overseas orders; restrictions on the number of copies that could be ordered; the difficulty of finding replacement titles for out-of-print items; delays by the acquisitions department in following up non-arrivals and also in ordering, processing and putting items on the shelves; the selection of inefficient vendors by the acquisitions department; the challenge of budgets which sometimes operated for a only few months of the year, meaning that orders placed after that period had to be pushed to the following budgetary period.

5.6.5 Marketing/promotion of the library

The marketing and promotion of the library, its resources, facilities and services is extremely important if the university community is to benefit from them, and in the LIS literature this responsibility is often mentioned in relation to all library staff. This study aimed to determine how many respondents performed marketing duties. Table 5.6 revealed that 103 (85.1%) respondents carried out this KRA, but only 13 (10.7%) spent more than 10% of their time on it, while 77 (63.6%) spent up to 10% of their time on it. One manager however, stressed that all

librarians, including subject librarians, were ambassadors for the library and should look and act the part; s/he further stated that even the library website, its Facebook and Twitter pages were marketing tools which represented the library, so they should be well managed.

5.6.5.1 Marketing duties

Respondents were asked how often they carried out the marketing and promotion duties that were listed in the questionnaire, on a level between 4 meaning ‘regularly/routinely/always’ and 1 meaning ‘never’. As shown in Table 5.22, the marketing of the library’s information services was regularly carried out by 59.5% of the participants.

Table 5.22: Time spent on marketing and promotion duties

<i>Activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Marketing library info. Services	72 (59.5%)	40 (33.1%)	6 (5.0%)	2 (1.7%)	1 (0.8%)
Marketing subject librarian services	57 (47.1%)	48 (39.7%)	10 (8.3%)	4 (3.3%)	2 (1.7%)
Providing SDI services	57 (47.1%)	34 (28.1%)	21 (17.4%)	6 (5.0%)	3 (2.5%)
Providing CAS	56 (46.2%)	40 (33.1%)	18 (14.9%)	5 (4.1%)	2 (1.7%)
Compiling guides to resources	46 (38.0%)	52 (43.0%)	16 (13.2%)	6 (5.0%)	1 (0.8%)

The category ‘other’, which was added to the question, allowed respondents to list other marketing duties, not listed in the questionnaire that they carried out. At least one participant mentioned: involvement with library displays, exhibitions and vendor promotions and training; database demonstrations; mailing of acquisitions lists/announcements (one respondent explained that they made announcements over the local radio station), or adding them to the university newsletter; creating and circulating electronic newsletters; giving library tours and; helping users to set up and manage their RSS feeds and alerts.

5.6.5.2 Marketing challenges

When respondents were asked to describe the challenges/issues they faced with regard to marketing, only 47 responded. Their responses are listed in Table 5.23 but they do not total 47, as some mentioned more than one challenge. Although ‘lack of interest was cited as a marketing challenge, one respondent emphasised that his/her efforts were appreciated by some of his/her

clients as the latter mentioned these products to him/her during informal encounters, or they phoned him/her when they saw new information ‘flashing’ on the library’s website.

Table 5.23: Marketing challenges

<i>Challenges/issues</i>	<i>Frequency</i>
Time constraints	15
Lack of interest or response	13
Lack of or limited funding	10
Availability of a marketing office or staff dedicated to marketing	5
Limited or outdated marketing strategy	4
Lack of management support	3
Lack of marketing skills	2

Note: Multiple responses were given by some of the responses so they do not total 47

5.6.6 Additional duties

The researcher was interested in which other duties; additional to those listed in the questionnaire under various KRAs were performed by subject librarians. Table 5.6 revealed that 73 (60.3%) respondents carried out additional duties in other units of the library. However, only 7 (5.8%) spent over 10% of their time on these. As already shown under the various KRAs, participants were involved to various degrees in areas like collection development, selection, cataloguing and classification and reference desk work, which in many university libraries are performed by staff from other units.

5.6.6.1 Management and administration duties

The questionnaire identified some managerial duties sometimes performed by subject staff, listed these in the questionnaire, and asked respondents to indicate how much time they spent on each of them, on a scale from level from 4 meaning ‘routinely or regularly or always’ to level 1 meaning ‘never’. As shown in Table 5.24, the study revealed that these duties were regularly performed by less than half of the respondents. Respondents were also asked to specify ‘other’ additional duties not specified in the questionnaire, and 8 (6.6%) of them indicated duties that also fell primarily under the label of management or administration, including: attending subject librarian/information specialist meetings, participating in activities as strategic project team

members, training new colleagues, representing the library in e-learning meetings and performing other administrative duties like branch management and personal development.

Table 5.24: Time spent on additional duties

<i>Additional Activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NA</i>
Contribute to library strategic plans	40 (33.1%)	48 (39.7%)	18 (14.9%)	12 (9.9%)	3 (2.5%)
Go to library management meetings	33 (27.3%)	35 (28.9%)	17 (14.0%)	31 (25.6%)	5 (4.1%)
Contribute to library policies	30 (24.8%)	50 (41.3%)	21 (17.4%)	17 (14.0%)	3 (2.5%)

NA: Not applicable

5.6.6.1 The institutional repository (IR)

Another up and coming function or duty, which is currently being discussed in many library and information science (LIS) articles, sometimes in connection with subject staff, is the institutional repository (IR), which can be seen as part of the (electronic) collection development function. The aim of an IR is to collect, preserve, manage and make accessible, the intellectual output of a university. Ninety-nine (81.8%) respondents indicated that their universities had an IR, 10 (8.3%) said that they did not, 10 (8.3%) were 'not sure', and 2 (1.7%) did not respond to the question. All the interviewees stated that their institutions had IRs, but two of them explained that theirs had just started.

5.6.6.1.1 Library responsibility for the IR

The researcher wanted to know if the IR was the responsibility of the library, and of the 99 respondents who indicated that their institution had an IR, 86 (86.9%) stated that it was the responsibility of the library, 11 (11.1%) said it was not and 2 (2%) did not answer the question. Nine of the 11 respondents who said that the library was not responsible for the IR stated that the responsibility belonged to archivists, other librarians, the digitisation unit, the research and publications unit, the library computer services section, the research office, or a dedicated IR manager. One respondent explained that an open scholarship office was responsible for the IR, with subject librarians sometimes acting as collection administrators. One respondent stated that lecturers were mandated to upload their own research output, and that the library's main role was to encourage them to do so, while another stated that various people held joint responsibility for

the IR, that is, subject librarians collected the information, assistant librarians “cleaned it” and uploaded it, while archivists dealt with any copyright issues that came up.

Interviewees also provided clarity to this issue. In one library a dedicated principal librarian was in charge of the IR, but the interviewee felt that subject librarians should take a greater part in the whole process, since they worked so closely with faculty. Knowledge of the IR would therefore enable them to advise faculty about IR procedures, permissions and issues. In other libraries subject staff was involved in marketing the IR, assisting the librarian who was responsible for it by, for example, training users, or organising and coordinating training sessions, which would then be run by the IR manager.

5.6.6.1.2 Subject librarian responsibility for the IR

Eight-six respondents said that the IR was the responsibility of the library. Of these 22 (25.6%) said it was specifically the responsibility of subject librarians, 61 (70.9%) said it was not, and 3 (3.5%) said it was ‘partially’ the responsibility of subject librarians. As shown in Table 5.25, 23 of the 25 respondents who said that the IR was the full or partial responsibility of subject librarians then indicated, on a scale between 4 meaning ‘routinely/regularly/always’ and 1 meaning ‘never’ how much time they spent on various IR duties listed in the questionnaire. More than half of them indicated that they regularly collected items for the IR and performed data entry duties.

Table 5.25: Time spent on IR duties

<i>IR Activities</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>Total</i>
Collect items for the IR	13 (56.5%)	2 (8.7%)	4 (17.4%)	4 (17.4%)	23 (100.0%)
Data entry/uploading items	12 (52.2%)	4 (17.4%)	2 (8.7%)	5 (21.7%)	23 (100.0%)
Carry out quality control of IR	7 (30.4%)	3 (13.0%)	3 (13.0%)	10 (43.5%)	23 (100.0%)
Solicit copyright permission	4 (17.4%)	4 (17.4%)	3 (13.0%)	12 (52.2%)	23 (100.0%)

The question also included an ‘other’ category, for respondents to add any other IR-related duties that they carried out, which were not listed in the questionnaire. The following were mentioned by at least one of the respondents: converting CDs for the IR, assisting clients to upload documents, announcing new acquisitions on the local radio station, publishing new materials in

the university newsletter, promoting or increasing awareness of the IR, converting MS-Word documents to PDF format, customising the IR, creating communities and carrying out general administration

5.6.7 Other issues related to KRAs

To round up the section on the responsibilities of subject and learning support service librarians, respondents were asked questions about appraisals, changes in responsibilities, and workload.

5.6.7.1 Workload

Since the literature indicated that subject librarians carried out a numbers of tasks related to their KRAs, the study aimed to determine whether or not respondents believed their workload had increased. They were therefore asked to indicate, on a scale from 5 meaning ‘high’ to 1 meaning ‘low’ the level by which their duties had increased. Table 5.26 shows that 91 (75.2%) respondents believed that their duties had increased, 13.2% believed that they had neither increased nor decreased, while the rest indicated that the increase was minimal.

Table 5.26: Level of increase in duties

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	51	40	16	5	3	6	121
<i>Percent</i>	42.1	33.1	13.2	4.1	2.5	5.0	100.0

In terms of workload, respondents were then asked how they viewed their workload, on a scale between 5 meaning very overworked and 1 meaning very under-utilised. Table 5.27 shows that 79 (65.3%) respondents felt ‘overworked’ or ‘very overworked’. However, surprisingly, 4 (3.3%) respondents felt under-utilised but, as emphasised by one manager, subject librarians had to be proactive and innovative; they could no longer just sit in their offices expecting users to visit them, but had to go where their users were – physically or online, and this would leave them with no room for feeling bored or underutilised.

Table 5.27: Perception of workload

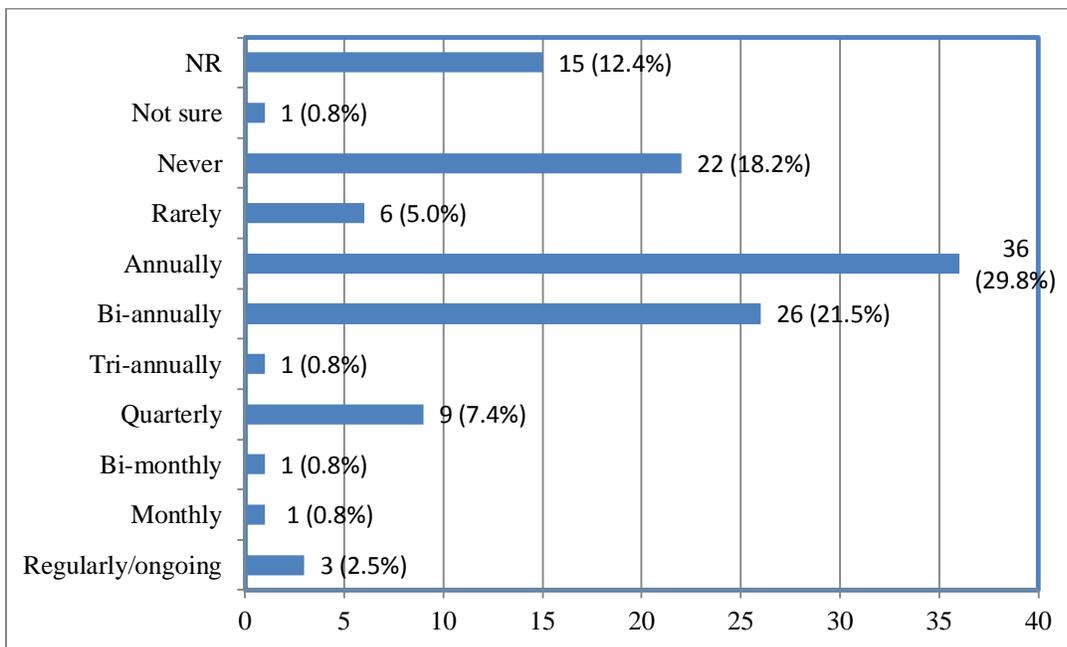
Answer	5-Over	4	3	2	1-Under	NR	Total
Frequency	45	34	36	4	0	2	121
Percent	37.2	28.1	29.8	3.3	0.0	1.6	100.0

5.6.7.2 Appraisals

Assessment in any job assists the incumbent to measure his/her own performance, and to know in which area s/he needs to improve his/her performance or output. Respondents were asked how often they were assessed. As shown in Chart 5.6, more than half of the respondents (63.6%) were appraised at least once a year or more times.

The 22 (18.2%) respondents who were not appraised at all explained: that the library merely produced annual reports; that they discussed their role periodically with the university librarian; that although assessment was meant to be an annual exercise, it was not so in practice; that there was a lack of communication between managers, so they were unaware of any appraisals that were carried out; that the appraisal system was new in the institution and; that in the case of expatriate staff, they were assessed as their contracts came up for renewal.

Chart 5.6: Frequency of assessments



Interviewees added clarity to the issue of appraisals. In one library all librarians signed a performance management contract at the beginning of each year, agreeing on their output and priorities for the year. In another library although there was no formal process in place, the principal faculty librarian engaged the faculty librarians on a regular basis and was able to ascertain the projects they were involved in, their deliverables, and their time management as regarded these responsibilities. Furthermore, the names of good performers were submitted to the university annually, for consideration for merit awards.

5.6.7.3 Changing responsibilities

One of the assumptions of this study was that ICTs had changed subject librarian responsibilities, and the question asked was how much change had occurred and what had caused the changes. The study found that 48 (39.7%) respondents believed that there had been a great many changes to their responsibilities, 42 (34.7) that there had been many changes, 12 (9.9%) that the amount of changes had been on an average scale, 9 (7.4%) that there had been a few changes and 2 (1.6) that there had been very few changes. The respondents who recognised that changes had occurred in subject librarian duties were asked to state what these changes were, or what had caused them. Most of them revealed that technology had been very critical to the changes experienced. The perceived changes are listed in Table 5.28. However, respondents were not restricted in the number of changes or causes of changes that they indicated.

Table 5.28: Causes of the changes in subject librarian duties

<i>Changes</i>	<i>Frequency</i>
Advances in ICTs and emphasis on staying abreast of these or other changing needs	80
Emphasis on IL training and IL training for empowerment	35
Increased workload	9
Emphasis on faculty and/or departmental liaison and support	9
Emphasis on research support	7
Emphasis on information access as opposed to information ownership	6
Increasing need to market resources, services and facilities and be proactive	5
Increased numbers of users to assist	4
Other	17

Note: Some respondents gave multiple answers to the question

The 17 respondents who mentioned ‘other’ changes, as shown in Table 5.28, stated that changes had occurred which resulted in them having to: be involved in e-learning; adopt embedded librarianship; cooperate with other library colleagues, especially when it came to sharing resources; become innovative and proactive, due to inadequate funding; acquire subject knowledge - although one respondent disagreed, stating that subject knowledge was not necessary to be able to search for, find and work with the information related to a subject. Another respondent stated that there was no longer a need for subject librarians to catalogue and classify information.

However, some respondents emphasised that the changes experienced were merely in ‘how’ duties were carried out, and not in the duties themselves. One interviewee agreed with this view, emphasising that the core of subject work was still the same.

Other interviewees stated that there was greater focus on areas like open scholarship, web/library 2.0 and 3.0 tools, and the use of social media to market library services, which required subject staff to change accordingly. Subject librarians were also increasingly expected to establish a greater physical and online visibility. They had to discard their old ways of doing things and adapt to the new ICTs and the new information environment so as to become knowledge creators, facilitators and disseminators. As already stated, in one library the work of the subject librarian had changed greatly and was now carried out by 3 categories of staff: personal librarians, search librarians and collection developers.

5.7 QUALIFICATIONS, SKILLS AND EXPERIENCE

Having looked at the roles and responsibilities of subject and learning support service librarians, the study’s next objective was to establish the skills (including educational qualifications) held by respondents, and those required by subject librarians.

5.7.1 Skills of subject librarians

Respondents were first asked about their management/interpersonal, core/technical and technological skills - which ones they had and which ones they thought they should have.

5.7.1.1 Management or interpersonal skills needed by subject librarians

The questionnaire listed a number of management or interpersonal skills and asked respondents, on a scale between 4 meaning ‘definitely’ and 1 meaning ‘not at all’, which of them they felt subject librarians needed. With the exception of budgeting and political skills, all the listed skills listed in Table 5.29 were considered to be essential by over 50% of the respondents.

The category ‘other’ encouraged respondents to add any other unlisted management/interpersonal skills which they felt were necessary for subject librarians to possess. Seven respondents mentioned skills discussed with later questions, while 8 mentioned other skills like negotiation, public speaking, assertiveness and professional/personal skills, and characteristics like flexibility, adaptability, open-mindedness and readiness to learn or to develop further skills.

Table 5.29: Management skills needed by subject librarians

<i>Management/interpersonal skills</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Listening skills	119 (98.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.7%)
Communication skills	118 (97.5%)	2 (1.7%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Interpersonal skills	113 (93.4%)	5 (4.1%)	1 (0.8%)	0 (0.0%)	2 (1.7%)
Analytical/critical thinking skills	112 (92.6%)	7 (5.8%)	1 (0.8%)	0 (0.0%)	1 (0.8%)
Knowledge of library policies	110 (90.9%)	9 (7.4%)	1 (0.8%)	0 (0.0%)	1 (0.8%)
Problem-solving skills	110 (90.9%)	8 (6.6%)	2 (1.7%)	0 (0.0%)	1 (0.8%)
Decision-making skills	105 (86.8%)	13 (10.7%)	2 (1.7%)	0 (0.0%)	1 (0.8%)
Ability to be proactive	104 (86.0%)	15 (12.4%)	1 (0.8%)	0 (0.0%)	1 (0.8%)
Team-building skills	92 (76.0%)	21 (17.4%)	7 (5.8%)	0 (0.0%)	1 (0.8%)
Management/organisation skills	91 (75.2%)	25 (20.7%)	4 (3.3%)	0 (0.0%)	1 (0.8%)
Marketing skills	92 (76.0%)	21 (17.4%)	7 (5.8%)	0 (0.0%)	1 (0.8%)
Leadership skills	79 (65.3%)	36 (29.8%)	4 (3.3%)	1 (0.8%)	1 (0.8%)
Budgeting skills	55 (45.4%)	43 (35.5%)	15 (12.4%)	5 (4.1%)	3 (2.5%)
Political skills	36 (29.8%)	57 (47.1%)	21 (17.4%)	4 (3.3%)	3 (2.5%)

5.7.1.2 Core or technical skills

Subject librarians also require certain basic, technical or core skills in order to carry out their duties well. The questionnaire therefore listed certain skills discussed in the literature, and asked

respondents, on a scale between 4, meaning ‘strong’ and 1, meaning ‘none’, to indicate the strength of their skills with regard to each item listed. Table 5.30 shows that over 50% of the respondents had strong skills in all but the last 4 listed areas: cataloguing/classification and metadata skills, e-learning and licensing skills.

Table 5.30: Core/technical skills held by subject librarians

<i>Core/technical skills</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Information search & retrieval skills	108 (89.3%)	12 (9.9%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Knowledge of search engines	100 (82.6%)	20 (16.5%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Knowledge of information sources	96 (79.3%)	24 (19.8%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Knowledge of reference interview	95 (78.5%)	19 (15.7%)	2 (1.7%)	1 (0.8%)	4 (3.3%)
Ability evaluate information sources	91 (75.2%)	28 (23.1%)	1 (0.8%)	0 (0.0%)	1 (0.8%)
Citation skills	82 (67.8%)	35 (28.9%)	3 (2.5%)	0 (0.0%)	1 (0.8%)
Presentation skills	74 (61.2%)	44 (36.4%)	2 (1.7%)	0 (0.0%)	1 (0.8%)
Pedagogic or classroom skills	69 (57.0%)	47 (38.8%)	3 (2.5%)	0 (0.0%)	2 (1.7%)
Knowledge of copyright, plagiarism	67 (55.4%)	44 (36.4%)	9 (7.4%)	0 (0.0%)	1 (0.8%)
Knowledge of reference tools	68 (56.2%)	44 (36.4%)	6 (5.0%)	2 (1.7%)	1 (0.8%)
IL course design skills	61 (50.4%)	45 (37.2%)	9 (7.4%)	4 (3.3%)	2 (1.7%)
E-learning or teaching skills	58 (47.9%)	54 (44.6%)	5 (4.1%)	2 (1.7%)	2 (1.7%)
Cataloguing & classification skills	31 (25.6%)	45 (37.2%)	34 (28.1%)	9 (7.4%)	2 (1.7%)
Metadata skills	22 (18.2%)	54 (44.6%)	31 (25.6%)	11 (9.1%)	3 (2.5%)
Licensing skills	22 (18.2%)	51 (42.1%)	33 (27.3%)	11 (9.1%)	4 (3.3%)

5.7.1.3 Technological skills

Besides technical and/or core skills, subject librarians, by the nature of their work, require skills in information and communication technologies. The researcher, in agreement with Hoskins (2005) that the International Computer Driver’s License (ICDL) included most of the ICT skills needed by subject staff, asked respondents if they possessed an ICDL. The results revealed that only 19 (15.7%) of the respondents possessed the ICDL, 83 (68.6%), did not have it, 1 (0.8%) was not sure what an ICDL was and 18 (14.9%) did not respond to the question.

The researcher then listed a number of ICT skills in the questionnaire and asked respondents how strong their skills were in relation to these, on a scale between 4, meaning ‘strong’ and 1,

meaning ‘none or non-existent’. Most respondents, as shown in Table 5.31, indicated that they had strong skills in electronic mailing, MS-Word, MS-PowerPoint and the library management system. When asked to indicate other ICT-related skills held, not listed in the questionnaire, three respondents mentioned graphic design, copying, printing, and scanning skills. They also mentioned the ability to use software like DreamWeaver, Paint Shop Pro and Blackboard.

Table 5.31: ICT/technological skills held by subject librarians

<i>Technological skills</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Electronic mailing (email)	116 (95.9%)	3 (2.5%)	0 (0.0%)	0 (0.0%)	2 (1.7%)
MS-Word	98 (81.0%)	22 (18.2%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
MS-PowerPoint	82 (67.8%)	33 (27.3%)	5 (4.1%)	0 (0.0%)	1 (0.8%)
Library management system	69 (57.0%)	31 (25.6%)	13 (10.7%)	7 (5.8%)	1 (0.8%)
HTML, XML, PDF etc.	57 (47.1%)	40 (33.1%)	20 (16.5%)	3 (2.5%)	1 (0.8%)
MS-Excel	44 (36.4%)	53 (43.8%)	20 (16.5%)	2 (1.7%)	2 (1.7%)
MS-Publisher	19 (15.7%)	41 (33.9%)	35 (28.9%)	23 (19.0%)	3 (2.5%)
MS-Access	10 (8.3%)	37 (30.6%)	38 (31.4%)	35 (28.9%)	1 (0.8%)
Web design	9 (7.4%)	42 (34.7%)	38 (31.4%)	29 (24.0%)	3 (2.5%)

5.7.1.4 Acquisition of skills

In order to determine how participants acquired their skills, through formal degree courses, or other methods, the researcher listed a number of methods in the questionnaire and asked respondents, on a scale of between 4, meaning ‘mostly’, and 1 meaning ‘never’, which methods they employed. As shown in Table 5.32, more than 50% of the respondents were self-taught, had attended training workshops or had received in-service training, while more than a third indicated that they had acquired their skills by observing colleagues. It was interesting to note that only 36 (29.8%) respondents indicated that their skills were acquired as part of their degree course.

As usual, an ‘other’ category was added for participants to indicate methods they used to acquire their skills that were not listed in the questionnaire. Three respondents mentioned that they took online courses, received basic training in new online products from product vendors and participated in self-training within a group - with the aim of cascading downwards the skills they acquired.

Table 5.32: Methods used to acquired ICT and core/technical skills

<i>Training methods</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1</i>	<i>NR</i>
Self-taught	79 (65.3%)	32 (26.4%)	2 (1.7%)	2 (1.7%)	6 (5.0%)
Training workshop	69 (57.0%)	39 (32.2%)	5 (4.1%)	3 (2.5%)	5 (4.1%)
In-service training	66 (54.5%)	28 (23.1%)	5 (4.1%)	12 (9.9%)	10 (8.3%)
Observation of colleagues	53 (43.8%)	36 (29.8%)	15 (12.4%)	5 (4.1%)	12 (9.9%)
Part of a degree course	36 (29.8%)	29 (24.0%)	16 (13.2%)	30 (24.8%)	10 (8.3%)
Informal non-degree course	28 (23.1%)	34 (28.1%)	17 (14.0%)	32 (26.4%)	10 (8.3%)
Library Association course	23 (19.0%)	32 (26.4%)	20 (16.5%)	35 (28.9%)	11 (9.1%)

5.7.1.5 New skills required by subject librarians

To ascertain whether or not participants felt that their skills were adequate for the job of subject librarian, they were asked if they needed more or new skills. Ninety-one (75.2%) respondents felt that they did, 28 (23.1%) that they did not and 2 (1.7%) did not respond to the question. The respondents who felt that they required more skills were asked to specify in which areas they needed them, and these are listed in Table 5.33. Some listed more than one skill, so the number does not total 91.

Table 5.33: Skills required by subject librarians

<i>Areas where skills needed</i>	<i>Frequency</i>	<i>%</i>
ICT related skills	51	42.1
Teaching: instruction, pedagogic, IL instruction, curriculum development	11	9.1
Advanced search, research and academic writing skills	11	9.1
Management organisation and leadership of human resources, projects and others	8	6.6
Data curation, metadata, digitisation, archival skills for IR duties	7	5.8
Publishing skills – including the use of software like Microsoft Publisher	5	4.1
Presentation/public speaking skills including the use of Microsoft PowerPoint	4	3.3
Statistical software skills – including use of SPSS and Microsoft Excel	4	3.3
Marketing/promotion skills to market subject services and information resources	3	2.5
Other	13	10.7

Note: Some respondents gave multiple answers so the responses do not total 91

As anticipated ICT related skills were mentioned by most respondents, with 51 (42.1%) stating that there was a need to keep abreast of new technologies and to develop the skills needed to use

them. The ICT areas they mentioned included: web design, online cataloguing and classification, HTML, virtual referencing, online chats, use of mobile technologies like cell-phones and tablets in education, construction of subject portals, and use of social media and web 2.0/3.0 tools like wikis, blogs and other media.

Five of the respondents who mentioned teaching skills, clarified this by stating that they needed to know how to design curricula, to create teaching objects, to conduct curriculum integrated IL training and/or to conduct online training using podcasts and programmes like Camtasia, Moodle and/or Blackboard.

Advanced search skills were also mentioned by some respondents, including how to make full use of electronic resources and search engines, and a few also mentioned that they needed to know how to reference correctly, with or without using referencing software.

Other areas requiring skills, mentioned by at least one respondent included: using bibliometric services and undertaking the bibliometric evaluation and assessment for researchers; assisting researchers to apply for research grants; hardware troubleshooting (so as to avoid over-dependence on the IT department); networking; programming; constructing databases including using Microsoft Access; becoming embedded librarians; using Skype; fund raising; acquisitions and commerce. Three respondents also mentioned that they needed to improve all the areas that they were not so strong in.

Furthermore, interviewees indicated that subject librarians required the following: ICT skills including competence in various software applications like statistical and referencing software; personal skills like flexibility, a willingness to lead change, to push the boundaries, to be curious and to be proactive and innovative; the ability to be client and service oriented and have an understanding of their target markets, for example researchers, faculty and postgraduate students; good writing skills, so as to be able to communicate with faculty, make presentations and present reports to them; information search and retrieval skills; teaching and research skills; knowledge of various media; and a willingness to develop subject knowledge and metadata skills.

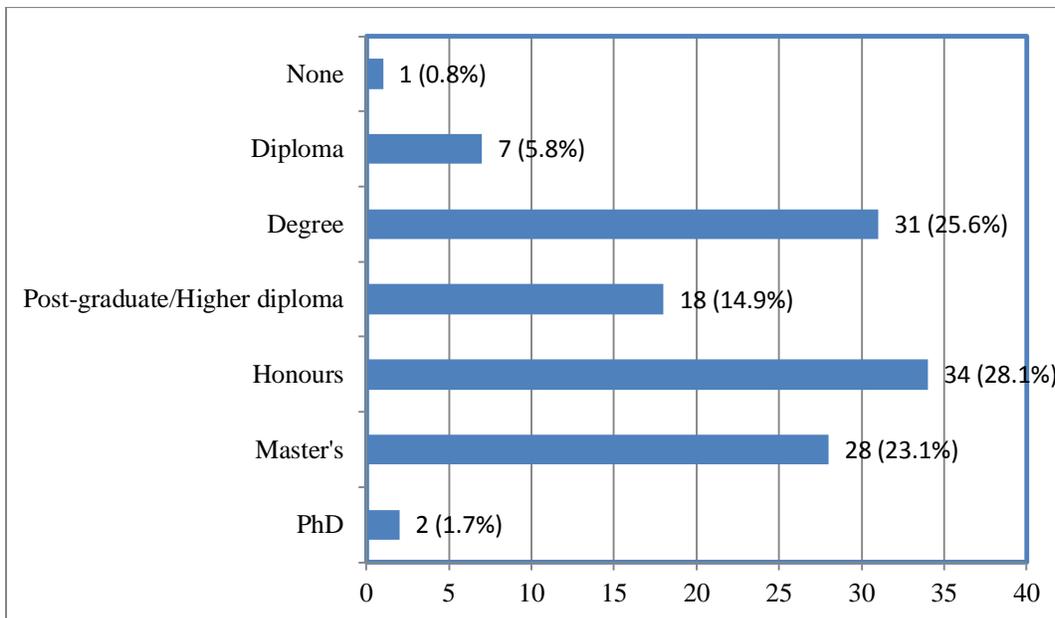
5.7.2 Qualifications

Subject librarians, as revealed by the study, require various management, core and technological skills. LIS writers wrote that it was also important for applicants for subject librarian jobs to have degrees in their designated subject (Hooper-Lane 1999), while others wrote that they were expected to have degrees in library science (Eglin 2011; Brewerton 2011). Therefore the researcher was interested in finding out what formal qualifications, including non-LIS qualifications participants held.

5.7.2.1 Library and information science (LIS) qualifications

The study revealed that only one respondent did not have an LIS qualification. Chart 5.7 reveals the highest LIS qualifications held by the other 120 respondents, only 7 (5.8%) of which were below degree level. Interviewees clarified these findings as they indicated that the minimum qualifications required for the post of subject librarian were a four year LIS degree or an Honours Bachelor of Bibliology degree.

Chart 5.7: Highest LIS qualification held by respondents



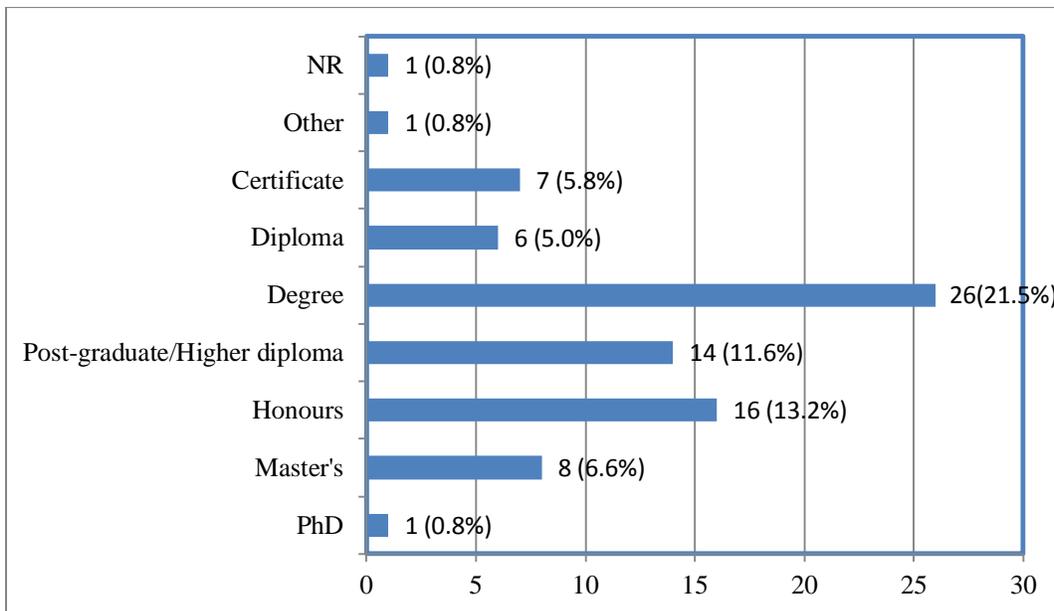
One interviewee questioned the suitability of the Honours Bachelor of Bibliology degree because, although in the past it had contained education subjects, currently it tended to comprise of four years of LIS subjects which, s/he felt, did not give librarians enough grounding in the

humanities and/or other subjects. This deficiency put subject staff at a disadvantage when dealing with academics, as they did not necessarily understand the methodology and/or areas of critical enquiry of the subjects they had to work with.

5.7.2.2 Non-LIS qualifications

Since the literature contains much debate about the need for subject librarians to have non-LIS qualifications, the researcher wanted to determine how many respondents held these. Over half of them, that is, 80 (66.1%) indicated that they had non-LIS qualifications, 28 (23.1%) that did not and 13 (10.7%) did not answer the question. Chart 5.8 reveals the highest non-LIS qualification held by respondents, only 15 (12.4%) of whom held them at below degree level. Three of the respondents who held certificates, and one who held a diploma indicated that they had obtained them in IT related subjects, including the ICDL and e-learning. One respondent had obtained a certificate in project management, while another had completed a ‘programme in excellence’ course.

Chart 5.8: Highest non-LIS qualifications held by respondents



Four interviewees indicated that non-LIS degree holders were employable as subject librarians only if they also held postgraduate LIS qualifications. The other two stated that while they were still employable without post-graduate LIS qualifications, they would be employed at assistant

librarian level, and they would still be required to obtain LIS qualifications, so that they acquired a strong foundation in librarianship and a clear career path to follow. Furthermore, 4 interviewees indicated that they would locate these non-LIS degree holders in their subject areas. One interviewee however, while acknowledging that this would be the ideal scenario, explained that this was not always possible. The other interviewee indicated that his/her university encouraged rotation; also that, since another subject librarian might already be working in the subject area in question, they would have to negotiate with them to change departments, which could be tricky, as they would have developed competencies in the subject area and might not want to change.

The researcher wanted to know whether or not subject librarians gravitated to the same non-LIS areas, so respondents were asked to indicate the subject of their non-LIS qualifications. The responses revealed a wide array of subject studied, most of them falling in the humanities. Qualifications were held in the following subjects and related areas: education, various languages, geography/environmental sciences, psychology, history, public administration, political science, business studies, literature, religious studies, computer science, law, accounting/financial management, mathematics/statistics, music, chemistry, philology and dietetics.

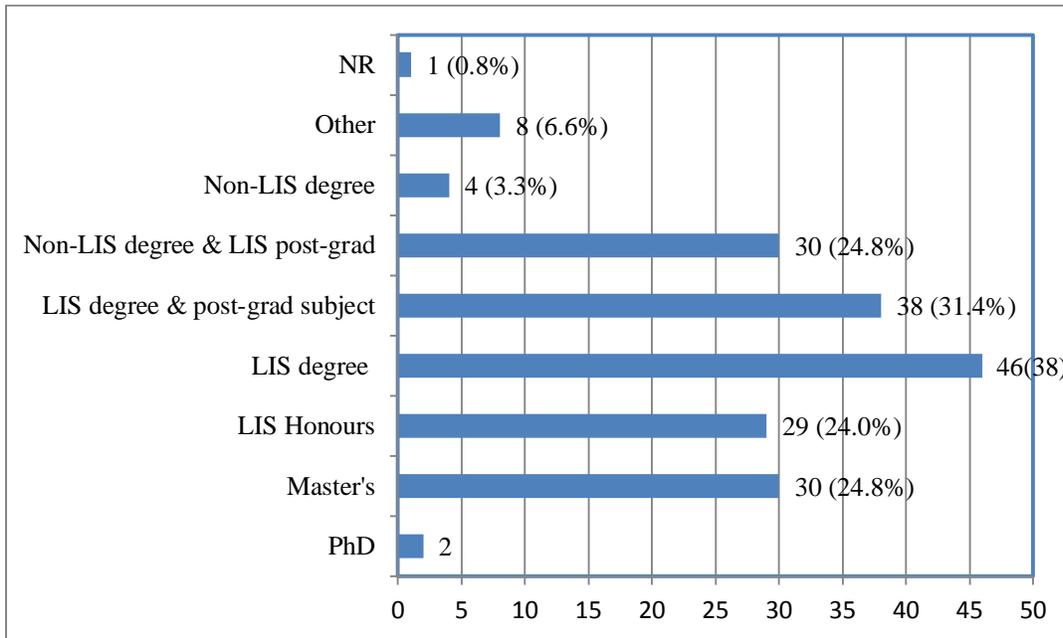
5.7.2.3 Recommended qualifications

Respondents were next asked to indicate the qualifications they felt subject librarians needed to do their jobs well. Only two respondents did not answer the question, while others indicated two or more qualifications. The qualifications most respondents specified as being the most desirable for subject librarians, as shown in Chart 5.9 were an LIS degree (38%), an LIS degree plus a postgraduate qualification in the subject area served (31.4%), or a non-LIS degree plus a post-graduate LIS qualification (24.8%).

Some respondents also added their views. Two advocated for a degree or post-graduate qualification in education, with one explaining that it would be useful for subject librarians as they spent so much time teaching information literacy. One felt that a PhD would be useful especially if the holder was responsible for supporting post-graduate students. Another felt that

an IT-related degree plus a post-graduate LIS qualification was ideal, possibly because so much subject work was technologically driven.

Chart 5.9: Recommended qualifications by subject librarians



5.7.2.4 Subject librarianship in LIS degree courses

Since library schools are responsible for producing professional librarians, the researcher was interested in how well respondents felt they were achieving their mandate in terms of subject librarians, on a level between 5, meaning ‘very well’ to 1 meaning ‘not at all’. Table 5.34 reveals that only 33.8% of the respondents felt that LIS courses prepared them well for the job.

Table 5.34: Level of preparation of subject librarians by LIS courses

Answer	5-High	4	3	2	1-Low	NR	Total
Frequency	9	32	42	24	9	5	121
Percent	7.4	26.4	34.7	19.8	7.4	4.1	100.0

However, when asked which areas were neglected/not covered by degree courses, as shown in Table 5.35, only 66 participants responded, but some of them mentioned more than one area of neglect. The area they felt was most neglected was ICT/technology.

Table 5.35: Areas neglected by LIS courses

<i>Area</i>	<i>Frequency</i>
ICT skills: Various database interfaces, systems, web designs, mobile technologies	25
Subject/research skills: Specialisation in finding resources for specific subject fields	18
Pedagogic skills: How to teach/train users to be information literate	9
Collection management skills: Cataloguing and classification	9
Interpersonal skills: Faculty liaison, interaction and/or communication	5
Marketing skills: Promoting library resources and subject librarian services	3
General knowledge: Policies, procedures and rules important to the profession	4
Practical skills: How to carry out specific subject librarian activities	3
Presentation skills: Writing and presentation especially for IL classes	2
Data curation skills: Digitisation and/or building/managing institutional repositories	2
Personal skills: How to be a good leader and a proactive subject librarian	1

NB: Multiple responses were given by some respondents so the total is not 66

One respondent thought library schools should allow students to specialise in a specific area of library work, for example subject and research support; two explained that although they had studied many years ago, when most systems were manual, they felt that the theory was still the same and that what had changed were the methods; while another felt that the curriculum was better now. Four respondents felt that the LIS syllabus needed updating as it was too traditional or general and did not contain enough about 21st century librarianship; two felt that LIS graduates lacked knowledge about the professional aspects of the job; while another felt that it would be difficult for LIS courses to include subject librarianship in the syllabus. Four respondents mentioned that although LIS courses taught students what they needed to know about subject librarianship, new graduates lacked experience, which no course could give them. At least one respondent also mentioned one of the following areas as lacking in the syllabus: how to find subject-specific information from various sources; how to teach IL classes; research and online skills, interpersonal skills, marketing skills, and data curation. Cataloguing and classification were mentioned by some respondents as being neglected, even though they were still important, as they taught respondents subject analysis.

5.7.2.5 Continuing professional development

Since the field of subject librarianship is constantly changing, continuing education and/or professional development is a prominent issue in many academic libraries. Respondents were asked how important continuing education/training was to them, on a level between 5 meaning ‘very important’ and 1 meaning ‘not important’. As anticipated, since subject librarianship is a dynamic and ever-changing profession. Table 5.36 reveals that most respondents (95.8%) saw continuing education as being important or very important.

Table 5.36: Importance of continuing education/training

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>Total</i>
<i>Frequency</i>	92	24	5	0	0	121
<i>Percent</i>	76.0	19.8	4.1	0.0	0.0	100.0

To determine employer commitment to developing their staff, respondents were then asked if their employers had ever paid for their further training or for their attendance at workshops. As shown in Table 5.37, employers had paid for the continuing education of more than half of the respondents, thus indicating that they acknowledged its importance.

Table 5.37: Employer funding of continuing education

<i>Answer</i>	<i>Further training</i>		<i>Workshop attendance</i>	
<i>Yes</i>	82	67.8	111	91.7
<i>No</i>	38	31.4	10	8.3
<i>No response</i>	1	0.8	0	0.0
<i>Total</i>	121	100.0	121	100.0

To confirm the importance they placed on continuing education, participants were asked about their employers’ willingness to pay for further training/workshop attendance, on a scale between 5 meaning ‘definitely’ and 1 meaning ‘not at all’, the findings shown in Table 5.38 confirmed employers view of the importance of further training, as 78.5% were sure that their employers would pay for it.

Table 5.38: Willingness of employers to pay for continuing education

<i>Answer</i>	<i>5-Yes</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-No</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	73	22	18	2	5	1	121
<i>Percent</i>	60.3	18.2	14.9	1.6	4.1	0.8	100.0

Interviewees made it clear that they supported continuing education as long as funds were available, and as long as the training was relevant to the job. As part of continuing development, some universities allowed library staff to enrol in formal LIS courses after a certain period of employment, and at a discount. In one library, besides the basic library induction and orientation programmes given to all new staff, the library ran a strong staff-managed internal training programme, whereby presentations on new resources, tools and skills were given. In another library a very proactive group looked after staff training, using various methods including webinars. Library association training, conference and workshop attendance, library school training programmes and any relevant courses offered by the university were also methods of training used. In some of those libraries where staff attended conferences, workshops or library association training, since not everyone could attend, attendees were expected to share their experiences/training with colleagues.

However, since the researcher realised that not all employers would be willing/able to pay for further training, respondents who indicated that they were in that situation were asked if they would be willing to pay their own way. Two said they would, two said probably/maybe, and one said no.

5.7.2.6 Exchange programmes

Interviewees were asked, as part of further or cooperative training, if they would be agreeable for their staff to take part in exchange programmes, whereby they imparted their skills to colleagues in other libraries, and in turn learnt from them. All of them were very positive about this type of skills acquisition/transfer. One stated that since librarians in the region had their own best practices and innovative ways of working and ‘making do’ with scarce resources, they could all learn from each other. However, some interviewees emphasised that the cost of such exchange programmes should not be borne by one institution, but should be shared equally. One

interviewee explained that exchange programmes were already in place to some extent, as they belonged to a consortium which had conducted skills analysis exercise of the staff in member libraries, and where participants were weak, experts within the consortium had provided training, or outside training was sought when no consortium members were able to provide it.

5.8 PROFESSIONAL SUPPORT, STANDARDS AND GUIDELINES

This study investigated the roles, responsibilities and skills of subject and learning support service librarians, with the aim of adding to the scarce information about this category of library professional, and of compiling guidelines for those universities thinking about establishing new subject and learning support services in their libraries.

5.8.1 Professional support from association and CoPs

Professional associations or communities of practice would normally be responsible for compiling guidelines/standards for any profession, as well as providing training and encouraging networking, cooperation and resource/expertise sharing. The researcher therefore wanted to determine if any such groups, specifically targeting subject librarians, existed. The researcher first asked respondents how important external networking was to them, on a scale between 5, meaning ‘very important’ and 1, meaning ‘not important’. Table 5.39 reveals, as expected, that networking was important or very important to most of them (85.5%).

Table 5.39: Level of importance of networking for subject librarians

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	71	31	14	1	0	4	121
<i>Percent</i>	58.7	25.6	11.6	0.8	0.0	3.3	100.0

Respondents were then asked if they were aware of any association or Community of Practice (CoP) for Subject Librarians in the region. Eighty-eight (72.7%) respondents said ‘no’, 27 (22.3%) said ‘yes’ and 6 (5%) did not answer the question. Those who said ‘yes’ were then asked to indicate the names and location of these associations/CoPs. Some of them then mentioned more than one, and all of them were based in Gauteng, South Africa. LIASA (Library and Information Association of South Africa) was mentioned by most of them, with one stating

however, that there was insufficient emphasis in that organisation for academic librarians, and another stating that it was not dedicated to subject librarians.

Three respondents explained that there were interest groups within LIASA, like the HELIG (Higher Education Library Interest Group) or the WCHELIG (Western Cape Higher Education Library Interest Group) that had links to subject librarianship. SAOUG (Southern African Online User Group) was mentioned by nine respondents, OSALL (Organisation of South African Law Libraries) by three and SLIS (Special Library Information Services) by one. Furthermore one respondent mentioned that s/he belonged to an informal online group for his/her subject, but that this was not a subject librarian association. None of the respondents mentioned an association or CoP specifically and solely targeted at subject librarians as a professional grouping.

5.8.2 Importance of guidelines

The next objective to be met by the researcher was the compilation of guidelines for the profession. However, these had to first be regarded as essential by subject librarians, so study participants were asked, on a scale from 5 meaning ‘very’ to 1 meaning ‘not at all’, how important guidelines for the profession were to them. Table 5.40 reveals that most of them (76%) indicated that guidelines were either important or very important.

Table 5.40: Level of importance of guidelines for subject librarians

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>NR</i>	<i>Total</i>
<i>Frequency</i>	53	39	17	1	3	8	121
<i>Percent</i>	43.8	32.2	14.0	0.8	2.5	6.6	100.0

In order not to ‘reinvent the wheel’, respondents were then asked if they were aware of any standards/guidelines for subject and learning support service librarians in the region, and 106 (87.6%) said ‘no’, 13 (10.7%) said ‘yes, and 2 (1.6) did not respond to the question. Those respondents who were aware of existing standards were asked to indicate who had compiled them and how they could be accessed. Three respondents did not specify the standards, while 4 mentioned internal standards, 3 mentioned LIASA standards while another mentioned ‘international standards’ without further explanation. Two respondents mentioned CHELSA (Committee of Higher Education Librarians of South Africa) and SABINET (South African

Bibliographic Information Network) standards respectively. However since none of these organisations had standards specifically and solely tailored for subject librarians, the researcher felt justified in compiling the guidelines attached as an appendix to the study.

5.9 PERCEPTIONS OF AND FUTURE OF SUBJECT LIBRARIANSHIP

The study would not have been complete without asking respondents their views about their roles, responsibilities and skills; also what they perceived as the future of the profession in general and their future within the profession in particular.

5.9.1 Personal perception of the profession

Respondents were asked, on a scale between 5 meaning ‘very important’ and 1 meaning ‘not important’, whether they felt that subject librarians today were regarded as an important part of the library. It was good to note, as shown in Table 5.41, that 69.4% of the respondents believed that subject librarians were viewed as a very important part of their libraries.

Table 5.41: Importance of subject librarians to the library

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>Total</i>
<i>Frequency</i>	84	25	10	2	0	121
<i>Percent</i>	69.4	20.7	8.3	1.6	0.0	100.0

Interviewees confirmed the value of subject librarians in their institutions. The reasons they gave included that: they worked hard at carrying out IL training and directly engaging with faculty, which increased their visibility and value; faculty became used to their subject librarians and demonstrated their dependence on them in various ways; faculty sent complimentary letters about their subject staff to management; faculty depended on subject staff to assist them with their accreditation and; when subject librarians presented seminars, they were often complemented on their skills and the good information and training they passed on. One interviewee emphasised that in their institution, the library as a whole was in good standing with faculty, and that the faculty library managers who sat on various academic boards were further able to establish good relations with deans and heads of department (HODs).

5.9.1.1 Level of satisfaction with the profession.

Respondents were next asked, on a scale between 5 meaning ‘definitely’ and 1 meaning ‘not at all’, if they were happy working as subject librarians. It was encouraging to note, as shown in Table 5.42, that 114 (94.2%) respondents were either happy or very happy in their work.

Table 5.42: Level of happiness working as subject librarians

<i>Answer</i>	<i>5-High</i>	<i>4</i>	<i>3</i>	<i>2</i>	<i>1-Low</i>	<i>Total</i>
<i>Frequency</i>	89	25	6	1	0	121
<i>Percent</i>	73.6	20.7	5.0	0.8	0.0	100.0

As a follow-up question, respondents were asked to state what encouraged or interested them the most about subject librarianship. The answers given varied and are summarised in Table 5.43. Of major interest to respondents was assisting, interacting with and training clients. Respondents also appreciated the dynamism of the profession.

Table 5.43: Encouraging/interesting aspects of subject librarianship

<i>Encouraging or interesting areas</i>	<i>Frequency</i>
Assisting clients to fulfil their general, subject-specific information/research needs	42
The dynamism of the profession, its collections/ICTs and always learning new skills	42
Interacting/liaising with students/clients at undergraduate or post-graduate level	29
Training/empowering information literate, independent, lifelong learners/researchers	25
Interacting/liaising and building relationships with faculty and their programmes	16
Acquiring strong subject knowledge and expertise in useful subject-specific resources	17
Getting appreciation from users who have been successfully assisted, guided or trained	5
Evaluating and procuring useful information resources/collection development	3
Other	9

NB: Multiple answers were given by some respondents, so the total is not 114

The other areas that interested at least one respondent included the continuing advances in ICTs which enhanced the profession, the great variety of duties that they carried out - which meant that they could never be bored, and the knowledge that they were contributing to the pool of skilled workers in their country. At least one respondent was also interested in the opportunity to identify and procure useful resources, to develop professionally, to conduct research in the field,

to be involved in web design, to assist with e-learning activities, to work in the library profession, and to be able to work independently.

5.9.1.2 Dissatisfaction with the profession

However, as with every profession, there are ‘down’ sides to subject librarianship, therefore respondents were next asked what discouraged or worried them the most about subject librarianship. Table 5.44 lists aspects that some colleagues identified as causing them concern, with the ones most often pinpointed being what was perceived as a negative attitude to the profession, as well as feeling over-worked, under-appreciated and unable to fully complete assigned duties.

Table 5.44: Discouraging/worrying aspects of subject librarianship

<i>Discouraging/worrying areas</i>	<i>Frequency</i>
Old and negative attitudes to, or perception of the profession	20
Being over-worked (unable to complete duties fully) and/or under-appreciated	19
Lack of subject knowledge which undermines the ability to assist users	9
Lack of promotion, low salaries, high turnover, low recruitment numbers	8
New subject librarians’ lack of dedication, training and/or experience	8
Student dependency/desire to be continually spoon-fed	8
Lack of uniformity in competence/training/duties/professional development	7
Bureaucracy or lack of support from library management	5
Lack of training/experience of new subject librarians	5
Inadequate budget so ideas are not followed through/resources are not renewed	2
Inadequate resources leading to inadequate research support	2
Inability to keep up with developments in ICTs	2
Poor usage of library resources because of the workload of clients	2
Lack of support from the IT department	2
Other	18

Note: The frequencies do not add up to 100% as some respondents gave multiple reasons, while other gave none.

Although some respondents felt that not enough new or young subject librarians were entering the profession, eight others expressed the view that new subject librarians lacked experience and training in subject work. One respondent added that some new subject librarians lacked

dedication, while another felt that some new incumbents were being promoted without having the requisite experience, thus leading them to believe that, since they were already ‘on top of the heap’, they did not need to develop themselves further. Other discouraging aspects that were mentioned by at least one respondent included: the lack of support or understanding of the role of the subject librarian, which resulted from bureaucracy or poor management; the high price of information resources; the length of time it took to acquire information resources; the increase in faculty/student numbers with no corresponding increase in subject librarian numbers; the fact that information literacy was not compulsory, thus leading to some staff and students concluding that it was unimportant; being expected to teach information literacy classes; the lack of marketing of the profession; the lack of quality control in the work of subject librarians; the falling away of traditional duties like cataloguing and classification; the dangers that faced subject librarians who were too subject-oriented; and the danger of a ‘them/us’ scenario developing between subject librarians and other library staff. One respondent had the ‘nagging feeling that one could do better’ and, surprisingly, one respondent complained that s/he felt under-worked.

5.9.2 Future of the profession

A review of the literature revealed a fear for the future of subject librarianship, especially in developed country university libraries (Chillingworth 2005), mainly due to on-going technological developments which gave some users and administrators the impression that users no longer needed the assistance of subject librarians or other ‘infomediaries’.

5.9.2.1 Individual future

In order to determine whether or not respondents in the region believed they had a future in the profession, they were asked if they would continue working as subject librarians until they retired. It was really encouraging to note, as shown in Table 5.45, that 82 (67.8%) respondents saw themselves remaining in the profession until retirement.

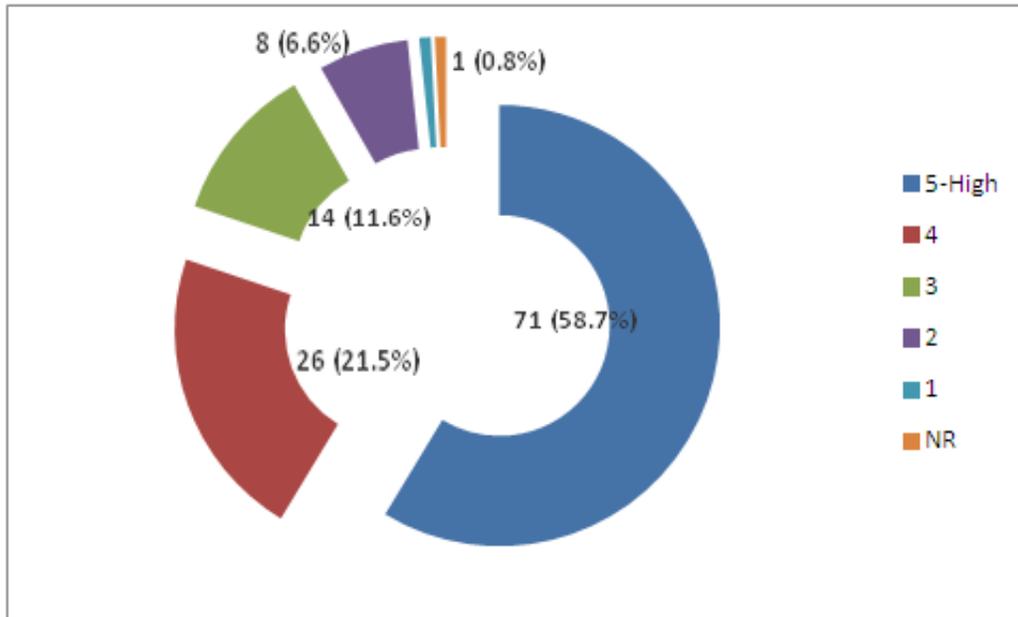
Table 5.45: Individual future within the profession

Answer	5-High	4	3	2	1-Low	NR	Total
Frequency	56	26	17	7	14	1	121
Percent	46.2	21.5	14.0	5.8	11.6	0.8	100.0

5.9.2.2 Future of the profession as a whole

Participants were then asked on a scale from a high 5 to a low 1 if they thought that subject librarians would remain a major part of the university come 2025. Once again, as illustrated in Chart 5.10, it was encouraging that most of them (80.2%) believed the future of the profession was good/high.

Chart 5.10: Future of the profession



Respondents were then asked why they believed the future was good for the profession; 110 gave their reasons, but they do not total 110 as some gave more than one. Besides the reasons shown in Table 5.46, one respondent felt that although subject librarians were here to stay, their roles, skills and possibly even their titles would need to change so as to be in line with advances in technology and with new information formats/devices. Another believed that new roles like embedded librarianship and virtual subject librarianship would have to be seriously considered. At least three respondents saw project-based rather than subject-based information services being

provided in the future, services to undergraduate and post-graduate students being separated, and duties like data curation, preservation and management increasing in importance. Finally, two respondents felt that, in order to stay relevant, subject librarians had to carry out constant needs assessments and evidence-based research, and they had to constantly develop themselves, personally and professionally.

Table 5.46: Reasons subject librarians will remain central to the library

<i>Reasons subject librarians will still be important by the year 2025</i>	<i>Frequency</i>
Their infomediary or information gateway role will remain important for many years	69
They will always be needed to train or empower users to use new information resources	21
They will always be needed to provide research support or assistance	16
They will remain but their role/skills are dynamic and will always change and evolve	21
Their role as faculty-library liaison is important	8
Their subject knowledge makes them valuable collection developers	7
They provide the often necessary human element/contact in the search for information	4

Note: Multiple responses were given by some participants; therefore the total is not 121 or 100%

On the whole, interviewees also believed that subject librarianship would survive. Some of them explained that there would always be students who were not comfortable or familiar with ICTs, search strategies, issues like plagiarism, and statistical software and referencing tools, and since some of them also came from regions where libraries were scarce, they would need assistance from intermediaries. Some academic staff would also require help, especially those who were still wary of technology. However subject librarians had to be prepared to become more visible and not to just sit in their offices waiting for patrons to visit them. One interviewee stated that the role of subject support staff was emerging as a critical area, which was proactive and engaging, especially with the introduction of new trends like repositories and new tools. However, subject staff should not feel threatened by the internet or regard it as a competitor, but should rather view it as a partner. Another interviewee felt that subject librarian survival depended on their attitude, that is, they needed to take an active part in the teaching, learning and research cycle, and to become creators of knowledge.

However, on the negative side, 8 (6.6%) respondents were unsure whether or not subject librarians would still be visible in the academic library by the year 2025, while one believed that they would become extinct. In explanation, one respondent wrote that subject staff would become more and more unnecessary, especially with more user-friendly ICTs being developed. Another said that the profession was not attracting young graduates because it was no longer attractive, and further, that incumbents were not recognised, paid well or given chances for promotion. One respondent believed that subject librarians would soon fall by the wayside because they were too costly to maintain. Another complained that the subject librarian area was being invaded, adding that, in their institution, when some units were closed, the staff were 'dumped' in the library, leading to the erosion of library core values. Finally one respondent complained about the encroachment of other units like ICT on subject librarians' territory – a situation which s/he believed was being allowed to continue because it helped to cut costs.

5.10 OBSERVATIONS ABOUT THE SURVEY AND CHAPTER SUMMARY

In order to assist any researchers who may want to replicate or improve on this study in the future, respondents were asked to give their general observations or comments about the survey. A total of 107 respondents gave their views, most of which were encouraging. Some of the comments were that it covered the areas relevant to the job; that the results would add to knowledge about the field; that it was interesting, OK, comprehensive, well-compiled, user-friendly, short, thought-provoking, eye-opening about the profession, and that there were 'ample' open questions. One respondent hoped that guidelines would result from it so as to help those unsure about what their job entailed, while another hoped it would clarify the role of the subject librarian and produce a list of requisite skills so that their training could be tailored accordingly. One participant recommended the involvement of consortia to carry the profession forward, while another wrote that the survey gave him/her hope for more library-focussed research being carried out in the future.

However, not all comments were positive, with 20.7% of the respondents stating that the questionnaire was too long and/or time consuming. Five respondents felt that some questions were difficult to answer, repetitive or unclear, while two felt that more options were needed with

some of the questions. One respondent felt that the survey was not always applicable to Faculty Librarians, another felt that it was difficult to categorise some areas asked about because of the setup of their library services, while another felt that some terms like 'Board of Studies' were unfamiliar therefore confusing. However, although one respondent wrote that the term 'subject librarian' should have been explained in the questionnaire as it meant different things to different people - this explanation *was* included in the cover letter which accompanied the first mailing; and while another respondent wrote that it was interesting that s/he had not been asked where s/he worked or what his/her subject specialties were, for purposes of confidentiality and anonymity the former was not noted and the latter was not seen as important to this study.

In conclusion, interviewees were also asked for additional comments and/or observations about the study. They mentioned the following: That subject librarians cannot work in isolation, but should demonstrate their value and engage in internal and regional discussions with academics and library colleagues so as to align their strategies with global, regional, national, and internal university strategies; That academics were comfortable with their subject librarians, but that the latter should increase their virtual presence and become more involved with the research process by carrying out research and disseminating their own research findings in various forums; That the study would open the eyes of current subject librarians and suggest areas where they could further develop their competencies; That library schools offered a three year degree as required by the qualification framework, yet libraries still advertised for candidates with four year degrees, so library schools and libraries needed to have discussions so as to come up with an agreed qualification; That core skills like cataloguing and classification were being eroded, so that only older colleagues were experts in these areas which still formed the core of LIS and which helped librarians to break down search queries; That some subject librarians, instead of complaining about having to attend board of studies and other academic meetings where only things of interest to academics were discussed, should rather be proactive at these meetings and ask to be added to the agenda so as to market new services and resources as they were added to the library, and should also work at getting information literacy recognised and timetabled so that it became a recognised and credit-bearing course in the university; That quality assurance of all subject librarian services should be carried out by clients through evaluation forms so as to measure their satisfaction and to highlight areas that required improvement.

5.11 CHAPTER SUMMARY

Chapter Five presented the results of the survey. These revealed that the most common model of subject librarianship in academic libraries in the SACU region was the dual model (50.4%), whereby subject librarians carried out subject-related work while other library personnel carried out the other library functions. Subject staff were known by a number of different titles, the most common being Librarian, subject librarian, faculty librarian, information specialist and information librarian.

The study concluded that the main roles of subject staff still revolved around providing and facilitating subject-specific information so as to support the teaching, learning and research needs of the university. However, embedding services and empowering users were added roles. The key responsibilities areas of subject librarians remained reference/research support, information literacy (IL) training and faculty liaison, with the only changes coming about because of technological advances. Collection development and marketing were also still KRAs for subject librarians, but not to the same extent as the others. The study also revealed the main duties attached to each KRA. The study also revealed the management/interpersonal, core/technical and technological skills and LIS and non-LIS qualifications held or required by subject staff. Most respondents held LIS qualifications at degree level or higher, while more than half of them (66.1%) also held non-LIS qualifications, many also at degree level or higher. The study also revealed the various possessed by participants.

While respondents revealed the challenges they faced while carrying out their various duties, 94.3% were happy in their work, 67.7% indicated an intention to continue in the profession until retirement, while 80.2% were of the opinion that subject librarianship would still be going strong by the year 2025. What interested most respondents were the duties that required them to assist, interact with or train users. Finally, the study revealed that no specific subject librarian associations or communities of practice exist, and neither do standards and/or guidelines. Since 77% felt that these were important, thus justifying the compilation of the guidelines attached in the form of an appendix.

CHAPTER SIX

INTERPRETATION AND DISCUSSION OF RESULTS

6.1 INTRODUCTION

In the previous chapter the findings from study respondents and interviewees were presented and analysed. In this chapter, the findings are discussed and interpreted. According to Kumar (2002:171) data analysis and interpretation are closely related, with the former presenting “general conclusions” gathered from the data, and the latter establishing relationships and the reasons for these relationships.

According to Robinson (n.d.) interpretation asks the question “so what” in relation to the findings, while Leedy and Ormrod (2005:276) state that data interpretation involves:

- Tying the findings to the rationale for the research, that is, the questions and objectives;
- Tying the findings to what is already known, for example, what was discussed in the literature review, in order to either confirm or deny this common knowledge;
- Establishing the practical value and/or usefulness of the research and its findings ;
- Establishing the limitations or weaknesses of the study.

In other words, data interpretation is that part of the research process where the researcher looks closely at the data found, and explain these findings, whilst also comparing them to the findings and explanations put forward by other researchers or writers (Blaxter, Hughes & Tight 2006:219). Therefore, the researcher’s interpretation of the findings will be put forward in this chapter and, wherever relevant, the thoughts and insights of library and information science (LIS) and other writers will be added to clarify the researcher’s views or to offer an alternative reasoning.

The aim of this study was to investigate the roles, responsibilities and skills of subject librarians, with the purpose of increasing knowledge about the profession and compiling guidelines for use by university libraries wanting to establish new subject librarian services. The research questions asked were:

- What models or structures for subject librarianship are in place within the Southern African Customs Union (SACU) region?
- What are the roles, responsibilities and skills of subject librarians in the SACU region?
- Have these roles, responsibilities and skills changed; if so, how and why?
- Are there any existing regional procedures for subject and learning support services which can be used as a basis for the compilation of modern guidelines?

Through the literature search, the study traced the development of subject and learning support librarians from their beginning in the 20th century, until their evolution in the present day. It also looked at the impact of technological advances and the new information environment on the profession, and then, using the survey, answered the above-mentioned research questions.

The following data interpretation and discussion arranges related aspects of subject librarianship together in a way that makes the findings easier to understand, starting with the working environment of subject staff, and then moving on to the roles, titles, responsibilities, skills including educational qualifications, and the perceptions of the status and future of the profession. It concludes by discussing the importance of professional subject librarian associations and communities of practice, and suggesting guidelines for the profession. As in Chapter Five, to avoid confusion, subject, faculty, information, personal and learning support librarians are collectively and primarily referred to as subject librarians or subject staff. However, the results of the study must be treated with caution, because as explained in Chapter Four, not all subject librarians identified as part of the target population were surveyed.

6.2 LIBRARY ENVIRONMENT

Subject librarianship was first implemented in university libraries, in the west, in the 1920s (Feetham 2006). However, although it was in existence in a few African libraries by 1967 (Qobose 2001:142), it only really gained popularity from the 1980s (Agyen-Gyasi 2008; Mbambo 2006; Qobose 2001; Osei 1996; Oliobi 1994; Fadiran 1982).

In the case of some of the libraries included in the study, although the profession only came into being for most of them from the 1980s to the 2000s, in two cases, it had already been revamped by the 2000s. This finding confirmed what the LIS writers mentioned above wrote, that subject work has been carried out in the region for over twenty-five years and according 80.2% of the study participants (Chart 5.10), it will be around for many more years to come.

6.2.1 Academic library model

In terms of the model or structure under which subject and other librarians were organised, a study by Martin (1996:160) found that, in the United Kingdom (UK), from the late 1990s on, there was a shift to the dual model of subject librarianship and related models, his explanation of this shift being that it was head librarians' attempt to rationalise subject work, so that subject librarians could focus on subject work, while other librarians focussed on the rest of the library duties.

This study had similar findings, as it revealed that 50.4% of the respondents worked under the dual model, while 4.1% worked under a subject divisional model, both of which allowed them to focus on subject/faculty work. Sometimes study respondents appeared to view the dual and faculty library models as interchangeable, as visible from some of their added comments. However, this was not viewed as a problem since these models are similar in many respects, the main difference being that under the latter model, subject librarians sometimes worked in teams, and were also sometimes located in the area of the library that housed their subject/faculty collections. The main reason for the question was that the researcher specifically wanted to determine if subject librarians were expected to work in other units of the library, performing non-subject work, that is, if they worked under the hybrid model. This study revealed that 41.3% of them did.

This kind of crossbreed model, which attaches or implants subject work onto a traditional library structure, does not always work, according to Crossley (1974), as it requires subject staff to divide their attention between different units, departments or sections, resulting in subject work suffering, and in some cases, with subject duties being backlogged or under-performed and some subject staff feeling over-burdened or over-worked. This view was confirmed by the study as

65.3% of the respondents reported feeling over-worked (Table 5.27). Furthermore, some of them stated that they ended up feeling discouraged because they did not have enough time to satisfactorily complete their tasks, pay enough attention to their users, or do additional reading about developments in their field (Table 5.44). Crossley (1974:243) explained that the way a subject service was structured, depended on the library manager's view about the importance of subject services, and if s/he required some professional librarians to be full-time subject staff, or to carry out other duties, even on a part-time basis.

However, in this study, another explanation was revealed. In some university libraries, especially the smaller ones, the hybrid model was the only feasible option. Shortage of staff meant that library managers had to distribute subject/faculty work in the best way possible, as they often could not afford to appoint staff who performed subject duties exclusively. In the case of branch libraries, some of these were run by one professional librarian who, with the possible exception of buying and/or processing items, which was usually done centrally, had to perform all professional library duties, including subject and learning support. So realistically, the hybrid model will remain in place in the region for the foreseeable future, or at least as long as university libraries are short staffed. In some cases as well, libraries believe in rotating their staff so that they have experience in all sections of the library. In the final analysis, however, even though the dual and faculty models are better options than the hybrid one, since teaching, learning and research support is essential in universities, it is probably better for some libraries to operate under a hybrid model, rather than not having a subject librarian service at all.

6.2.2 Library unit

With the introduction of a subject librarianship model, came a greater need for control, supervision, consultation, and coordination, so that libraries could provide a dependable service (Jenda 1994). Therefore participants in a study by Avafia (1983) expressed the need for supervision by a head of section, at the level of Deputy University Librarian, who would keep track of or coordinate what they were doing, and who would arrange for training when it was required. In most libraries the acquisition and bibliographic control unit fell under the overall supervision of the head of technical services (whatever their title); while the circulation unit,

inter-library loan section, reserve/reference section and the subject service usually fell under the head of department for user, client or access services (Reitz 2004-2013).

Although, in this study 43.8% of the respondents indicated that they fell into their own subject or information units, and 21.5% indicated that they fell directly under client services, interviews with management and a search of SACU university library websites clarified the situation. While subject staff worked in their own units, for example information services, sometimes with a head of department or faculty library manager or team leader, they usually fell under the overall supervision of the manager/deputy director of client/user/access services. Only in a few libraries did subject staff fall under the overall supervision of a manager or deputy director who was not also responsible for user/client/access services.

For those who worked within their own units/departments, they could benefit from the collegial support that comes from working with other subject librarians. It also means that they could meet periodically in order to brain storm, discuss issues, problems, solutions, innovations, and new methods or tools; which would assist them to know and understand their role in the library and the functions attached to their position. Meanwhile, having an overall supervisor at deputy director level could facilitate the provision of feedback to management about what subject staff do, which would help with issues like evaluation and promotion (Avafia 1983).

6.3 ROLES AND TITLES OF SUBJECT LIBRARIANS

Subject librarians have a major role to play in the academic library. It is, however, sometimes difficult for non- librarians to determine or articulate this role, especially when people doing the same job go by different titles.

6.3.1 Roles

A role can be defined as a part, “a character assigned or assumed” or the type of behaviour expected from a person due to their position or status in an organisation or society (Merriam-Webster 2013). In the early phases of development, prior to 1980, the role of subject librarians mainly involved providing/performing, on a subject basis, collection development, collection

management including cataloguing and classification, information and reference support, user education and liaison between the library and the faculty (Crossley 1974).

However, the profession is dynamic, so it continued to evolve especially due to technological advances and a new information environment. This technologically driven evolution of subject librarian roles was also seen in the SACU region, as was recognised by 59.5% of this study's respondents, who noted the greater availability of electronic resources, electronic formats and electronic information delivery systems (for example electronic mail, web pages, web 2.0 systems, social networks, mobile tools, subject portals and the virtual learning systems), all of which necessitated and increased the need for information literacy classes to teach users how to use them optimally (Table 5.2).

Embedded librarianship also started to gain popularity in some libraries, especially the better staffed ones. This role required subject librarians to entrench themselves within the physical or online/technological spaces of their user groups (Drewes & Hoffman 2010). Physical embedding allowed subject librarians to gain a deeper knowledge and understanding of their user groups, to become 'one of them' and thus to more naturally take on their causes, missions, visions, aims and goals. However, the fact that 'physical embedding' requires subject staff to be located within departments or faculties means that it probably will not catch on very easily in smaller libraries which continue to experience staff shortages. However, as noted by one interviewee, the process was already in place in some larger libraries, especially through faculty branch librarians, whose libraries were sometimes to be found within the faculty itself. Another interviewee indicated that subject librarians had time-tables of when they could be found in the faculty.

A more prevalent embedding role practised by some subject librarians was that of online embedding. This involved finding various ways of using social media tools like blogs and library web pages to teach information literacy (Drewes & Hoffman 2010) or firmly inserting information literacy training within various online academic courses (Biddiscombe 2002:229). According to Arendt and Lotts (2012), subject librarians give academic staff a "'go to'" person in the library, so if they could all build trusting relationships with faculty, to the extent that they are

also given access to their websites for the greater benefit of students, this would go a long way to illustrating to non-believers the importance of the faculty-librarian partnership. This study found that in one library this was already happening, whereby subject librarians not only used the online learning management system to create departmental websites, where they posted subject specific information for their users; more interestingly, they were also given access to the websites of academic staff so that they could post relevant subject-specific information. However, in future, subject librarians will have to play a more proactive role and become “analyzers, synthesizers and interpreters of information”, and according to one interviewee, they will have to get involved in the whole research process and become ‘knowledge creation and dissemination librarians’ (Gulati and Raina 2000:2). This view was seconded by an interviewer who advocated subject librarians becoming knowledge creators and getting involved in the whole research process.

Taking into account the views of interviewees and questionnaire respondents, this study found that the roles of subject librarians are:

To support, on a subject, discipline, departmental or faculty basis, the teaching, learning and research activities of students, faculty and staff from their departments, by selecting, managing, providing or facilitating the creation and dissemination of subject-specific information; to train and empower users to become lifelong learners who are able to independently search for, retrieve and optimally use information for their decision making, problem solving and planning activities; and in future to actively participate in the research process by conducting research and becoming knowledge creators and disseminators.

6.3.2 Titles

To make subject librarians’ roles easier for patrons to comprehend and relate to, their titles should at least be self-explanatory or related to their roles and/or functions, and the title holders should not be embarrassed by them. Looking at the views of LIS writers, on the one hand, Garvey (as cited in Purcell 2010:20), stated that, for titles to satisfy their holders, they should be “reflective of the nature and level of the work”, and Cummins (as cited in Purcell 2010:20) added that they “should convey an image, accord a particular standing, a degree of respect, and a

perception of worth”. On the other hand Ojala (2009) wrote that as long as the importance of all types of information was recognised, titles were not that important, and Lange (2010:32) urged librarians not to focus on their job titles but on the job itself. But the researcher agrees with Biddiscombe (2002), who contended that titles were as important to librarians as their continuing education. Therefore they should be considered an important part of the job description, so that both the librarian and the patrons know what can be expected in terms of service offered or expected. Unfortunately, a review of the literature indicates that different titles are used for subject and learning support librarians in different parts of the world, not all of them reflecting what subject librarians actually do. Sometimes these titles are self-explanatory, for example, subject specialist, subject librarian and liaison librarian (Arendt & Lotts 2012), but not always.

In the SACU region, one university library used the title ‘personal librarian’ for subject staff dealing with faculty, researchers and senior students, while in another it was used for librarians involved in a pilot programme launched to assist students, especially first years’, with their library and information needs. In a few university libraries, the title ‘information librarian’ was used for librarians supporting the teaching, learning and research needs of faculty, researchers and senior students, while in others it was used for librarians supporting all faculties and students with their information needs. Furthermore, on the websites of a few university libraries, sometimes two titles are used interchangeably, which could be confusing, as acknowledged by one interviewee. But most confusing was the fact that people essentially carrying out subject librarian jobs in various universities were known by different titles, especially if a lecturer or student transferred from one university to another.

In the SACU region, as revealed by this study, the most widely used titles in the were those containing the word ‘librarian’, including subject librarian, faculty librarian and information librarian, and variations on the title ‘librarian’ to reflect seniority, for example, senior librarian, assistant librarian, and so on (Chart 5.3). This study also revealed that 83 (68.6%) respondents were satisfied or very satisfied with their job titles (Table 5.3), and of the 38 (31.4%) who were not completely satisfied, 11 expressed a preference for being called ‘librarian or senior librarian’, while 18 preferred titles including the term ‘librarian’ in the title, for example, subject or

research librarian. This preference was mirrored in a study by Brewerton (2011), conducted in the United Kingdom (UK), whereby 'subject librarian' was found to be the most popular title.

In another UK based study, respondents indicated that they avoided the title 'subject specialist' as it erroneously implied that they had subject expertise and/or qualifications in a specific subject (Martin 1996). While this title was not in use in any library in the region, 15 (12.4%) respondents were known as 'information specialists', and six who were dissatisfied with their current titles expressed a preference for this title. Although the latter term was unambiguous, basically declaring that the holder was an expert in the field of information, Crossley (1974) wrote that it made sense, and was more 'honest', to add 'librarian' to job titles.

However, a few of this study's respondents expressed their dislike for the title of 'librarian' believing that it was outdated, old-fashioned and misleading of their roles, and that it did not reflect the multiple tasks, like information literacy instruction, that they carried out. For his part, Purcell (2010:20) wrote that he was wary of the title of 'librarian' as it sometimes mistakenly conveyed to some users the idea that librarians spent their time either reading or issuing library items. Biddiscombe (2002) added that sometimes using that the title did nothing to encourage recruitment, and that occasionally it even threatened job status. Meanwhile Siebert (as cited in Ojala 2009), cautioned the profession against discarding the title 'librarian', noting that it conveys the image of a person with knowledge of the type, format and location of available information, and the ability to search for, evaluate and retrieve information best suited to client needs.

Since the profession is dynamic however, subject librarians should be prepared for new titles to be suggested or imposed on them from time to time. In some developed countries, newer titles had already found their way into some libraries. Biddiscombe (2002:235) wrote that while the titles 'knowledge manager', 'learning development advisor' and 'information manager' sounded exaggerated, they more clearly defined the job of the learning support professional, than the title of 'librarian'. In some UK libraries, titles like academic librarian, academic subject librarian, academic support consultant, senior information advisor and faculty liaison librarian were already in use in some libraries; while in those libraries that had increased their subject emphasis

to research support, this new focus was reflected by titles like research support librarian, research support specialist and research liaison manager (Brewerton 2011). One interviewee, while advocating the involvement of subject staff in the university's research activities, for example, in the creation and dissemination of knowledge, suggested the title 'scholarly creation librarian'.

This study also found that in one university, a change in title had already occurred, and the title of 'subject librarian' had been discarded. The post had then been 're-engineered' and divided into 3 specialist areas, that is, search librarian, collection developer and personal librarian. One respondent advocated this type of division, explaining that s/he felt that specialist areas like IL trainer, training librarian or research librarian were the thing of the future. So changes continued in all institutions, but again unfortunately, these were within institutions, not even nation-wide.

6.4 JOB DESCRIPTIONS AND KEY RESPONSIBILITY AREAS

Related to subject librarian roles and titles were their key responsibility or performance areas (KRAs and KPAs), all of which were specified in job descriptions or job definitions, which are very useful during job grade and salary scale assessments, and when plans are being made for job training. Job descriptions need to be well-constructed and easy to understand, because poor job descriptions lead to poor performance, which in turn results in users having a poor impression of the profession (Agyen-Gyasi 2008:10). Fortunately this study discovered that 98.3% of its respondents had job descriptions, and 94.1% found them easy to understand.

Job descriptions give detailed explanations of the responsibilities, requirements and duties associated with specific positions (Reitz 2004-2013). The literature review for this study identified four main KRAs usually associated with subject librarians, that is, collection development, library orientation and information literacy (IL) instruction, reference and information services, and faculty liaison or library-faculty relationship building (Brewerton 2011; McAbee & Graham 2005; Agyen-Gyasi 2008; Qobose 2000; Martin 1996; Avafia 1983). Another KRA, that was mentioned for subject librarians by all the above-mentioned LIS writers, with the exception of Avafia (1983) and Martin (1982), was marketing and promotion. The

performance of other library duties as a KRA for subject librarians was also mentioned by Avafia (1983).

The amount of time expended on each KRA in each university depended on the emphasis placed on it by the library, for example, one interviewee stated that faculty liaison took up at least 60% of subject librarians' time, while respondents in a study by McAbee and Graham (2005:23) ranked faculty liaison last, as they indicated that providing reference assistance at a reference desk was their highest ranking duty, followed by library instruction, reference consultations, subject-specific collection development then finally faculty liaison. Respondents in a study by Neerpath, Leach and Hoskins (2006:68) did not even mention faculty liaison, although it was implied in the duty identified as 'communication'. In order from the highest ranking KRA, respondents in the latter study identified reference services, instruction and teaching, management and organisation, communication, information technology, cataloguing and classification, professional development and continuous education, current awareness (which implied marketing as well), and statistics and reports.

In terms of this study, the KRA most performed by respondents was IL instruction followed by reference/research support. However the difference between the two was just 1 respondent, as 114 (94.2%) respondents performed IL instruction while 113 (93.4%) performed reference/research duties. But, in terms of the time spent on each KRA, 83 (68.6%) participants spent more than 10% of their time on reference/research as opposed to 80 (66.1%) who spent the same amount of time on IL instruction. However, according to Tyckoson (2001) debates on which of the two KRAs is the most important are on-going. He went on to describe two models of service, related to these two KRAs that were in use in some institutions. On the one hand, under a 'conservative or minimum' model, which was preferred by universities, education or the information search and retrieval process were stressed over actual information, and the main aim was to empower or train users to find information independently. On the other hand, the 'liberal or maximum' model, which was preferred by corporate or government institutions, stressed information over education, with the main aim being to search for, analyse and provide accurate, thorough, timely and authoritative information to the user - and it considered that training all users to be independent searchers was impossible.

With reference to the other KRAs, Table 5.6 in the previous chapter, showed that faculty liaison was carried out by 110 (90.9%) respondents, collection development by 109 (90.1%), marketing and promotion by 103 (85.1%) and finally the performance of other non-subject based duties in the library by 73 (60.3%). All of the KRAs consisted of a number of duties or activities, as discussed below.

6.4.1 Information literacy (IL) duties

Information literacy refers to the ability to recognise when one needs information and the ability to search for, locate/access, evaluate and use information legally and ethically (ALA 2000). As stated above, while respondents in a study by Neerpath, Leach and Hoskins (2006:68) rated instruction and teaching as the second most important KPA, as stated above, in this study it was ranked slightly above reference/research support, with 94.2% of the respondents indicating that they performed it. This finding was not surprising because in this technological age, IL training has become increasingly important; especially for those students from disadvantaged areas whose first introduction to modern libraries, information and ICTs was when they enrolled in a university. In the Southern African Development Community (SADC), the importance of IL was officially acknowledged in Article 10B of the SADC Protocol for Education and Training, which recognised the importance of libraries, the abundance of information in print and electronic format, and the need for information literacy programmes “linked to classroom education, assignments and research” (SADC 1997).

This need for IL instruction will probably exist in universities all over the world and not just in the region, for some time to come, mainly because there always seem to be students that need assistance with accessing, evaluating and using information from various sources. For example, a 2011 study of first year students in the USA, found that more than half of them did not know how to find information to use in their research, and/or how to evaluate what they found; while over a third of them did not even know how to incorporate the knowledge they gained into their work/assignments (Pryor as cited in American Library Association [ALA] 2013). In terms of this study, some respondents and interviewees explained that while some students needed assistance in the information search and retrieval process, other even needed training on how to use libraries because, due to their location, they had little experience using them.

In many libraries, the premise is that knowledge of how to optimally use library and information resources helps users to become lifelong learners (Avafia 1983). In fact, Bothma et al. (2011:12) state that “becoming information literate is part of lifelong learning and being a lifelong learner is part of being information literate”. Therefore it was inevitable that IL training was adopted in many SACU universities, and because of their information background, it was also predictable that academic libraries assumed greater responsibility for IL instruction. Fortunately many lecturers became interested in having subject librarians pass on information skills to their students (Biddiscombe 2002). However, it is still a slow process for libraries in the region to convince all faculty of this, since only 28.9% of the study respondents indicated that IL training was compulsory for their students, while 38.8% indicated that it was sometimes compulsory, depending on the course, year of study or lecturer. But it was encouraging to note that, in a few universities, IL was so important that subject librarians even set and marked IL tests, examinations and assignments. In order to increase the number of students to whom they gave IL competencies, Rudasill (2010) and Kvenild (2012) encouraged subject librarians to endeavour to embed IL training in distance learning and/or online courses. This was already underway in some libraries, since the study found that 36.4% of respondents were regularly involved in the online IL training of students (Table 5.14).

However, the promotion of IL instruction to faculty, which was already regularly carried out by 41.3% of the respondents, needed to become more vigorous. However, this duty would be easier to perform if there was an official and well-thought out curriculum or syllabus, which the United Nations Educational, Scientific and Cultural Organisation (UNESCO n.d.) described as a schedule of the competencies that students needed to acquire in order to pass a subject and which promoted critical thinking and other lifelong learning skills. A curriculum would show faculty what skills students would acquire through an IL course. Unfortunately, only 34.6% of the study respondents indicated that they followed a standard or set curriculum.

6.4.1.1 Main IL instruction duties

IL instruction has specific duties associated with it, and the questionnaire listed a number of these, and asked respondents to indicate the amount of time they spent on each of them. The major IL duties, since more than half of the respondents indicated that they carried these out,

were general orientation, refresher, advanced, online, and individual or classroom based IL instruction to students.

6.4.1.2 Secondary IL instruction duties

However, IL instruction does not only apply to students, it also applies to faculty members (Holbrook 1972). Sometimes the most surprising people, including academics, are not very information literate, so in their promotion activities, subject librarians needed to also encourage lecturers to commit to undergoing personal training. It was therefore encouraging to note that, as secondary duties, some faculty were already being trained, as 42.1% of the respondents revealed that they trained lecturers in resource use, 43% gave them general orientation sessions, while 41.3% promoted IL training to them. Another secondary duty was the online IL training of students.

6.4.1.3 IL challenges/issues

Unfortunately IL instruction came with a number of challenges, as noted by 71.1% of the respondents. The main challenges/issues were shown in Table 5.15 of the previous chapter.

6.4.1.3.1 Student IL challenges

Challenges included the high numbers of students being enrolled into universities every year, some of whom had no or limited computer and search skills (Qobose 2001:145), were not very familiar with the library (Bandara 1986), or were challenged in terms of limited language skills. Furthermore, the differences in the levels of computer literacy, even within one class, proved to be challenging to subject librarians. Since all students had to be assisted, the result was that either the less skilled students were left behind, or that the more skilled became bored because the pace was so slow. Subject librarians therefore had “to come up with appropriate information skills packages that suit both groups” (Qobose 2001:145).

To compound all these frustrations, some students were just not interested in gaining IL skills or attending IL classes; therefore they did not take the classes seriously, or pay attention. Instead some of them expected subject librarians to provide them with notes or copies of their presentations, or to do their searches for them. The reason IL was not taken seriously in some

institutions, according to some respondents, was because it was not compulsory, credit bearing or structured (there was no set curriculum). In those institutions where it was compulsory, this was usually only in relation to first year students, and at that stage in their university careers, IL was usually not at the top of the list of skills they wanted to acquire, therefore attendance became progressively poorer with each session given. For those who made the effort to attend, some subject librarians were not able to assess their progress since there was little feedback via assessments or tests, and it was difficult to test students during sessions since the number and amount of time assigned to IL classes was often limited.

6.4.1.3.2 Faculty-driven IL challenges

Some respondents reported that faculty also sometimes added to the challenges they experienced with IL training. As experienced by some respondents, and as explained by Badke (2005), some lecturers had so little knowledge of the library that they sometimes gave students assignments which they could only complete using resources that were not available in the library. Others merely talked about students gaining research skills, but did not follow up by sending them for classes; and when they did, they did not bother to accompany their students, even when their knowledge was less than theirs (Badke 2005). Sometimes these poor lecturer attitudes rubbed off on students, seemingly confirming to them that IL training was not important. Some of the study's respondents however, excused their lecturers by explaining that sometimes their non-attendance was due to the time constraints, which made it difficult for them to attend resource demonstrations and other training sessions, or to find slots for their students to attend IL classes. When they did find slots, the time they allocated was limited, so very little could be covered in the class.

6.4.1.3.3 Challenges relating to facilities

Other challenging issues identified by respondents included a lack of or limited facilities; venues that were often too small, or which did not have presentation or other facilities; computers which were sometimes slow, were not enough, were out of date or were not working; lack of or inadequate technical support; low bandwidth and/or connectivity problems which resulted in resources going to waste because users had no patience with slow-opening databases/articles; and classrooms which were not linked to the wireless system or to the campus network.

6.4.1.3.4 Personal challenges

On the part of the responding subject librarians, some of them felt that they lacked certain skills, like pedagogic, search and retrieval and certain relevant ICT skills, and that they had no time to increase or update these. Some found the frequent database changes a real challenge because, not only did they have to keep up with these changes, and with all the new resources, they also had to constantly train and re-train users and be ‘on top of their game’. They had to go where their users were, including Facebook, Twitter and other social media sites, and they were expected to acquire e-learning skills. They also had to learn to use web 2.0 tools, which emphasised “online sharing and collaboration amongst users” (Pienaar & Smith 2007), which were adopted by libraries and referred to as library 2.0 tools. They were important for all librarians to know as they could be viewed either as a “progression of the traditional library models” or as a development on the “continuum of library development (Kwanya, Stilwell & Underwood 2012:145). Library 2.0 applications include blogs, RSS feeds, Flickr, YouTube, and podcasting amongst others (Larsen 2007).

6.4.2 Reference and research support

Reference work was regarded as “the common denominator for subject librarian work” (Mbambo 2006:185). Respondents in a study by Neerpath, Leach and Hoskins (2006:68) ranked reference, research and information services as their most important KPA, while respondents from this study ranked it second, slightly behind IL instruction, and 68.6% of them spent more than 10% of their time on it, that is, more than on any other KRA (Table 5.6).

Although reference services were first publicly discussed and written about in 1876 by people like Green (Tyckoson, 2001) they began to assume greater importance as a subject librarian KRA, mainly due to developments in the technological arena, which had a massive impact on the library and information world. By the 20th century libraries were no longer regarded as storehouses of information, and librarians were no longer regarded as guardians and providers of that information, rather they were seen as experts involved in helping users to fully exploit information (Oliobi 1994). Subject librarians were regarded as specialists in the provision of subject based reference, research and information services, mainly because of their skill in determining user needs and in finding information. Then, as the research process, which includes

the research design, research methods, data collection and analysis, the communication and publication of findings (Juznic & Urbaija 2003:324) began to assume greater importance in higher education institutions, it became essential for subject librarians, to extend their involvement to encompass and be actively involved in it.

6.4.2.1 Main reference/research duties

Tyckoson (2001) wrote that the main reference service duties included answering user queries, and helping them to select their information resources. In this study, the main reference/research duties, identified as such because more than half of the respondents carried them out were: running a general reference and information service consisting of information retrieval, subject-based reference support and literature searches, plus citation support. A newer duty, which is gaining in importance in university libraries, is research commons support.

6.4.2.1.1 Literature searches

In terms of literature searches, these were performed for faculty and postgraduate students, but some respondents also performed them for undergraduate students. This however, was not regarded as an ideal situation by some respondents as a recurring theme throughout the study was that the aim information literacy (IL) training was to ‘empower’ students to do their own research. In this way they would become information literate graduates with the lifelong learning skills that would assist them to think critically, plan, make decisions and solve problems effectively at work and at home (ALA 2000). But as noble as this aim was, a few respondents noted that there would always be users who lacked the will or skills to conduct their own literature searches, so this function would continue to be performed by subject staff for some time to come. Furthermore, in the case of some researchers, they trusted their subject librarians’ ability to find sources that they would not necessarily know about.

6.4.2.1.2 Citation support

Once users access or receive literature, they had to use it ethically, which meant they had to reference or cite sources if they used them. However, many students only became aware of the need to cite sources from instruction librarians (Childress 2011), when entered university. With plagiarism by students in general increasing (Park 2003), even in the southern African region

(Weeks 2001), students increasingly required help in becoming familiar with referencing concepts and citation styles, and this assistance is provided by many subject staff on an individual basis or within their IL courses.

This study revealed that 56.2% of the respondents gave citation support to students, while 47.9% gave it to faculty. Furthermore, some of these respondents had to provide assistance and guidance in the use of various software and tools meant to be of assistance with referencing/citing. According to Childress (2011), reference management software helps users to store and manage their references, while citation generators help them to compile references which they can then import into their written work. Subject staff need to know about and be competent in the use of these software and tools. In SACU this expertise was already being developed, with 8.3% of respondents providing support in the use of commercial referencing tools like RefWorks, EndNote and Reference Manager. However, subject librarians should not encourage students to become too reliant on these tools, since they are not always reliable (Childress 2011); instead they should continue to train them to use the citation style recommended by the university, thus assisting them to recognise when their referencing tool makes an error.

6.4.2.1.3 Research commons (RC) duties

A newer research support duty for subject staff which was mentioned in the literature was assisting researchers within the research commons (RC), which is a physical space, with sophisticated technologies/ICTs, designated for use by academic staff, researchers and postgraduate students (Boakye 2010; Daniels, Darch & De Jager 2010) . It enables users to access and create information and knowledge, to collaborate, discuss research, share information and network, and it provides them with the support of well-trained information professionals (Boakye 2010). In this study, 66.9% of the respondents and all the interviewees indicated that their institutions had already established an RC, while two of the interviewees clarified that it was still in its infancy. Respondents and interviewees also indicated that subject librarians were playing a role in the RC, either by manning it, or by supporting the RC manager, by providing subject specific assistance, advice and searches to RC patrons when required. Since their involvement in reference/research work means that subject librarians keep abreast of the research

going on in their departments (Agyen-Gyasi 2008), it was a given that they would become involved in the RC to some degree. This study found that 65.5% and 58.6% of its respondents respectively, were strongly or very strongly aware of the research being undertaken by faculty and students in their departments.

6.4.2.2 Secondary reference/research duties

The secondary duties, which were performed by a third or more of the respondents, included facilitating inter-library loan (ILL) requests for faculty, and manning of the reference desk.

6.4.2.2.1 *Inter-library loan services*

To bolster the provision of literature/information to users, 41.3% of the respondents indicated that they facilitated inter-library loans (ILL) for their faculties. The fact that more of them were not involved in this function was most probably because, in some institutions, ILL was performed by dedicated staff members, usually from the client/user/reference services section. Furthermore, with the increase in databases, subject librarians were able to meet many user needs by searching for and finding items online and in library subscription databases, instead of relying on the ILL process, which some of them felt took too long anyway. Some user information needs were also filled through the use of subject portals/guides, which provided links to various subject-specific information sites.

6.4.2.2.2 *Reference desk work*

In the past, subject librarians were expected to man the reference desk but this duty was on the decline. In his UK based study, Pinfield (2001) found that subject librarians no longer spent much time on reference desk work, while in this study, only 33.9% of the respondents regularly manned the reference desk. However, subject librarians did still carry out reference/enquiry work, but they used different methods, for example, they answered electronic mail queries, telephone queries, and 'ask-a-librarian' questions and, they anticipated user queries by contributing to the library's 'frequently asked questions' service (Pinfield 2001).

6.4.2.3 Other research duties

Other duties, carried out to a lesser extent by subject librarians, included the maintenance of subject portals and making copyright applications for staff. With regard to the construction and maintenance of subject portals, although only 30.6% of the study respondents indicated that they maintained these, a study of SACU library websites revealed that these facilities were more often referred to as ‘LibGuides’, and that they were quite prevalent in SACU libraries. Internationally librarians have been involved in constructing pathfinders, subject portals or library guides for many years, and the LibGuides tool just introduced an easier way to encourage collaboration in the construction of these research support tools, using a “live interface” (Little *et al.* 2010:435). Like subject portals, LibGuides list or include recommended subject-based online journals, books, databases, websites and other useful resources, course guides, research and other teaching, learning and research support tools. Constructed correctly they clearly demonstrate the value of subject librarians’ work to both academics and students.

With regard to copyright applications, this was only performed by 11.6% of respondents, probably because many lecturers had a good understanding of the process and therefore, carried it out on their own, or else the university had a copyright office which gave them all the assistance they needed. Besides the duties referred to above, subject librarians were also aware of other up and coming functions in the reference/research arena. This included assisting faculty, researchers and faculty with various applications, for example, the National Research Foundation (NRF) applications that have to be made by South African researchers and grant/funding applications. Furthermore, since researchers produce large amounts of data, subject librarians also assist them with their data preservation, curation and management activities (Research Libraries UK [RLUK] 2012:20).

6.4.2.4 Challenges/issues

Unfortunately, as with IL instruction, respondents also experienced challenges while providing reference/research support, mainly related to technology, funding, and time. Technological challenges included slow internet connectivity, low bandwidth, slow or few computers and non-working links to resources - all of which contributed to the hampering of research support activities. Inadequate funding led to some libraries not having enough information resources or

electronic databases for faculty, students and researchers to get relevant search results, especially in relation to country-specific information. Their heavy workload and the tendency of students to leave assignments to the last minute and then demand urgent assistance were other challenges mentioned by some respondents. Lack of time also prevented them from fully keeping up to date with new resources and developments which could make their lives easier. For example, web 2.0 and 3.0 tools like weblogs, podcasts and wikis could have been used to answer queries effectively, quickly or in-depth (Feldman 2006), but they needed time to master them before they could effectively use them. A few respondents also expressed concern that their subject knowledge was not strong enough, while a few others mentioned the lack of communication by their departments/faculties in terms of on-going research. However, as mentioned by some interviewees, subject librarians were expected to proactively acquire that subject knowledge, as well as to use their initiative to find out about new courses and research being carried out.

6.4.3 Faculty liaison

This study revealed faculty liaison as the third most carried out KRA, with 90.1% of the respondents carrying it out (Table 5.6). This KRA “denotes cooperation, collaboration, and partnership between the subject librarian and the faculty in order to enhance teaching, learning and research activities” (Agyen-Gyasi 2008:6) and it allows subject librarians to act as the link between the department and the library as regards library and information issues (Qobose 2000). Furthermore, it permeates all the other KRAs mentioned above; for example, one cannot provide subject-based reference/research support, solicit titles to add to the library collections, market the library and subject librarian services and arrange IL classes without liaising with faculty. In fact, one interviewee stated that in their library subject staff spent 60% of their time liaising, and also that it involved all the other KRAs identified in the study.

In terms of the number of departments that each subject librarian dealt with depended on a number of factors, including the size of the university and the number of subject staff employed by the library. In their study at the University of Natal, Prozesky and Cunningham (1986:99) found that subject librarians were in charge of five to eight subject areas; while in this study 55.4% of the respondents indicated that they served up to five departments. Although 35.5% dealt with six or more departments (Table 5.8), the researcher had to keep in mind the fact that

some departments are smaller than others, in terms of the number of faculty members and students, so one subject librarian's ten small departments could be equivalent to another's three large departments. Furthermore, since 45.5% of the respondents reported that they felt that they served too many departments, some universities were simply very understaffed.

6.4.3.1 Main faculty liaison duties

Most of the respondents in a study by Arendt and Lotts (2012), in terms of faculty liaison duties, indicated that communication and relationship building were important to them, as well as knowing their constituency, and being visible to them. Relationship building or faculty liaison was also the main faculty liaison duty carried out by this study's respondents. Other main duties included staying abreast of new courses, representing library issues to departments and vice versa and working with departmental representatives.

6.4.3.1.1 Relationship building

Relationship building allowed 69.4 % of the respondents to get to know and better serve their designated departments. Some of them even took faculty support to new levels by embedding themselves in faculties/departments in various ways, and to different extents. Ideally, embedding requires subject librarians to be located within a department, so as to become "one of them" or to embed the library courses, resources and services within departmental learning management systems (Kvenild 2012; Drewes & Hoffman 2010; Rudasill 2010; Shumaker & Talley 2009). This study found that some subject librarians did this by going to their faculties at certain set hours, in this way staying visible to faculty and students; while others embedded IL training in various courses. In one institution academic staff even gave them access to their online courses so that they could add relevant information, which was also a testimony to the value placed on learning support in that institution.

6.4.3.1.2 Staying abreast of new courses

According to Bandara (1986:206) librarians have a "duty to suggest how courses can be improved to fit in with what the library has to offer"; but this researcher feels that it should be the other way round, that subject librarians have a duty to stay current with departmental courses, so that they can ensure that the library's resources remain relevant, which was what 71 (58.7%)

respondents did as they reported that they regularly worked to stay abreast of the new courses offered by their departments.

6.4.3.1.2 Intermediating between the library and faculty

Subject librarians also learnt how to communicate effectively with faculty. They attended board of studies, departmental and other academic meetings where library issues sometimes came up, and they had to report back to the library management for discussion and solutions. They were also privy to discussions in the library about issues emanating from certain departments, so they were able to give the library's point of view to academics, and to help to negotiate successful conclusions. About a third of the study respondents also communicated with faculty by working with departmental representatives. These individuals are usually appointed by their departments, and are part of a standing committee or library advisory committee comprising themselves, library professionals and student representatives, which advises the library on various issues (Reitz 2004-2013). Since these representatives are expected to attend all advisory committee meetings anyway, they are able to voice their department's concerns in that forum, which explains why the percentage of respondents who liaised with them was not higher.

6.4.3.2 Secondary faculty liaison duties

As mentioned under the IL training KRA, some subject staff also supported faculty e-learning, which involved maintaining their individual websites/subject guides, for access by any students and staff or uploading subject specific information on certain faculty websites.

6.4.3.3 Other faculty liaison duties

Another support duty, performed regularly by only 13 (10.7%) of the respondents and sometimes by 32.2% was accreditation support. This involved departments or programmes being evaluated by their peers or being evaluated via a self-assessment procedure, in order to ascertain whether or not they met certain standards (Reitz 2004-2013). The library's involvement came about when the assessors looked at the facilities, resources and services of the library and assessed the extent to which they supported the teaching, learning and research needs of the department/subject. However, the reason so few respondents were involved was probably because assessors usually asked many questions about the library's facilities and services, most of which could not be

answered by a subject librarian alone; but which needed to be answered by a number of librarians from different departments, or by management.

6.4.3.4 Communicating with faculty

In order for faculty liaison to work, subject librarians had to use various methods to stay in touch with lecturers. A study by Arendt and Lotts (2012) found that the main methods used by their respondents to communicate with faculty were email, face-to-face communication and telephone calls. This study revealed similar results. It found that email was used by 87.6% of the respondents, even though some complained that faculty sometimes ignored them. A further 57.9% used the telephone as a mode of contact, but this was only useful if the lecturer was in his/her office. However, regular contact was obviously achieved by most respondents as 65.3% of them reported that they were either satisfied or very satisfied with their relationships with faculty. Chance meetings and some formal gatherings were also used to keep in touch with faculty. These had a chance to have a great impact, if they were followed up with emails and/or formal visits to the lecturer's office.

It was surprising to the researcher however, that only 24.8% of respondents used departmental and Board of Studies (BOS) meetings to communicate with faculty (Tables 5.10 and 5.11). But in terms of the BOS meetings, this result could have been because these meetings were known by another name which the researcher was not aware of, or because subject staff were not invited to attend these meetings. However, subject librarians should "as a matter of right" sit in these meetings, so that they can have a say in the policies discussed and/or implemented, and they can give the library's viewpoint on changes in curricula, student numbers and other issues (Holbrook 1972:393). One interviewee felt strongly about this, adding that once included in these meetings, subject staff should be proactive and ask to be added to the agenda whenever they have important information to impart; because once an issue is discussed at a meeting, and is included in the minutes, attendees tend to remember it.

Some subject librarians also sometimes communicated with faculty by arranging for them to attend presentations of various new library resources and databases. However, lecturers often stated that they did not have the time to attend.

Social media like Blogs, Facebook and Twitter were not used regularly by respondents. The reasons for this could be that this mode worked better with students who spend more time online, or that a specific librarian was designated to communicate with staff and students using social media sites. Some respondents also received visits in their offices from faculty, or communicated with them using library publications like newsletters, acquisition lists and brochures. Others communicated electronically through the library website, electronic notice boards, wikis and the virtual learning environment; while others attended meetings and/or events organised by departments, including lectures, seminars, talks and various faculty social meetings.

6.4.3.5 Faculty liaison challenges

From the additional explanations given in the study, throughout the section on faculty liaison, it was apparent that subject librarians tried very hard to build relationships with faculty, using various methods and lines of communication, some of them very innovative. However, despite their best efforts, there was no guarantee that faculty would respond well to them (Arendt & Lotts 2012), therefore it was not surprising that some of them experienced some challenges.

6.4.3.2.1 Liaison challenges

Although 65.3% of the respondents were satisfied with their relationship with faculty, and while some of them emphasised the good support they received from lecturers, a few perceived some faculty members as having a poor attitude towards the library, and this viewpoint was expressed throughout this study, in response to various questions. They revealed that this lecturer attitude was illustrated by the fact that they were not enthusiastic, cooperative or supportive, and they seldom visited the library. Subject librarians therefore had to go that extra mile just to be noticed or appreciated by them. Some respondents also complained that some faculty members did not respond to library communications, but when they wanted something from the library, they wanted it immediately. Some participants felt that these negative behaviours inevitably rubbed off on students, some of whom treated the library and its staff as unimportant.

According to Badke (2005:65) “faculty do not respect the roles of librarians, and librarians view faculty as arrogantly ignorant of the functioning of the library, its personnel and its tools”, and according to a few of the study respondents, this was because some of them feared change, so

they were not open to new initiatives like institutional repositories and information literacy instruction; while others were intimidated by new technologies, but because of their professional pride, would not want to ask for help from non-academics like subject librarians. But, as stressed by a few respondents, this attitude was not universal. Sometimes lack of communication was the result of high faculty numbers and/or turnover rates in some departments which made it difficult for subject librarians to establish and maintain faculty-library relationships. However, even though not all faculty admired subject librarians' work, with some regarding them as subordinates, unfortunately, some library staff perpetuated the negative impressions about them by being unresponsive, unenthusiastic and uninterested in faculty suggestions and feedback (Awale-Ale 2007:6).

6.4.3.2.2 Personal challenges

Subject librarians needed to work on strengthening their relationships with faculty, so as to dispel negative attitudes. However, the main constraint they experienced, and which they expressed throughout their questionnaire responses, was a lack of time to do this or to perform some other relationship building activities, for example, some were not able to attend all the faculty and departmental meetings they were invited to, even when they knew that these would give them a chance to 'touch base' with faculty. A couple of respondents recommended the "embedded" librarian model, whereby the subject librarian would have an office in the department, thus facilitating or encouraging regular communication with faculty and students; and some of them were already doing this to a certain extent as they had set hours where they could be found in the faculty/department. However, this type of arrangement also required time.

6.4.4 Collection development/management

Another important function for subject staff is collection development. According to Agyen-Gyasi (2008), collection development, which included duties like selection, maintenance, evaluation and weeding is the "heart" of subject librarian work, since subject staff are aware of the strengths of the subject collections in their designated disciplines/faculties, as well as the needs of faculty in terms of teaching, learning and research. However, in this study, collection development proved to be the fourth most carried out KRA, being performed by 85.1% of the study respondents; and this was probably because some libraries had a dedicated acquisitions

librarian, for whom collection development was the major KRA, while subject librarians, because of their relationship with faculty, were basically ‘support tools’.

6.4.4.1 Main collection development duties

The main duties that were regularly performed by more than half of the respondents in relation to collection development included general duties like the subject selection of items for purchase, soliciting orders from faculty and circulating catalogues. Another activity that was up and coming in some libraries was the institutional repository, which could be seen as a collection development duty as it increased the library’s online material. The facilitation of inter-library loans (already discussed above) was a secondary duty.

6.4.4.1.1 Selection

Selection was an essential duty in libraries, and subject librarians had to assist with it because faculty did not always have the time or inclination to participate in this activity. However, in order to develop a strong collection, libraries needed a strong written collection development policy, which provided consistency in selection, guided library staff in the acquisition of information materials and ensured that a Library’s collection was balanced (Fombad & Mutula 2003). Since so many subject staff assisted with collection development, and since they knew their faculty members and their requirements, it should go without saying that they had a say in what was included in the collection development policy. However, as shown in Table 5.24, only 24.8% of the respondents regularly contributed to various library policies, while 41.3% were sometimes asked for their input.

In terms of selection, this study found that 67.8% of the respondents regularly spent time soliciting book orders from faculty, while 55.4% circulated catalogues to assist lecturers with these selections. However as pointed out by Andrews (as cited in Bandara 1986:206-207), subject librarians should not just be happy to act as “post-boxes for sending information to academic departments and receiving instructions back from them”, instead, since they have enough subject knowledge and a good understanding of teaching, learning and research issues, they should have a say in what the library acquires, and then they should market those items to users. Selection should ideally be a joint effort because, with the full participation of lecturers,

subject librarians can choose relevant and/or appropriate additions to the library collection, for the benefit of their departments (Agyen-Gyasi 2008).

6.4.4.1.2 Institutional repository duties

As mentioned above, a more recent activity, that can be said to fall under the collection development KRA, concerns the institutional repository (IR). The aim of the IR is to collect, archive, organise, manage and make accessible information produced by the university community. In this way it helps to increase and develop the library's collections. Although only 22 (25.6%) respondents said the IR was partially or specifically the responsibility of subject librarians, one interviewee expressed the view that their involvement in the IR should be in their job descriptions. In most libraries faculty are encouraged to self-archive, but quality control has to be maintained. Depending on the size of the university and the extent of its research output, quality control and other IR duties like copyright support and advice could be a full-time duty, so it might serve the university better if a dedicated staff member ran the IR, as was the case in some respondents' universities. However subject staff could usefully assist the IR manager as they know how to look for, identify and select useful IR additions, how to liaise with faculty and researchers in order to market the IR, how to persuade them to contribute to items, how to advise depositors about copyright issues and how to assist them with descriptions for the items they want to archive (Vondracek 2003:20).

6.4.4.2 Other collection development duties

Other duties performed regularly, but by fewer respondents, included weeding, stocktaking and cataloguing and classification.

6.4.4.2.1 Weeding and stocktaking

Weeding, whereby items are identified, examined and evaluated for permanent withdrawal (Reitz 2004-2013) was carried out routinely by only 25.2% of this study's respondents, while stocktaking, whereby items in the library's physical collections were ascertained was regularly performed by only 18.9% of respondents. However, stocktaking and weeding were important collection development activities and subject staff who participated in them could benefit greatly, as they were able to see the collection as a whole, evaluate its strengths and weaknesses,

make recommendations on what items need to be preserved (e.g. digitally), discarded and/or replaced, and how to fill gaps in their subject areas. Furthermore, in situations where faculty needed to be asked to assist with issues like weeding criteria (Reitz 2004-2013), they were best suited to do the asking, as they knew those most likely to be able or willing to help.

6.4.4.2.2 Cataloguing and classification

A collection management duty that was carried out by many subject staff when subject librarianship first came into being was bibliographic control, consisting mainly of cataloguing and classification. It was felt that their subject expertise was an advantage in processing the collection. However, over the years this activity had mostly been removed from their job descriptions, or as mentioned by some study respondents, the number of subject librarians with the skills to carry it out had decreased. Brewerton (2011), as well as Simmons and Corrall (2011) found that cataloguing and classification was the only subject librarian activity that had decreased, and this was confirmed by this study's respondents, whereby only 15.7% of them indicated that they still routinely catalogued and classified library materials. Although some respondents expressed their dismay about the erosion of this duty, describing it as the core of the profession, other respondents expressed relief that they no longer had to perform it.

One reason for the decline of cataloguing and classification as a subject librarian duty could be the issue of quality control, with some universities preferring to have the processing of materials carried out centrally, by a dedicated team of cataloguers, so as to maintain quality. According to Fadiran (1982:42), at the University of Leicester, the quality of cataloguing standards was adversely affected by subject librarians cataloguing and classifying items according to their own individual interpretation of the rules of bibliographic control, that is, cataloguing and classification systems. Meanwhile, according to Jenda (1994), at the University of Botswana, because subject librarians had to answer to, and meet the standards of acquisitions, cataloguing and reader services coordinators, some of them ended up spending more time on one area, for example cataloguing and classification, so as to meet the standards of the strictest of the coordinators, thus neglecting other areas of their work. Furthermore, selection and cataloguing duties can be so labour intensive anyway, that subject staff have little time left to provide a thorough information service (Fadiran 1982:43); or conversely, if subject librarians sit in the

section housing their subject collections, and this is open to faculty and students, cataloguing and classification could also suffer as they would be constantly interrupted by users seeking information, reference and research support.

Some other collection development and management duties that were mentioned by a few respondents included monitoring departmental/faculty book budgets, placing orders online for library materials, evaluating databases and/or monitoring database trials, organising exhibitions for academics so that they were made aware of the library or information items that were available to them, analysing and reporting on collection development and library materials usage and attending information resource committee meetings.

6.4.4.3 Collection development challenges

In order for the library to develop a balanced collection, faculty was required to work in tandem with librarians (Qobose 2000). Again, some respondents experienced a lack of cooperation and feedback from lecturers. They explained that some lecturers sometimes delayed or did not cooperate with the library in terms of providing the titles of needed texts, or suggestions about the subject areas that needed to be covered; and sometimes they provided incorrect details for items, and then complained when they could not find books on their subject/s in the library. Some subject librarians, especially the ones well-versed in the subject area, therefore sometimes proactively and independently ascertained which items needed to be ordered, using various methods, including looking at the projects or tasks assigned to students, and ordered these items.

“Shrinking purchasing power” also limited the amount of materials that could be purchased, resulting in some libraries having difficulty in updating their collections and/or supplying enough copies of prescribed books for those students who could not afford to buy them (Bandara 1986:208). Furthermore, because in some subject areas sources tended to be very expensive, some libraries ended up relying heavily on free electronic materials to supplement their collections. Time was another challenge for a number of respondents, some of whom felt that collection development duties were so time-consuming in themselves that they could not do a good job with them. A few respondents also felt challenged by what they described as inadequate subject knowledge on their part, which they felt hampered their collection development

activities. Challenges with e-resource collections were also felt by some respondents, including providing continuous access to them. Some respondents had difficulty implementing e-books which used different platforms or business models, and/or with finding appropriate platforms or formats to make them accessible. Too many platforms could be frustrating, as users had to be taught how to use all of them and could just end up only using the ones that were easiest for them to learn or not using any of them, which did not help the library's aim to reduce resistance to e-books.

6.4.5 Marketing/promotion

Marketing was another subject librarian function, and although it had always been important for academic libraries, it had become more important in some libraries (Brewerton 2011:63). Without it being performed, the library could be easily overlooked and/or taken for granted and useful services like subject and research support could end up not reaching an adequate number of people. Librarians had to market themselves, and what they had to offer, proactively and aggressively (Love 2002), and subject librarians had to market both the library and their subject-based services.

6.4.5.1 Marketing duties

Marketing or current awareness included providing various services like tables of content, citation alerts and emails about new products and services in the library. Respondents in a study by Neerpath, Leach and Hoskins (2006:68) ranked providing a current awareness service, which also implies marketing, as their eighth KRA. In this study marketing was the fifth KRA identified by respondents. It included duties like marketing library information services, marketing subject librarian services, providing selective dissemination of information and current awareness services, and compiling guides to library resources, all of which were performed regularly by more than a third of the respondents. Other marketing duties that were added by a few respondents included arranging subject-based library displays and exhibitions, arranging vendor promotions and training, giving database demonstrations, sending out acquisitions lists/announcements (one respondent explained that they announced these over a local radio station), contributing articles to the university newsletter, creating and circulating electronic newsletters, and giving tours of the library to faculty and students.

6.4.5.2 Marketing challenges

Respondents experienced a number of challenges while carrying out marketing duties. These included: delays in the printing of marketing materials, lack of time to spend on marketing due to other duties, lack of funds for marketing materials and tools like newsletters, and lack of interest in library services and products by some lecturers and students. As regarded the use of social networking tools like Facebook and Twitter for marketing, some respondents felt that they did not have the capacity for this type of marketing as it needed people with the time to keep these pages active and informative, often outside of normal working hours, especially if users responded favourably to them and posted comments or questions regularly. Other challenges mentioned by a few respondents included the lack of marketing strategies or policy decisions on the marketing avenues to be used, limited or outdated marketing strategies like bulletin boards, displays and database demonstrations which were still used in some libraries, lack of individual marketing skills, lack of management support for certain marketing efforts and the lack of regular marketing endeavours. One respondent lamented the waste of marketing efforts because of the fast turnaround of academic staff, while another feared overloading his/her clients with information.

6.4.6 Duties in other parts of the library

Besides the above-mentioned KRAs, 73 respondents had a sixth KRA which involved performing duties in other units of the library, even though most of them spent minimal time on this (Table 5.6). These duties included centralised ones like cataloguing/classification, selection/acquisition (technical services), and reference desk work (circulation or user services). This finding corresponded with another finding of this study, that 41.3% of the respondents worked in hybrid type libraries; whereby they had primary subject-based functions and secondary non subject-based ones (Martin 1996).

The management/administration duty was identified through responses given by participants, and even though very few of them identified it, this function was actually more widespread as it underlay all duties. As Battin (2001:45) stated “librarianship at every level involves management of something – people, budgets, collections, project, time, etc.; even ... your boss!” It also

included developing oneself using various methods, for example, by attending subject-based training and conferences (McAbee & Graham 2005). In this study, about a quarter of the respondents participated in the compilation of library strategic plans and policies, and attended library management and other university meetings on behalf of the library. A few also mentioned being involved in budget management, branch management, training colleagues and, personal or professional development or management, whereby they actively sought ways to increase their skills and expertise, advance their education and keep up to date with technology and other developments in their field. This kind of professional development and continuous education was also identified, as one of their minor KPAs, by respondents in the study by Neerpath, Leach and Hoskins (2006:68).

6.4.7 Other KRA issues

Besides the challenges and issues subject librarians faced relating to the various KRAs, as mentioned above, they also had to deal with other issues like changing responsibilities and heavy workloads, and some of them did had the disadvantage of not being assessed, so they were not always sure if they were performing their duties according to management expectations.

6.4.7.2.1 Changing responsibilities

Subject librarians in this study (74.6%), saw many changes occurring in the profession, as well as in their responsibilities. In terms of libraries, they experienced a shift in focus from ownership of, to access to, information resources, resulting in a changing information environment and user requirements. Besides these, rapidly advancing technologies meant that subject staff, not only had to stay abreast of changing ICTs, including social media and web 1.0, 2.0 and 3.0 technologies, they also had to become proficient enough to teach users how to use them in order to fulfil their diverse information requirements. Luckily subject librarians, like all librarians, have always been eager to learn about and adopt new technologies. For example, in his study of University of Botswana and Rand University libraries, Qobose (2001) found that automation had been adopted seamlessly by respondents, and was regarded as a useful tool which allowed them to offer faster, more accurate and better quality information from a number of sources, both local and remote; in fact respondents did not feel threatened by automation at all, instead they felt empowered by it. This finding epitomises the attitude of most of the study respondents, who not

only pinpointed the need for more ICT skills, they expressed a willingness/eagerness to acquire them since they were the major cause of the changes in their roles and functions.

Respondents in a study by Simmons and Corral (2011) also identified technology as a major cause of the change in their jobs; and with more information being found online or expected to be put online, they felt a growing need to offer IL training to users. Although user education was offered in libraries almost from their beginning, IL training had become more sophisticated, and included training in the use of various resources, databases, software and tools. Furthermore, besides keeping up with technology, subject librarians also had to adapt to any change in focus in their institutions. For example, because of the increased emphasis on research output, they had to become more involved in the research process (Simmons & Corral 2011). As stressed by one study interviewee, research support, staying abreast of ongoing departmental research and becoming involved in personally conducting research and creating knowledge should be added to the subject librarian job description.

6.4.7.2.2 Workload

Unfortunately, the changes occurring in the field and the additions to their job descriptions illustrated to subject librarians that on top of their traditional subject duties, they were being asked to perform even more (Pinfield 2001:4). In his study of subject librarians at the University of Botswana and at Rand University Library, Qobose (2001:144) found that 55% of his respondents felt overloaded, as they had to perform multiple tasks. Writers like Fadiran (1982) warned library management, that overloading subject staff with work could result in them focussing on those areas that most interested them. In this study, 66.1% of the respondents felt over-worked. Besides the increase in their duties, they also had to deal with an increase in the number of users they had to assist, as universities always seemed to be trying to accommodate and educate as many students as possible. Therefore, while more students were enrolled, and more lecturers were employed, the number of subject librarians generally stayed the same, and in some libraries there was a perennial shortage.

With all these increases, in workload and users, it was therefore surprising that 4 (3.1%) of the study's respondents reported that they felt underutilised (Table 5.27). Although this was a small

number, it was still unexpected. However, as mentioned by one interviewee, if subject librarians became proactive and innovative, they would always be busy. In fact, they could no longer just sit in their offices and expect users to visit them, but would have to go 'out there' and engage with their constituency, so as to become more visible and useful.

6.4.7.2.3 Appraisals

Because subject librarians enjoyed a certain degree of autonomy in their work, there was a need for some checks and balances in how and what they did. In other words, their work needed to be monitored and evaluated, with senior librarians constantly assessing the demands made on their time, and subject staff themselves monitoring developments and adding to skills in their subject areas (Agyen-Gyasi 2008). Appraisals were important because they told incumbents how well they were performing their duties; it gave supervisors a chance to acknowledge, praise or reward achievements, pinpoint strengths and weaknesses, suggest areas and ways of improvement, and plan training programmes. Unfortunately, in some universities, assessment of subject staff was rare (Fourie 1999), and if it occurred at all, it was often not well defined or managed (Martin 1996). This study found that although 65.4% of the respondents were appraised at least annually or more times, 17.3% were not appraised at all, which left some of them uncertain about whether or not they were performing to standard. From the responses given by interviewees, university libraries tended to use the official appraisal forms/systems rather than ones specially tailored to subject librarians.

6.5 EXPERIENCE, EDUCATION AND SKILLS

Besides their roles and responsibilities, this study was also interested in the skills, including the qualifications possessed by subject librarians and the amount of experience expected of them on appointment. In the United Kingdom, besides a Chartered Institute of Library and Information Professionals (CILIP) accredited professional qualification, subject librarians were expected to have professional level working experience in a higher education institution; and teaching experience was also sometimes required from them (Eglin 2011; Brewerton 2011). Subject librarians in the SACU region were also required to have degrees and but the amount of working experience required differed depending on the university library concerned.

6.5.1 Experience required

The question of experience is sometimes a contentious issue in many jobs, including in librarianship, especially for new graduates who often ask ‘how can I get the experience if I don’t have a job?’ However, because of the nature of his/her job, the subject librarian is required to “have a detailed and intimate knowledge of the needs of his total clientele, the bibliographical organization and problems of his field, and a thorough understanding of library operations, including the limitations as well as the special capabilities they provide” (Agyen-Gyasi 2008:2). This implies working experience in a higher education institution library (Eglin 2011; Brewerton 2011:63). This requirement was often stated in the job advertisements for subject librarian posts in the SACU region, with the years of experience needed usually being stated as three to four years or more.

In terms of this study, 85.9% of the respondents indicated that they had worked in an academic library for over five years (Table 5.2), thus confirming that university libraries valued experience in their learning support professionals. This was also confirmed by some of the managers interviewed, who stated that three to four years’ experience in an academic or research library was the usual requirement for applicants for the post of subject librarian, although experience in a special library could be considered if the applicant would be working in that area. The study also found that the profession also tended to attract the more ‘mature’, in terms of age, as 84.3% of the respondents were over the age of thirty-five. However, although it was encouraging to note that students, staff and researchers in universities received assistance from librarians with the qualifications and experience/maturity to render a good service, some respondents felt that the question of how to attract young blood into the profession had to be addressed.

With the average age of librarians in 2003 being forty-seven, (Lipscombe 2003:9), and in 2011 being 49.8% (Department for Professional Employees 2013); and with over 45% of librarians expected to retire between 2010 and 2020 and with the number of young librarians decreasing (Chu 2009), new blood is urgently needed in libraries. Some SACU universities have already addressed this question and put a system into place, as evidenced by some management interviewees who explained that they did employ subject staff with little or no experience at

entry level, thus allowing them to get in-service training and experience before being moved up the grade and salary scale. The faculty team approach, where the team consisted of a faculty library manager, faculty librarians at various grades and levels and shelving staff, was also an admirable way of addressing the issue, as new graduates could be employed at the appropriate level and they would have a clear career path. Furthermore, not only could older subject librarians, who have a wealth of experience, then teach them the how to do the job; they could also learn from these young graduates/colleagues about different methods which could improve the service (Berry as cited in Chu 2009).

Each subject librarian however, no matter how IT savvy they were, had to be willing to constantly improve, so complacency had to be avoided. On the one hand, as stated by a couple of respondents, young subject librarians had to avoid thinking that they had ‘nothing more to learn just because they had been employed directly as subject librarians’; on the other hand, older subject librarians had to keep an open mind when interacting with young colleagues, as the latter sometimes came up with novel ways of carrying out routine jobs, and many of them were very ‘technologically savvy’ and up-to-date with the tools and media young people used to find information, therefore their knowledge and skills could be invaluable if harnessed, nurtured and applied properly.

6.5.2 Qualifications

Subject librarians also had to have specific formal/official qualifications. According to Ochai (1991:111), in Nigerian university libraries, directors showed a bias in their recruitment practices, as they avoided employing library and information science (LIS) degree holders, whom they regarded as generalists, inferior to those holding subject degrees as well as LIS qualifications. This, he added, was contrary to the guidelines of the Committee of University Librarians of Nigerian Universities, which stipulated as entry qualifications, “a good university degree plus professional qualifications, or a good university degree in librarianship”. Interviewees for this study indicated similar stipulations, revealing that the minimum requirement for employment as a subject librarian was usually a four year LIS degree, or an honours LIS degree, while 113 (93.3%) respondents revealed that they held LIS qualifications at degree level or higher.

In some university libraries, especially in developed countries, subject *specialists* were sometimes employed. These can be seen as librarians with formal qualifications and knowledge in the designated subject area (Martin 1996). However, pure subject specialization was not really practiced in Africa, mainly due to a lack of qualified staff (Avafia 1983). To surmount this barrier, some universities, for example the University of Nigeria, employed graduate assistants from various non-LIS disciplines, gave them a year's experience in the library, and then granted them leave to study for an LIS qualification (Agyen-Gyasi 2008).

Because of the subject-based support they provide to academics and students, there has been an on-going discussion in the literature about whether or not subject librarians need qualifications in the non-LIS subject they support, or whether *experience* in the subject field is enough (Cataldo *et al.* 2006:446). The title 'subject specialist' implies a qualification in the subject (Martin 1996), but in this study, none of the libraries used it; instead some respondents were known as 'information specialists', thus implying that they had expertise or good knowledge of the information process, the information environment and information sources or literature, as related to the designated subject. However, subject specialisation *did* exist to varying degrees. This was confirmed by interviewees, who reported that they employed, as subject librarians, not only LIS degree holders, but holders of non-LIS degrees as well, as long as the latter also held post-graduate LIS qualifications. Furthermore, this study revealed that while 113 (93.3%) respondents held LIS qualifications at degree level or higher (Chart 5.7), 65 (53.7%) of them also held non-LIS qualifications at degree level or higher (Chart 5.8).

Interviewees also revealed that applicants with LIS degrees were expected to develop an interest and skills in their designated subject area/s; unfortunately actually obtaining qualifications in the subject area they supported was difficult for some subject librarians, because in some institutions they did not cater for those who wanted to pursue non-LIS courses (Agyen-Gyasi (2008). Some interviewees indicated that their institutions only supported, in terms of funding and study leave, those librarians who wanted to obtain further LIS qualifications.

6.5.3 Skills

Besides professional or formal degree qualifications, subject librarians were also expected to possess various skills, especially since, as stated throughout this study, subject librarian work has been changed so much, mainly in terms of methods and tools, by technological advances and changes in the whole information environment. Corral (2004:15), while acknowledging that academic libraries had been at the forefront of ICT developments and use, warned that “there is no room for complacency as the changes currently in train are arguably more profound and more extensive than those experienced in previous eras”. Battin (2001) goes even further, urging librarians not to just make a couple of changes, but to continuously change, ‘without break or interruption’, in response to the continuously changing needs of the academic user community.

6.5.3.1 Important management/interpersonal skills required

In terms of management/interpersonal skills, in the study by Neerpath, Leach and Hoskins (2006), respondents thought it was important to be able to: influence and motivate team members in implementing policy and planning pro-active services for the library; analyse and solve problems; provide a quality service by analysing and planning information sources and services; communicate well; display a positive attitude to users; and display good listening skills towards patrons and colleagues. In this study most respondents felt that the same skills were needed, but they also identified a need for interpersonal, decision-making, management/organisation (including budgeting and knowledge of library policies), marketing, leadership, and personal skills (including the ability to be proactive, flexible, adaptable, open-minded and ready to learn or further develop skills).

Only about a quarter of the study respondents felt that political skills were essential. However, all organisations are inherently political, so subject librarians need to be able become effective players, by learning how to navigate to the political space of both the university and the library (Web Junction 2009).

Other skills indicated as necessary by some respondents included negotiation and public speaking skills. Negotiation was thought to be essential especially if one was involved in negotiating, with vendors, the prices, terms of use and licences for electronic resources; or if one

was involved in negotiating, with faculty, for more IL classes. Public speaking was important in teaching and liaison work. Subject librarians, who attend Board of Studies and/or departmental meetings, were sometimes asked to clarify certain library issues, so they needed to be able to state the library's case clearly and concisely.

6.5.3.2 Core or technical skills held

As with all professions, subject librarians need core or technical skills. Neerpath, Leach and Hoskins (2006) identified user interfacing skills, knowledge of subject specific reference sources and tools, ICT skills, data retrieval skills, instructional skills, organisational skills, and business management skills as being important, and similar core skills were identified in this study. The skills held by over half of the respondents included: pedagogic skills, including presentation, and IL course design skills reference/research skills, including information search and retrieval skills, knowledge of the reference interview, knowledge of search engines, and information sources, and the ability to evaluate information sources; referencing/citation skills.

6.5.3.2.1 Pedagogic skills

More than half of the respondents already possessed strong skills in pedagogy and related areas like making presentations and designing IL courses and almost half of them were also skilled in e-learning and e-teaching. These skills were essential because subject librarians in many university libraries are expected to teach IL classes to individuals and groups. However, in order to further understand the teaching, learning and research process, they could also try obtaining teaching qualifications (Biddiscombe 2002), although this could be tricky when faced with their workload and time challenges.

6.5.3.2.2 Research/reference support skills

In order to be successful in reference work, subject librarians needed to be able to: find “factual knowledge” and pass it on to users, find accurate information, conduct thorough and exhaustive searches using many sources, provide timely information, and provide information that can be verified or has authority (Tyckoson 2001). Fortunately most of the respondents indicated that they had strong skills related to the research process including knowledge of the reference

interview, information search and retrieval, knowledge of search engines, information sources, and the ability to evaluate these.

6.5.3.2.3 Referencing/citation skills

After finding relevant information for their research or assignments, students needed to be able to cite, and faculty often expected subject librarians to instruct them on this, as student plagiarism sometimes presented problems for them. Lecturers themselves, often also saw subject librarians as their first port of call if they had citation questions or issues. Fortunately, more than half the respondents in this study had strong citation skills, including knowledge of copyright, plagiarism and referencing/referencing tools. However they also needed knowledge of the referencing tools which were increasingly being used by staff and students, including open source tools like Zotero, Mendeley and CiteULike and commercial tools like RefWorks, Reference Manager and EndNote. However, although some respondents in this study indicated proficiency in the use of commercial referencing tools, none of them mentioned open source software/tools.

6.5.3.2.4 Cataloguing and classification skills

Although, according to Martin (1996) cataloguing began to decrease as a subject librarian duty by the time he conducted his second study in the mid-1990s, this researcher, like some of the study respondents (Table 5.33), believes that bibliographic control skills are important for subject librarians, as they teach them how to analyse subjects in order to look for information that is general/broad or specific/in-depth. It also helps them to develop the metadata skills that are need if they become involved with the institutional and/or other repositories. However, only 25.6 of the respondents indicated that they had strong cataloguing and classification skills and only 18.2% that they had strong metadata skills (Table 5.30). Whether or not SACU libraries thought these were important for subject librarians is debateable as only 15.7% of the respondents reported that they carried out cataloguing and classification duties (Table 5.20). However, some respondents and one interviewee did express concern that this core skill was on the decline, and further indicated that they felt that this area was being neglected by library schools (Table 5.35).

6.5.3.3 Technological skills

Subject librarianship is dynamic, and so is technology. Therefore subject staff had to be technologically literate and competent in the use of the library's electronic resources and ICTs, in order for them to feel competent or comfortable enough to teach these skills to students and lecturers (Love 2002). No longer was it enough for them to simply know how to use the various aspects of MS-Office, they now needed deeper ICT knowledge. This study found that the strongest skill held by most respondents was electronic mailing (95.9%), which was not surprising as this is a major communication tool in most organisations.

Also not surprising was the finding that 57% of respondents had strong library management system (LMS) skills since all SACU libraries had an LMS in place. This percentage was probably not higher because subject librarians tended not to use it as much as other colleagues, whose main duties involved ordering, classifying, cataloguing or circulating materials, who thus used the LMS more. This skill was however, useful for those subject librarians interested in providing their patrons with statistics of library and resource use or who wanted to easily compile subject-specific bibliographies for faculty without depending solely on the library's online public access catalogue (OPAC).

More than half of the respondents also had strong Microsoft Word and Microsoft PowerPoint skills, while more than a third had strong skills in Microsoft Excel. Only 15.7% of the study respondents had obtained an International Computer Driver's Licence (ICDL), and very few of them had strong skills in web design, Microsoft Publisher and Microsoft Access. According to Hoskins (2005) all subject librarians should be familiar with web browsers, search engines, the advantages of electronic versus print, electronic mail, attachments and other related technologies, most of which are covered by the ICDL course. The syllabus for this qualification covered the concepts of ICT, using the computer and managing files, word processing, spread sheets, using databases, presentations, and web browsing and communication (European Computer Driver's Licence Foundation 2007). The ICDL would increase subject librarians' skills in developing well-constructed reports and presentations, using spread sheets and managing files.

Although web design would be useful, especially for those subject librarians who had the responsibility of maintaining their own subject pages on the library website, only 7.4% of the respondents had strong skills in this area. However a few of them stated that they had strong skills in the use of programmes like DreamWeaver and PaintPro, which were used in their universities. More than a third of the respondents had strong understanding/skills in HTML, XML and PDF.

6.5.3.4 New skills required by subject librarians

Having indicated the skills they possessed, 91 (75.2%) of the study respondents then indicated they still required more skills, mainly technological, pedagogic and reference/research support skills. However, since subject librarians did a lot of presentations and were expected to market the library and subject librarian services to various users, some respondents also expressed an interest in improving their presentation and marketing skills. Furthermore, since students increasingly used statistical tools like SPSS, and often asked for help in using them from subject staff, a few respondents expressed an interest in acquiring skills related to these tools. Respondents also indicated a desire to learn more about embedded librarianship, cataloguing and classification and about fund raising.

6.5.3.4.1 Technological skills

The ICT skills were regarded as being important by most respondents, and they indicated a wide variety of these, including web and portal design, hardware troubleshooting (so as to avoid over-dependence on the IT department), networking, programming, constructing databases including using MS-Access, using Skype, using various mobile technologies, social media and web 2.0 or 3.0 technologies. Some also mentioned data curation, metadata, digitisation and archival skills for institutional repository duties. Vondracek (2003) wrote that the subject, faculty liaison, collection assessment and metadata skills of subject librarians would be of great value to them if they were involved in the library's digital projects. She added that, even if they were not part of the digitisation team, they could assist with the collection of items, the promotion of digital collections, the development of standards, and the identification controlled vocabularies or the compilation of a thesaurus of appropriate terms.

6.5.4.3.2 Pedagogic skills

Increasingly in libraries, information literacy training in the form of resource-based teaching and learning was being offered and promoted, so as to empower students to acquire the IL skills that would transform them into independent researchers (Agyen-Gyasi 2008). In this study, those respondents who advocated for more pedagogic skills included the need for training in curriculum design, the creation of teaching objects, training on how to integrate IL into various curricula, and the use of e-learning software like Camtasia and programmes like Moodle.

6.5.3.4.3 Reference and research support skills required

In the area of research support, respondents wanted further training in virtual referencing and the use of commercial referencing tools like RefWorks, Reference Manager and EndNote. In order to be able to help researchers, some respondents felt the need to enhance their information search and retrieval and bibliometric evaluation and assessment skills. Besides these research support skills respondents also needed the skill/ability to advise researchers about how to preserve research output and project records and how to find funders and comply with their directives or requirements (RLUK 2012:3).

6.5.3.5 Preparation for subject librarian work by library schools

Unfortunately the LIS courses offered by some universities did not fully prepare graduates for subject librarian posts. Only 33.8% of the study respondents felt that their preparation for the job was good or very good, while 34.7% felt it was neither good nor bad, which was not a huge ‘thumbs up’ for library schools. Respondents in the Research Libraries UK study (RLUK 2012:68) expressed concern that library schools were “producing generalists and not the specialists needed to support researchers”. This was echoed by one of this study’s interviewees, who lamented the fact that LIS courses, unlike the old Bachelor of Bibliology degree course, no longer included 2 majors, one of which was usually in the social sciences or the humanities, which gave LIS students grounding in other subjects and prepared them to deal with designated departments. Instead library schools now focussed mainly on LIS subjects. This old type of ‘hybrid’ degree programmes, which combined the Library degree with another degree, in “recognition of the interdisciplinary nature of library science as well as the importance of subject specialization”, was found in some Nigerian library schools in the 1990s (Ochai 1991:119), and

was still found in institutions like the University of Namibia, where students studied for a double major, thus allowing them to gain experience in different subject areas.

However, LIS writers acknowledged that library schools “faced an arduous task in trying to provide generic courses which prepare students for work in a variety of sectors and a wide range of job”, therefore IT modules tended to just be grafted onto the curriculum, instead of being fully integrated into it (Garrod 1998:245). Writing mainly about Nigeria, Womboh (1999), found that library schools refused to change their curricula because they did not want to be dictated to by practising librarians; but he emphasised the point that library teachers should take into account the latter’s needs as they would eventually employ their graduates. It was therefore the responsibility of LIS departments to find ways of passing on pedagogic and ICT skills to graduating students and to put in place continuing education and development courses that would always be in sync with technological advances (Biddscombe 2002).

According to study respondents, technological, subject/reference and pedagogic skills were most lacking in LIS courses. Also neglected was the area of cataloguing and classification, which in the past was used to teach students how to break down the contents of information sources (subject analysis), and which were still useful with the increasingly important areas of metadata and data curation for use with institutional repositories and other archival collections.

In order for library schools to improve LIS course offerings, one respondent recommended that, at some point in their course, students be allowed to specialise. This researcher agreed with the recommendation, for example, if students eventually want to become cataloguers, they should get more intensive bibliographic management training; if they want to go into acquisitions, they should get more intense instruction in budgeting, resource selection, negotiation and related issues; and if they want to become subject librarians they should get in-depth instruction in search strategies, information evaluation, copyright and citation, information literacy, pedagogy, institutional repository management, embedding, research commons management, subject analysis (cataloguing and classification) and other topics that would help them to provide effective teaching, learning and research support. Unfortunately library schools faced many training challenges in the constantly changing information and ICT environment. One of these

challenges was trying to establish a “greater balance between theory and practice” as this was currently missing in LIS courses (Fourie 1999).

6.5.3.6 Continuing professional development

However, the main question that library schools faced was “how do we educate for an uncertain future when we have no clue as to what those circumstances will be?” (Battin 2001:59). The answer lay with continuing education programmes. Library schools, professional library associations and libraries needed to cooperate in order to develop a good continuing education programme that allowed subject librarians to participate in re-training whenever they needed to (Biddiscombe 2002). Continuous LIS training was essential, but Fourie (1999) advised that it should not just be about technological developments, it should also be about how to remain current in this area. According to Agyen-Gyasi (2008), further training was also required for subject librarians in the area of change management, so that they had the skills to deal with changing roles and responsibilities. He added that, communication and time management skills training were required so that they could deal with their heavy workloads, while pedagogic skills’ training was needed to help them to improve their teaching skills.

6.5.3.7 Other methods of acquiring skills

In this study 95.8% of the respondents agreed that further education was important, and it was extremely encouraging to note that many of them had already received some training courtesy of their employers. Furthermore, the managers interviewed for this study made it clear that they advocated continuing education internally and externally, and that they would support it as long as funding was available. Various methods were used by subject staff in order to acquire more skills, including in-service training, observing colleagues self-teaching, taking part in informal non-degree or library association courses.

Attending conferences and training sessions in areas of importance to the subject librarian field was another method (Marfleet & Kelly 1999), which allowed librarians to interact with their colleagues/peers, discuss developments in the field, present research findings, and identify “research trends, new information sources, and notable authors within the field” (Tomaszewski & MacDonald 2009:3).

Although Agyen-Gyasi (2008) complained of the lack of in-service training for subject librarians, this was not really apparent in this study as 54.5% of the respondents indicated that they participated in this activity routinely. In fact some libraries were already carrying out vigorous and innovative in-service training programmes. One interviewee explained that in their library they had a training team which organised regular training sessions in various areas, including how to use tools like tablets and smart phones for research; any member of staff could facilitate a session if they had the necessary skills and any member of staff could also attend any session. A few participants also mentioned conducting training within specific groups and then cascading that training down to other colleagues. In the UK, the RLUK study (2012:61) found that subject librarians also attended in-service or in-house training which was conducted by in-house experts, professional library associations, private companies/individuals or external trainers. Training was given in areas like research support methods, statistical methods, web design, communication/presentation skills, pedagogic skills, institutional repository issues, open access issues, IL issues/methods, citing/referencing, faculty liaison methods and web 2.0 technologies.

As a further training tool (Table 5.6), management interviewees welcomed the idea of exchange programmes, whereby participants would learn from each other. However, they were concerned that obligations like cost be borne equally by participating institutions. Arrangement of such programmes would be easier via an association or community of practice.

6.6 PERCEPTION, STATUS AND FUTURE OF THE PROFESSION

Having determined the roles, responsibilities and skills of subject librarians, this study was also interested in respondents' views about the future of the profession. Biddiscombe (2002:235), while foreseeing the traditional library declining in the future, also saw the role of subject librarians growing, mainly as intermediaries "equipped to provide the glue of the educational world, making links, connecting ideas and individuals".

6.6.1 Personal perception

In a study by Avafia (1983:194), respondents expressed great pleasure in their jobs as “they felt that they were contributing to the educational process”. This study found that an incredible 94.3% of its respondents were happy working as subject librarians; despite most of them also indicating that their workload had increased (Table 5.26) and that they felt overworked (Table 5.27). The reasons for their content included the dynamism of the profession; the satisfaction they got from interacting with, helping and empowering people, the appreciation they got from those assisted, and the opportunities they had to increase their knowledge. Some respondents also just expressed a great love for the profession, and pleasure at the opportunities they had to work independently and to develop professionally.

Unfortunately, a few respondents were not happy doing subject work, for a variety of reasons, as recorded in Table 5.44). Some were discouraged by those students who refused to be empowered but preferred to be spoon-fed by subject staff, while some just felt over-worked and unable to fully complete their duties. But the main reason for discontent arose from what they perceived as old and negative attitudes or perceptions of the profession, which sometimes resulted in some faculty members and students not taking them seriously, or treating them like secretarial/administrative staff who spent their time shelving books.

6.6.2 Faculty status

Some librarians and LIS writers therefore, in a quest to be better recognised and appreciated, advocated faculty status for professional librarians. Faculty status can be defined as the official recognition of librarians as faculty, by the institution; whereby their grades, promotion procedures, rights and benefits are the same as those of academic staff (Reitz 2004-2013). Crossley (1974:242) advocates this status for senior librarians, while Onyechi (1975:194) supports it for the library as a whole, with the university librarian being equated to a Dean, each subject divisional head being equated to a Professor or Associate Professor and each subject division being regarded as an academic department with its own staff. Also in support of this status, Oliobi (1994) wrote that the establishment of subject specialisation at the University of Port Harcourt library resulted in such an improvement in faculty-librarian relationships, that when librarians applied for faculty status, they did not have to lobby too hard for faculty support

before this was granted by Senate; and having gained it, they were allowed to take fully paid study and sabbatical leave. However, support by academic staff for librarian faculty status is not a common occurrence. Badke (2005) wrote that a number of surveys had revealed that faculty do not regard librarians as equivalent to them, they do not understand what they do, and they cannot even tell the difference between professional and non-professional librarians.

In this study, it was rare for subject librarians to have faculty status as only 16.5% of the respondents indicated that they had it. Although 62.8% of the respondents thought it was important or very important for them to get faculty status, as one interviewee explained, some librarians were probably more aware of the privileges that came with faculty status, but were not as well-versed with the strenuous requirements, like having to undertake research and publish. In the case of South Africa, researchers had to apply for and maintain a National Research Foundation (NRF) rating which was based on recent research completed and whose impact was determined by international reviewers (NRF 2013)

This researcher believes that, in the long run, the status that could be more useful and/or meaningful for SACU subject librarians is academic status, rather than faculty status. With this status librarians “are recognised as instructional and research staff, but are not given the same rank, benefits and responsibilities as faculty”; however they are allowed to establish their own ranks and methods and/or criteria for evaluation, and they do not have to “accept all the rules, regulations, procedures ... of the teaching faculty in the strict sense” Hoggan (2003:432). For example, they would not necessarily have to regularly conduct research and publish research findings.

6.6.3 Future of subject librarianship

Battin (2001:46) considered the following questions as being important for the profession :

The critical issue for the profession is – will we be part of the transformation process? Or will we cling to our past traditions and perspectives so insistently that we will be unable to imagine and participate in the future?

Despite the pessimistic views of some LIS writers and despite the fact that a few new universities or former polytechnics had decreased their subject services, on the whole, subject librarians were “alive and well” and they often made up a “significant proportion of the senior (‘academic-related’) staff in the library” (Pinfield 2001). Therefore they were already participating in the transformation of their parental academic institutions, as mentioned by Battin above. In the SACU region, subject librarians had a bright future ahead of them and would still be a major part of academic libraries by the year 2025, according to 80.2% of the study’s respondents. One manager interviewed however, had a caveat; s/he felt that the future would only be bright if subject staff stayed current with ICTs and other developments in the teaching, learning, research and information creation/dissemination arena.

As already shown in the findings, many respondents were already keenly aware of the need to remain current in every way, and were aware that the trend in universities was to expand on research activities, making areas like research support more important. The American Library Association’s report on the “state of libraries” in the USA (ALA 2013), whose findings are also applicable to the SACU region, stated that academic libraries had to adopt and adapt to new roles including: data curation for the management and organisation of scholarly output; the digital preservation of data in multiple formats; increased online IL instruction; the embedding of IL training in academic courses, because of the expanded use of online instruction by faculty; the need to adopt/adapt to ever-advancing ICTs; the need to encompass various mobile technologies for information search and retrieval; and the need to become involved in the development of new types of scholarly communication and publishing methods. According to Rodwell (2001) subject librarians are still appreciated because, those clients who frequently use the web are aware, not only of the large number of search engines and tools available, but also of the variations in the quality of information retrieved by them and by librarians; therefore they still require the assistance of an expert searcher or information specialist who can save them a lot of the time they would otherwise spend in fruitless searching.

Most participants in this study believed that the future of subject staff was assured because: as information technologies, items, formats, sources and publishers/producers continue to grow, and because of our location in the developing world, there would always be users who would be

disadvantaged, who would struggle to find relevant information, who would have difficulty in using certain information sources, technologies or databases, or who would just want librarians to conduct their searches for them. Other respondents felt that subject librarians would always be needed to guide users on how to search, retrieve and evaluate information using various technologies, that is, to ‘empower’ users and turn them into independent researchers, information seekers and lifelong learners. With the growing emphasis on the research output of university staff, subject librarians would also play an even more active role as research partners, so much so that they would need to start conducting their own research and creating knowledge. Finally, some respondents believed that subject librarians would remain indispensable to the modern university mainly because no other person - or ICT tool - could do what they did quite as well.

Nevertheless, a few participants foresaw subject librarians *not* being central to the library by the year 2025, their main reasons being their belief that they would be replaced by technology, would become too costly to maintain, or would die out because the profession was not attracting younger librarians; but this was a minority view. Some of those respondents who were optimistic about the future explained however, that for subject librarians to retain their value, they had to be proactive and show great initiative. Fadiran (1982) wrote that they should not wait around to be instructed on how to do their jobs, rather they should make the most of the trust and “unsupervised authority” they had been given to produce good results, keep up to date with what was going on in their subject area/s and provide a useful subject-based information service. In a nutshell, they had to take responsibility for the way they carried out their work, as their success depended on what they made of their role (Avafia 1983:195).

6.7 PROFESSIONAL SUPPORT AND GUIDELINES

In order to remain proactive and relevant, subject librarians, like other professions, needed to carry out external networking and form associations or communities of practice (CoPs) to give them human and intellectual support and/or cooperation. Since 102 (84.3%) respondents recognised their importance, professional associations or CoPs needed to be encouraged as they could benefit all subject librarians, especially those working in countries with more than one university library. They could meet regularly in order to share their “repertoire of resources,

experiences, stories, tools, ways of addressing problems” and in order to communicate/interact with and learn from each other, or in order to pass on information and knowledge with the aim of improvement (Wenger n.d.).

In terms of their existence in the region however, only 27 respondents were able to name some associations, all of which were located in South Africa, which provided professional support to librarians. However, none of them could pinpoint a specific grouping, association or community of practice specifically for subject, faculty, information or other learning support librarians as a profession. Support was therefore usually to be found within the university library itself, or within a few special interest groups emanating from library associations.

The 27 respondents indicated above, mentioned LIASA (the Library and Information Association of South Africa) and some of its interest groups, but as already mentioned, none of these were specifically tailored for subject librarians as a grouping. LIASA is an organisation that represents all those who work in library and information services in South Africa, and at the time of this analysis, it had about 11 interest groups, including the Higher Education Library Interest Group (HELIG), the Special Libraries Interest Group (SLIG), and the Research, Education and Training Interest Group (RETIG), but the latter was not mentioned by respondents. All the interest groups, just by their names, indicated that they covered certain aspects of the subject librarian’s job, but not all. OSALL, SAOUG and SLIS were mentioned by a few participants, but they were also not specific to subject staff. OSALL (the Organisation of South African Law Libraries) covered only one subject area – law, so it benefited mainly law librarians. The South African Online Users Group (SAOUG) which, according to its website (<http://saoug.org.za>) facilitated the exchange of information by its members on current developments, applications and opportunities in the area of online information, also covered a limited aspect of subject librarian work, while the Special Library Information Service (SLIS) dealt with special libraries.

6.8 GUIDELINES FOR THE PROFESSION

The study was also interested in establishing the existence of regional subject librarian professional associations or CoPs because these usually spearheaded the compilation of standards, best practices or guidelines for any profession. Standards can be defined as “policies that describe shared academic library values and principles of performance” for professional librarians; while guidelines can be defined as the activities or procedures that will assist professionals to achieve standards (ALA 2006c), or perform their duties in the best way possible.

Unfortunately, just as no specific regional subject librarian association could be located by the researcher, no region-specific guidelines for the profession could be found, even though 76% of the respondents considered them to be important. In order to double-check the absence of procedures/guidelines, and to avoid ‘re-inventing the wheel’, respondents were asked to indicate any they knew about, as well as who had compiled them and how they could be accessed, but only 13 (10.7%) did so. They mentioned the existence of guidelines from LIASA, CHELSA and SABINET. As mentioned above, LIASA is a Library and Information Association, which aims to unite and represent all institutions and people working in library and information services in South Africa, CHELSA (the Committee of Higher Education Librarians of South Africa) aims to ensure easy access to teaching, learning and research information for higher education institutions, and SABINET (the South African Bibliographic Information Network) deals with/facilitates easy access to online information. Unfortunately none of the respondents provided access details for the guidelines they said existed from these organisations, and the researcher was not able to find, on their websites, any that were specifically tailored for subject librarians as a grouping. The researcher therefore felt justified in offering guidelines for the profession as an appendix to the study.

6.9 CHAPTER SUMMARY

This chapter discussed and interpreted the findings presented in Chapter Five. It was determined that the most widely used subject librarian model was the dual model, but that the hybrid model was also still widely used since some subject staff still carried out duties in other sections of the

library. From the results, it was apparent that the titles for subject staff varied, but the most widely used title contained the term 'librarian'. This chapter also looked at the current role of the subject librarian which, in the most basic terms, consisted of supporting on a subject, departmental, discipline or faculty basis, the teaching, learning and research activities of students, faculty and staff; by selecting, managing, providing or facilitating their access to information; and by empowering them, through information literacy training, to become independent library and information.

In order to fulfil their role, subject librarians carried out various responsibilities, with information literacy instruction being the most carried out, closely followed by reference or research support, faculty liaison, collection development, marketing and promotion, duties in other sections or units of the library and administrative or management functions. All of these functions consisted of a number of duties.

In terms of education and skills, all but one of the respondents held library and information science (LIS) qualifications, with all but 7 being at degree level or higher; 80 respondents held non-library qualifications, with 65 (53.7%) being at degree level or higher. Many participants also possessed various management/interpersonal, core/technical and technological skills at varying levels of proficiency. The study also found that, despite various challenges and issues, most respondents were content in their jobs, had no plans to leave and had a positive perception of the future of the profession, mainly because, as one respondent put it, no one else could do what they did as well as they did.

CHAPTER SEVEN

SUMMARY, RECOMMENDATIONS/GUIDELINES AND CONCLUSION

7.1 INTRODUCTION

Chapter Five presented the results of the study and provided a basic analysis. Chapter Six interpreted and discussed the findings. Chapter Seven restates the research questions, presents a summary of the research findings, the conclusions of the research and recommendations based on the findings.

This study traced the development of subject librarianship, determined the roles, titles, responsibilities, educational qualifications and skills of subject librarians, and the changes that occurred that affected them, thus increasing the knowledge about the profession. Furthermore, guidelines were compiled (Appendix A), and these will be useful for those libraries wanting to establish a new subject and learning support service.

7.2 SUMMARY OF THE FINDINGS

This study asked the following research questions:

- What models of subject librarianship are in place in the SACU region?
- What are the roles, of subject librarians; have these changed, and if so how and why?
- What are the responsibilities of subject librarians; have these changed, if so how/why?
- What are the skills required by subject librarians; have these changed, if so how/why?
- Are there any guidelines for universities wanting to establish a new subject and learning support service, and if there are, who compiled them and so are they accessible?

With these questions in mind, this section highlights/summarises the main findings of the study.

7.2.1 Subject librarian models/structures

The study found that the two main models in place in university libraries were the dual model (50.4%) and the hybrid model (41.3%). Under the dual model senior librarians, that is subject

staff, focussed on and carried out mainly subject-based duties, while other librarians performed the remaining functions on a centralised basis. Under the hybrid model subject librarians performed subject-specific duties as well as duties in other parts or units of the library, and this sometimes resulted in subject librarians feeling over-worked and unable to carry out all their duties to the levels of excellence that they would have liked.

An up and coming model that was mentioned by a few respondents was the embedded model, which consists of physical and online embedding. No library's subject librarians were fully embedded as yet, since that would require them to be physically based within the faculty, but the best example of embedding were faculty branch libraries, whereby the library was within the faculty and thus the librarian was embedded there and visible to all patrons. Furthermore, some subject librarians had started implementing aspects of the embedded model, with having set hours where they could be found in the faculty, while others were working to embed themselves in courses online and in the classroom.

Related to the models were the units within which subject staff fell. The study found that subject librarians mainly worked in their own units or teams, even when they fell under the overall leadership of, for example, a deputy director of the client/access/user services department. However the study neglected to ask if they had a unit head. In some libraries, subject staff worked in teams, guided by a team leader.

7.2.2 Roles of subject librarians

The main role of subject librarians, as shown by a combination of responses on the issue from the study, was the provision of faculty, department, discipline or subject-based teaching, learning and research support to faculty, researchers and students, by selecting, managing, providing or facilitating their access to information, and by empowering them to become independent researchers who would ultimately become lifelong learners. However, not all respondents performed each part of this role, and some of them focussed more on specific aspects of it.

The study found that subject librarian roles had changed in line with the changing information and technological environment and, like their parent libraries, subject librarians had moved from

being mere providers of information to providing access to information from different creators, in different formats, and from different sources, that is, they had become facilitators. A new or up and coming role for subject librarians mentioned by a number of respondents involved becoming or adopting aspects of embedding.

In terms of titles, which are connected to roles, the study confirmed the view of most LIS writers, that the titles of subject librarians were not standard. In the SACU region the main titles used were librarian, subject librarian, faculty librarian, information specialist and information librarian, but other titles used included personal librarian and branch librarian;

The title subject specialist, which was disliked by some respondents in a study by Martin (1996), was not used in the region, implying that library managers agreed with Avafia (1983) that subject specialisation was not practised in its pure form in Africa. With regard to changing titles, this was not really an issue as different titles were used in different university libraries. Most respondents expressed satisfaction with their titles, with all of those who disliked their titles, preferring one of the other titles already in use.

7.2.3 Key responsibility/performance areas

The study found that 98.3% of the respondents had job descriptions, and that 94.1% found them easy to understand.

The study also found that the main functions performed by subject librarians were information literacy, which was performed by 94.2%, reference and research support by 93.4%, faculty liaison by 90.9%, collection development by 90.1%, marketing by 85.1%, and duties in other units of the library by 60.3. Additionally, 8 (6.6%) respondents mentioned that they performed administrative or management duties that communities of practice were important for the profession.

The study found that each of the functions came with a number of challenges, but the main ones were lack of interest from some students and faculty, lack of time, resources and facilities, and a heavy workload.

The main change experienced with regard to responsibilities was a shift in emphasis between functions, with information literacy, research support and faculty liaison becoming the main functions, collection development taking on a lesser role and marketing and management duties being added to the mix and becoming increasingly important.

7.2.3.1 Information literacy function and duties

- The study found that, because of the constantly emerging technologies, the traditional ‘user education’ function had evolved into IL instruction which encompassed training in the new ICTs and multimedia, as well as survival techniques for the new information environment;
- The change experienced was mainly in terms of the technology used and taught;
- The main information literacy (IL) duties performed were found to be general orientation, and individual or classroom based instruction at general or advanced level for students, as well as the presentation of resources to faculty;
- Only 34.6% taught IL using a set curriculum, while 38.8% sometimes used a set curriculum;
- The main challenge experienced with this KRA related to weak support. On the one hand, lecturers did not always support IL instruction, sometimes because they could not spare the time to send them for training. On the other hand, when they were sent for training, some students did not show any interest in it and/or did not attend.

7.2.3.2 Reference and research function and duties

- The study found that one of the changes related to subject librarian responsibilities was that the research function was receiving more emphasis in universities, and therefore research support, as a service, was growing and had overtaken faculty liaison and collection development as a function;
- The study also found that a fairly new research support facility, the research commons, was now to be found in 65.3% of the respondents’ libraries and in many cases, subject librarians were expected to provide subject support to its patrons;

- Respondents demonstrated their appreciation of the need for subject librarians to know about the university's research activities, as 62.8% and 58.6% respectively, were aware of on-going faculty and student research;
- The main reference and research support activities regularly performed included subject-based reference/research services, information retrieval services, literature searches and citation support;
- The main reference/research challenges experienced related to the slow internet, lack of time to carry out reference/research support effectively, due to a heavy workload, and lack of resources, including relevant databases for some subject areas.

7.2.3.3 Faculty liaison function and duties

- The study found that faculty liaison had not really changed much, as it was still one of the main responsibilities of subject librarians, with the emphasis it received depending on the priorities of the university;
- The main faculty liaison duties performed regularly by most respondents, besides liaising/building relationships with faculty, were staying abreast of new courses, representing faculty interests to library management and library concerns to faculty;
- Most respondents communicated with faculty through electronic mail and telephone;
- The main challenges experienced related, once again, to weak faculty support, which was often due to high faculty workload.

7.2.3.4 Collection development and management function and duties

- In the early days of its development, collection development was one of the main functions of subject librarians/specialists. However one of the changes revealed was that this responsibility, although still performed by subject librarians, was no longer the primary function;
- Another change was that collection management, in the form of cataloguing and classification had decreased substantially, since only 15.7% of respondents performed it;
- A newer collection development duty indicated by some respondents related to the institutional repository (IR), although currently only 18.2% were involved in it;

- The main duties performed regularly included subject-based information selection, and soliciting orders from faculty;
- The main challenges experienced related to lack of faculty support, funding and time to do the KRA well. There were also challenges related to selection and supply.

7.2.3.5 Marketing

- The study found that marketing was performed by 85.1% of the respondents. The change as far as this function is concerned, is that it was added to the subject librarian job description, since in the early days of subject librarianship, it was not often mentioned;
- However, the study respondents mainly marketed the overall library and information service on a regular basis, while only 47.1% regularly marketed their own subject service;
- The main marketing challenges included a lack of interest in the marketing endeavours of subject staff, lack of funding and lack of time to carry out this function more successfully.

7.2.3.6 Additional functions and duties in other units of the library

- The study revealed that although only 41.3% of the respondents worked under the hybrid model, which required them to perform duties in other units of the library, 60.3% indicated that they performed additional duties in other parts of the library;
- The change in this area was that centralised functions like cataloguing and classification, acquisitions and service at the reference desk were now only performed by a few of the respondents, probably because most libraries had staff dedicated to performing them;
- Although management and administration duties were only mentioned by a few respondents, they were up and coming and they permeated all areas of subject work including classroom and personal management.

7.2.3.7 Other findings related to subject librarian functions

- In terms of overall changes, the study found that 74.4% of the respondents believed that their responsibilities had changed, with more emphasis being placed on areas related to

technology, resulting in the need to offer changed services like information literacy classes to empower users in the utilisation of these ICT tools;

- In terms of workload, 75.2% of the respondents felt that their workload had increased, while 65.3% felt over-worked and unable to complete their tasks satisfactorily.

7.2.4 Educational qualifications, skills and experience

Subject librarians need to have “a good university degree plus professional qualifications, or a good university degree in librarianship” (Ochai 1991:111). The study found that 113 (93.4%) respondents had an LIS qualification at degree level or higher, while 65 (53.7) had non-LIS qualifications at degree level or higher. It was revealed by interviewees that a 4 year LIS or Honours degree or a non-LIS degree plus a post graduate LIS qualification are the usual required qualifications for the post of subject librarian.

The study also found, from interviewees, that non-LIS degree holders, without additional LIS qualifications, were employable as subject librarians, at assistant, trainee or foundation level, with the requirement being that they obtain a post-graduate LIS qualification. New LIS graduates were also employed at times, at foundation/assistant level pending them gaining the required amount of experience.

The study found that subject librarians are required to have professional level working experience in a higher education institution (Eglin 2011; Brewerton 2011:63), and in the region, according to study interviewees, the usual requirement is three to four years’ experience in an academic library. The study found that 66% of the respondents exceeded this requirement, as they had more than five years’ experience in the academic library.

The study also revealed that, although most subject librarians held a variety of management/interpersonal, technical/core and technological competencies and skills, 75.2% still felt that they needed more. This was because of the new ICTs that could be found in all functional areas of the library.

7.2.4.1 Management or interpersonal skills

The study found that the main skills that most respondents felt were essential for subject were: Management related, as in leadership, problem-solving, decision-making and team-building skills; Communication related as in listening, presenting, marketing and being able to discuss and articulate issues; Analytical, as in critical thinking skills; Professional as in knowing library policies; Personal as in having the ability to be proactive.

7.2.4.2 Core/technical skills held

The study found that more than half of the respondents had strong skills in the main technical areas that included: Knowledge of the research interview; Information search and retrieval; Knowledge of various search engines and various information sources and formats; The ability to evaluate sources; Knowledge of citing, referencing tools, copyright and plagiarism; Pedagogic skills, including presentation and IL design skills. However, some respondents still felt the need to enhance these skills, while others mentioned the need to be trained in other modern or emerging skills like knowledge of metadata and data mining and curation. Some respondents also felt that traditional skills like cataloguing and classification were still important, were being neglected, and needed to be revived.

7.2.4.3 Technological skills held

The study found that, in terms of ICT skills, most respondents only had strong skills in the most commonly used technologies like email, MS-Word, MS-PowerPoint, and their library management systems (LMS). Less than half had strong skills in the use of other tools/software that were mentioned in the questionnaire.

In terms of how they acquired their skills, the study found that most respondents taught themselves their various skills, attended workshops or participated in-service training. Formal and non-formal degree courses did not really cover the skills areas required by subject librarians, as only 33.8% respondents felt well prepared for subject librarian jobs after graduation.

The important areas that respondents felt library schools neglected included 21st century skills, especially ICT skills, search and retrieval skills, pedagogic and presentation skills and new skills like data curation, digitisation and data mining were not covered well.

The study found that 95.8% of respondents felt that continuing education was essential for subject librarians in order to stay relevant and useful. The study also found that management supported continuing education, as they sent staff to further training courses, workshops and/or conferences, and some libraries had strong in-service training programmes. Managers were also generally in favour of exchange programmes, as a method of training, as long as the costs were borne equally by participating libraries.

7.2.5 Guidelines for the profession

Having established, through 85.5% and 76% of the respondents respectively, that communities of practice and guidelines were important for the profession, the study found that CoPs were not available for subject librarians; thus suggesting that no specific body was in place to spearhead the development of standards, best practices or guidelines for the profession.

7.3 CONCLUSIONS

This study revealed that the roles, responsibilities and skills of subject and learning support librarians had changed, mostly as a result of the ever-changing technologies which also changed the information environment.

7.3.1 Conclusions about the models of subject librarianship

Academic libraries in the region organise their subject services basically around two main models, the dual model and the hybrid model, with the former allowing subject staff to focus on subject-based duties, and mainly being found in better staffed libraries. The hybrid model, although it did not allow subject staff the same subject focus, still allowed them to practise subject librarianship, while performing other centralised functions like selection, and it was mainly found in those libraries that were not so well staffed. Other models like the subject-divisional and faculty library model were rarely found, if one looks at the findings, but

interviews with managers, plus information found on university library websites indicated that faculty library model was similar to, and often used interchangeably with the dual model. Newer models like the research commons model and the embedded model were being discussed in libraries and in some, being fully or partially adopted.

7.3.2 Conclusions about roles of subject librarians

The study concluded that the role of the subject librarian had changed in so far as ICTs had to be taken into account. The new technologies, with their resultant new knowledge creators, formats and sources of information, meant that libraries had to change their focus from owning as many sources as possible, to providing access to as many sources as possible. With this in mind, subject librarians also had to change their role, from being mere providers of subject-based information, to being facilitators of access to subject-based information in various formats and locations. They had to do this in order to keep supporting the teaching, learning and research activities of students, faculty and researchers effectively.

Related to the role, the study concluded that the titles of subject staff were really diverse. Since the researcher did not identify the university library from which respondents came, it was not possible to determine how many libraries used which title. However, the university library websites indicated that the most used titles were subject librarian, followed by information librarian and then faculty librarian.

7.3.3 Conclusions about the responsibilities of subject librarians

The study concluded that subject librarians knew and understood their roles and responsibilities, since most of the respondents had job descriptions which were easy to understand.

This study also concluded that the most carried out function, by a very low margin, was information literacy instruction. The study concluded that subject-based reference and research support was growing in emphasis, as it was now the second most practised function, with support being provided in a number of areas and with new facilities like research commons being set up to cater to researchers. The study also concluded that faculty liaison was still a strong key performance area, with subject librarians attempting to keep abreast of new courses and to build

strong relationships with faculty. Although collection development and management was no longer the main subject librarian function, it was still performed by most respondents, but centralised collection management duties like cataloguing, were no longer a large part of subject librarian work. Marketing was the last major function to be added to the subject librarian job description, and it was mainly performed in relation to the library as a whole. Lastly, in relation to functions, although more than half of the respondents indicated that they performed duties in other units of the library, most of them spent less than 10% of their time on it, and most of the duties were not standard and varied widely, with administration being the one most mentioned.

7.3.3.1 Conclusions about the information literacy function and duties

The study concluded that although IL instruction was now strongly emphasised in university libraries due to changing ICTs and the need for users to be able to use these, many potential trainees did not recognise its value as they did not show much interest and hardly attended. This was maybe because it lacked of a set curriculum which would normally advertise what students would gain and what being ‘information literate’ would mean to them.

7.3.3.2 Conclusions about reference/research support

The study concluded that reference/research, even though it came second as a function for subject librarians, it was very important and that subject librarians appreciated this and tried to remain aware of the research activities going on in the institution and to provide subject-based reference/research support to their users. However, technology was not always their friend, so challenges were experienced because issues like slow internet.

7.3.3.3 Conclusions about faculty liaison

The study concluded that faculty liaison, although it was ranked third as a function, was extremely important for subject librarians, as it permeated every major function. To be able to get students for IL training, to carry out collection development and to market the library or subject services all depended on cooperation from faculty and how strong the relationships were with them. However, subject librarians currently experienced the challenge of building and maintaining these very necessary relationships as they often could not even contact them as they were so often too busy.

7.3.3.4 Conclusions about collection development and management

The study concluded that, even though collection development was no longer the major subject librarian function, it was still an important responsibility for these library professionals and that the kind of collections to be developed had increased and changed in terms of format, with electronic collections like institutional repositories being found in most university libraries, and with subject librarians expected to be involved with these in various ways. Unfortunately, like other functions, this responsibility suffered from lack of lecturer support.

In terms of collection management, this study found that responsibilities like cataloguing and classification were no longer a major duty for subject librarians, most probably because these duties were centralised and specific library professionals were assigned to perform it.

7.3.3.5 Conclusions about marketing and promotion

The study concluded that although subject librarians now included marketing as one of their functions, they mostly marketed the library rather than their own subject services, and they experienced the same lack of interest from the potential beneficiaries of the information circulated. Time and money also proved to be barriers to a good marketing strategy.

7.3.3.6 Conclusions about additional functions and duties in other units of the library

The study concluded that the amount of time spent by subject librarians in other units of the library, was very limited, usually less than 10%. It also concluded that all subject librarians were involved in management and administration in some way, no matter how small.

7.3.3.7 Conclusions related to other aspects of subject librarian functions

The study concluded that, with the exception of faculty liaison, which remained more or less the same, subject librarian functions had changed, but more in the methods of performing them, and the emphasis placed on them, than in the actual functions themselves. User education had evolved into IL instruction, research support had increased due to increased research activity and outputs, collection development had decreased in emphasis, while cataloguing duties had almost disappeared from the subject librarian job description. On the other hand, marketing and management had had been added to it.

7.3.4 Conclusions about the skills of subject librarians

The study concluded that a library and information science qualification was still greatly valued for subject librarians in university libraries, more so than subject qualifications, as more held the former than the latter. However subject librarians were generally expected to develop a good knowledge and interest in their designated subjects, using various acquisitions methods, including online training, self-teaching, reading, and other informal modes.

The study concluded that some library managers were prepared to employ subject specialists in their subject sections, but they were expected to have or to obtain post-graduate LIS qualifications, so as to have the LIS foundation.

The study concluded that the usual requirement, in terms of experience for subject librarians, was 3 to 4 years, in an academic library. However, those with less or no experience were sometimes employed at a lower grade and salary, but they could climb the grade/salary ladder as and when they gained the requisite experience.

The study concluded that all the management and interpersonal skills listed in the questionnaire, were regarded by respondents as being essential for subject librarians, with the exception of budgeting and political skills.

The study concluded that subject staff held strong core or technical skills, including knowledge of the reference interview; knowledge of information sources; knowledge of search, retrieval and evaluation; knowledge of citing/referencing; and pedagogic skills.

In terms of ICTs, the study concluded that subject librarians mainly held strong skills in areas like MS-Office, email, and the library management system, but few held the international computer driver's licence, which was bestowed after a trainee learnt all the MS-Office skills and passed an online test. Study respondents, however, were very self-aware, and many indicated the need to acquire more ICT skills so as to remain relevant.

The study found that competencies were mostly acquired through self-teaching or through the attendance of workshops and in-service training. Library schools were seen as falling short in their teaching of areas like ICT and search and retrieval skills.

The study concluded that, overall, the roles and responsibilities of subject librarians had changed, mainly in terms of how these were performed, due to the new technologies and accompanying new information environment.

7.3.5 Conclusions about guidelines for the profession

The study concluded that no specific body, association or community existed in the region that specifically catered to subject librarians, which would have spear-headed issues like training and the compilation of guidelines. Therefore suggesting the guidelines attached as Appendix A was justified.

7.4 RECOMMENDATIONS

Subject librarians are central to the library, therefore recognising their current and future roles and responsibilities, determining the education and skills they need to carry these out well, and synchronising them into guidelines for the profession, was a major objective for this study. The following recommendations emanate from the findings of the study, and they are also included in the more detailed guidelines that can be found in Appendix A.

7.4.1 Recommendations regarding models

This study recommends that subject librarians be organised according to the model that best suits their circumstances, because what works for one library may not necessarily be appropriate for another (Eckwright & Bolin 2001). The dual model is recommended for use by those libraries with enough staff to be able to focus on and carry out only subject-based functions, without them being torn between different units.

The hybrid model is recommended for use by those libraries that are short-staffed, so subject staff would have to assist, usually on a subject basis, with duties performed in other units of the library, for example cataloguing. The hybrid model would also suit those libraries that believe in

rotating staff so that they obtain experience in all sections of the library, or those libraries that believe in using the expertise of their staff in the areas of the library that would benefit most. For example, on one hand, subject librarians, who have a good knowledge of the strengths and weaknesses of the collection, could be of help in acquisitions. On the other hand, cataloguers could benefit from carrying out reference work and learning first-hand how users perceive and use the catalogue, (Crossley 1973; Eckwright & Bolin 2001).

This study recommends that subject librarians work within their own specific units and that if they are divided into teams with a team leader; that all the teams fall under a recognised head. This arrangement would facilitate the development of the teams as a whole or the unit, and provide a forum for subject librarians to discuss challenges and successes, and to provide each other with solutions to problems and alternative ways of performing certain duties. It is also recommended that the head of unit take a leading role in the development of the unit, including a vision and mission statement for the unit, that is, what subject librarians have to do in order to make their vision a reality. This would give direction to the unit and subject librarians would have clear-cut functions and duties. The head of unit should also develop procedures, policies and practices for staff and manage the unit as a whole, including training, assessing, mentoring and advising staff on the areas of their work that need improvement.

7.4.2 Recommendations for the role of the subject librarian

The study recommends that the role or purpose of subject librarians should centre on proactively communicating or liaising with the academic clientele of a designated subject area/s and responding to their teaching, learning and research needs by performing various functions (Brewerton 2011). Those subject librarians that are still working in the 'traditional' way, that is, mainly as information providers, should adopt the current role, made necessary by the new technological and information environment, of becoming facilitators rather than mere providers of information. However, subject librarians should also nurture the dynamism of their role and try to remain current with the needs of their patrons, and adjust their roles accordingly. For example, as recommended by one interviewee, in this era of increased focus on research output, they should become actively involved in the research process, by carrying out research and

disseminating knowledge, including that which they create themselves, so as to better understand the research process so as to better support researchers.

It is also recommended that libraries, through the unit head and overall managers or directors, constantly re-evaluate the roles of their subject staff, so as to make sure that they remain current. For example, aspects like embedding, the research commons, the institutional repository, and data curation should be investigated and the role adapted to include them if they are considered relevant and/or necessary for the institution.

In terms of titles, this research recommends that any university librarian that is starting a new subject service should use one of the titles in current use in one of the other libraries, especially subject librarian, information librarian, or faculty librarian. Or they could look to the future, re-evaluate titles periodically, and change them if they find that new titles better reflect their roles, for example, in this period of research emphasis, they should consider titles like research support librarian, research support specialist, research liaison manager (Brewerton 2012), or even ‘teaching, learning and research support librarian’, which combines the main aspects of their role. A few respondents in this study were already called ‘research librarians’. It is also recommended that libraries that want to change the subject staff titles, think twice about discarding the word ‘librarian’ from these titles (Siebert as cited in Ojala 2009). However if, for some reason, libraries prefer the term ‘specialist’ to ‘librarian’, librarians should avoid calling their subject librarians ‘subject specialists’ if they do not have degree qualifications in the designated non-LIS subject, but should rather consider using a title like ‘information specialist’, which implies expertise in the literature of the designated subject/s.

7.4.3 Recommendations regarding the responsibilities of subject librarians

The study recommends that, besides the main functions performed by subject librarians, namely subject-based reference/research support, IL instruction, faculty liaison, collection development and marketing, unit heads should also consider encouraging subject staff to become involved in new or upcoming functions. For example, digitisation, data management and data curation (Campbell as cited in Rodwell & Fairbairn 2008:117) could be considered, even if on a minimal basis.

7.4.3.1 Recommendations for IL instruction

- The study recommends that all subject librarians be involved with IL instruction, as it fits in very well with their teaching, learning and research support role, and because it will be very difficult to empower users and encourage them to become lifelong learners if they are not involved in this function;
- Subject librarians should also consider promoting IL instruction to administrators, so that they appreciate the value and meaning of being ‘information literate’, and they support IL becoming mandatory for all students;
- It is recommended that subject staff promotes IL to faculty by encouraging them to attend and participate in IL classes with their students and by collaborating with them to produce a relevant curriculum and relevant resource based library assignments. Collaboration would also demonstrate to faculty the value of IL training;
- Since some faculty members cannot find the time to send students for IL training, subject librarians should also promote alternative methods of IL training, for online learning.

7.4.3.2 Recommendations for reference and research support

- The study recommends that, with the emphasis on research output increasing, and as the research environment and the nature of research changes, so too should the type of reference and research support subject librarians give to their patrons;
- As recommended by one interviewee, subject librarians should also individually conduct research, so as to better understand the research process;
- Subject librarians should also look for opportunities to partner, co-create, co-publish, co-present with faculty and researchers in projects that require strong library and information, data management and referencing and other subject librarian type skills;
- For those libraries that do not yet have a research commons, this study recommends the setting up of one, even if this is only on a very small basis, with just one group learning space. This could quite easily encourage researchers to use the library more, especially if the support provided is excellent;
- Since the information environment is the natural environment of subject librarians, it is recommended that more of them provide assistance and advice to patrons, about how to operate ethically and legally in this setting, by developing and passing on competencies

in copyright, intellectual property (IP), fair use, plagiarism and the ethical use of resources for research and academic purposes; and by advising and supporting patrons with their referencing and citation needs, using the university's officially recognised or recommended citation style/s and reference management software or tool/s.

7.4.3.3 Recommendations for faculty liaison

- Since faculty liaison involves building relationships with faculty and supporting their teaching, and research needs (Agyen-Gyasi 2008), subject librarians are advised to use every means to enhance their faculty-library relationships, to remain attuned to their changing needs, (Hahn 2009:1) and to adjust their support and liaison services accordingly;
- It is recommended that subject librarians not only use basic methods like email and the telephone to communicate with faculty. More of them should arrange to give presentations on library related issues and resources to groups of lecturers on request or on an ad hoc basis. As one interviewee recommended, they should not wait to be visited, by lecturers. They should set aside a day per week or month to just drop in to lecturers' offices for a short visit or, as is done already in some universities, have a set time and day to be located/embedded in the faculty;
- Subject staff should also find ways to be included or invited to attend departmental or Board of studies meetings, so as to stay in touch with all the activities of their constituents. As one interviewee also recommended they should place the library on the agenda whenever library issues need to be discussed or conveyed. The more faculty members know about the library, the more involved they will become in making use of its services.

7.4.3.4 Recommendations for collection development

- Since collection development is essential in all university libraries, and since subject librarians know the strengths of the collection in their designated subjects, and the needs of faculty, researchers and students, it is recommended that they remain actively involved in collection development activities (Agyen-Gyasi 2008);

- It is recommended that subject librarians also get involved in activities like weeding and stock-taking as these help them to keep their fingers on the pulse of the collections;
- It is recommended that subject librarians find innovative ways of getting faculty involved in selection of materials, for example sourcing, or suggesting to the acquisitions department sources, lecturer copies, thus involving them directly in the evaluation of sources to be prescribed for users;
- It is also recommended that subject librarians try to preserve their cataloguing and classification skills, as these remain useful for tasks like subject analysis, and for newer duties like metadata management, data mining and data curation.

7.4.3.5 Recommendations for marketing duties

- As stated by one of the interviewees, marketing is the responsibility of all library staff members, at all levels and grades, including subject librarians. It is therefore recommended that subject librarians cooperate with other units of the library, to compile a good marketing programme/strategy, and various marketing tools which can assist to dispel any misconceptions about the library's facilities, resources and services, and which can help to attract new users;
- It is also strongly recommended that subject librarians market their own subject services, using various methods, including printed and electronic marketing tools.

7.4.3.6 Recommendations related to additional duties and duties in other units of the library

- It is recommended that, as far as possible, due to their current workload, subject librarians not be given functions in other units of the library;
- If, because of staff shortages, or for some other reason, subject librarians are expected to take on an extra functions, it is recommended that this be indicated in their job descriptions, so that they know about this requirement from the outset of their employment;
- However, as required of all library staff, subject librarians should expect to be given duties and tasks by library management every now and again, for example, training colleagues, and contributing to library procedures, policies and strategies. It is recommended that they pay as much attention to these duties as to their subject ones as

they give them an insight into management, thus paving the way for promotion in the future;

- It is also recommended that subject librarians use the best management principles to manage themselves, their professional development and various aspects of their work, including their classes, their reference services, their collection management, their liaison duties, their marketing endeavours and their time.

7.4.4 Recommendations regarding the skills of subject librarians

- This study recommends that libraries maintain the quality of subject work by requiring subject librarians to hold LIS qualifications at degree level or equivalent, and the appropriate amount of experience; or to hold a non-LIS degree plus post-graduate LIS qualifications in cases of staff shortage;
- In order to attract 'new blood', that is, young professionals into subject librarianship, the study however, recommends that libraries follow the example of sister institutions which already employ LIS graduates and non-LIS degree holders. They should employ them at assistant or trainee level, at a lower grade and salary, pending their acquisition of the requisite amount of experience and further qualifications. During this period, the unit head, team leader or principal faculty librarian should ensure that they receive training and observe the work of more experienced colleagues;
- Besides having an LIS qualification, and experience in an academic library, this study also recommends that all subject librarians develop an interest in their designated subjects and the related literature (Crossley 1973:238);
- The study also recommends that subject librarians enhance their existing skills (Biddiscombe 2002) and develop themselves professionally by acquiring new skills (Garrod 1998). The attached guidelines (Appendix A) recommend a number of skills, which libraries can use as suggestions, or they can add to them.

7.4.4.1 Recommendations for management or interpersonal skills

Management is an important skill for all librarians, and it permeates everything they do.

- This study, recommends that subject librarians develop the skills to manage various areas of their work life, including the IL classroom, their records and statistics of classes and/or topics taught, their time and their workload;
- Subject librarians should also develop written and oral communication and marketing skills by using various methods, including taking courses to acquire and/or improve these. They should also develop public-speaking skills, including presentation skills.

7.4.4.2 Recommendations for core/technical skills

There are certain core/technical skills that will always be useful for subject librarians; therefore they should always try to develop these, including:

- Subject skills and knowledge of the literature, so as to help them with selection and collection development;
- They should learn how to listen to patrons, how to conduct reference interviews, how to search and retrieve information, how to evaluate and synthesise the information retrieved, and how to reference it. They should also learn how to transfer all these skills to their patrons;
- It is recommended that subject librarians make great effort to retain their cataloguing skills by, for example, helping out in the cataloguing department every now and again. Cataloguing and classification skills come in handy during the search and retrieval process as they are able to easily break down topics from the general to the specific, which may sometimes be necessary;
- Subject librarians should also develop data management skills as these will help them with institutional repositories and digital collection/digitisation projects.

7.4.4.3 Recommendations for personal and professional skills

In order to remain relevant and to retain their value, subject librarians need to remain current in their professional and personal skills.

- It is recommended that subject librarians develop personal skills, including how to be innovative, creative, and proactive;
- They should also develop a career path for themselves, and work out how they will achieve it;

- They should also actively apply the IL skills they teach to students, to their own work, so that they remain lifelong learners, even if they leave the field.

7.4.4.4 Recommendations for ICT/Technological Skills

The world is in the middle of the technological age, and new technologies appear with alarming regularity.

- It is therefore recommended that subject librarians learn the benefits of different technologies, as they appear, and if they are deemed relevant, learn how to use them for information search and retrieval purposes, and learn how to pass on ICT skills to patrons;
- It is recommended that subject librarians develop a good knowledge of all the relevant MS-Office applications, possibly by obtaining the International Computer Driver's Licence (ICDL) qualification which covers all these tools;
- Subject librarians should also develop an understanding of operating systems, relevant software, web browsers, search engines, their library's management system (LMS), their library's Online Public Access Catalogue (OPAC) and other technological tools as they appear in the library and information environment;
- With web 2.0 and library 2.0 tools, and e-learning systems becoming more widespread, it is also important that subject librarians learn how to optimally use these as they appear;
- Since student users spend much of their time on social media sites like Facebook, Twitter, and others, subject librarians must seek them out there, so it is recommended that they know how to optimally work with these sites;
- It is recommended that subject librarians should use any and all means to acquire ICT skills, including in-service training, observing colleagues, attending courses, attending vendor training, and teaching themselves skills.

7.4.5 Recommendations regarding guidelines for the profession

Since the study could not identify any subject librarian associations in the region, it is recommended that these be formed, even if only within the higher education institutions of a particular country, so that subject staff can share professionally. If this is not practical, in terms of travel expenses for meetings, an online community could be investigated. Individual subject

librarians have so many innovative ways of performing certain duties, that they can teach and learn from each other.

Since the study could also not identify relevant guidelines for subject librarians in the region, libraries in general and subject librarian units in particular, are advised to compile their own guidelines. They can also use the guidelines in Appendix A as a starting point or 'as is'. According to the Merriam-Webster dictionary (2013), guidelines are recommended practices that show or tell practitioners how something should or could be accomplished. The Business Dictionary (2013) adds that users can interpret, implement or use guidelines at their own discretion. The guidelines were compiled using information learnt during the course of this investigation of the roles, responsibilities and skills of subject and learning support librarians in the Southern African Customs Union (SACU) region, and they also included information/advice taken from LIS writings, some of which were discussed in the literature review. Although they are intended largely for those university libraries that want to start new subject and learning support services, they can be used by any library to benchmark or evaluate their subject services.

7.5 RECOMMENDATIONS FOR FUTURE STUDIES

This study investigated the roles, responsibilities and skills of subject and learning support librarians in the Southern African Customs Union (SACU) region. Its value is that it added to the knowledge of subject librarianship in the region and it produced recommendations and detailed guidelines (see Appendix A) for libraries to use in the establishment of new learning support services. However, the study also encountered a few challenges, one of which was related to the study population. Since the researcher received communication from some in the targeted population, indicating that they did not perform subject, faculty, information or similar functions, future researchers are advised to request email lists from the university librarian or Director, in that way ensuring that they include only the correct units in the target population.

Another challenge related to the amount of time needed to complete the questionnaire, therefore future researchers should also look for ways of limiting the length of the questionnaire, since some respondents felt that it was too long and therefore too time consuming.

7.6 CONCLUSION

The job of the subject librarian is extremely varied and dynamic. The way subject librarians carry out their duties basically depends on the model of subject librarianship in place, therefore, if they fall under a dual, faculty library or subject-divisional model, they will mainly perform subject-based duties, but if they fall under the hybrid model, they will perform subject and non-subject duties in other units of the library, which could result in divided loyalties.

The role of subject librarians still revolves around providing subject, discipline, department or faculty-based teaching, learning and research support, and all the main functions are performed in order to fulfil this role. The main functions performed by subject librarians include information literacy instruction, reference or research support, faculty liaison, collection development, marketing, and in libraries under the hybrid model, duties in other units of the library. Furthermore, management as a duty also permeates all these functions. The emphasis put on each function depends on the requirements of each individual library. These functions have changed with time, mainly in the way that they are carried out.

All subject librarians are expected to hold a library and information science (LIS) degree or a non-LIS degree plus a post-graduate LIS qualification, and generally, at entry level, applicants for a post are expected to have three to four years of experience in an academic library. Above that, subject librarians are expected to develop knowledge about the literature of designated subjects and to obtain various management/interpersonal/personal, core/technical, and technological skills in order to remain relevant and to be able to provide full support for their patrons.

Unfortunately, standards and/or guidelines regarding roles, responsibilities and skills for new services do not appear to be available. In the absence of any guiding principles, the above-mentioned recommendations were used as a basis for the guidelines in Appendix A. University libraries can use these as a starting point; or they can modify them to suit their own circumstances and environment. Recognising the current and future roles and responsibilities of

subject librarians, determining the education and skills they need to carry these out well, and synchronising them into guidelines for the profession, was a major objective for this study.

7.7 CHAPTER SUMMARY

This chapter gave brief summaries of the findings related to each research question asked and answered by this study, as well as the conclusions about these issues. The recommendations included in the chapter covered all areas investigated in the study, including the models, units, roles, titles, key responsibility or performance areas, educational qualifications and skills held by and/or needed by subject staff. These recommendations resulted in the guidelines for a new service, as contained in Appendix A.

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APPENDIX A

GUIDELINES FOR SUBJECT LIBRARIANS

The following guidelines emanate and are based on the findings of the study, and from information taken from the literature, cited in the Bibliography following the guidelines. Some U.S. and UK university library-based guidelines/documents, listed in the bibliography, including Duke University library, the University of Minnesota library and Research Libraries UK, were especially useful.

Although the guidelines are meant for use mainly by those university libraries wanting to establish new subject or learning support services, they can also be used by any subject librarians to evaluate their services. However, some of the functions described will not be in the job descriptions of all subject librarians, because

activities considered current in one institution are seen as potential activities for the future in another. In some research libraries, subject librarian roles are changing and expanding to accommodate new responsibilities, while in others specialist posts are being created to perform them (RLUK 2012:15).

The guidelines are very detailed, to include all eventualities, but they are not prescriptive; they are merely put forward as suggestions/recommendations that libraries may choose to adopt or adapt, in part or in total, to fit into their institutional requirements.

HOW THE GUIDELINES ARE ORGANISED

The following guidelines are organised first by major aspects, and then, where appropriate, by recommended goal, followed by the activities or duties which can be carried out in order to fulfil the goal. Not all aspects will have goals and activities.

1. SUBJECT LIBRARIAN MODEL

Libraries should organise their subject services according to the model that best suits their current situation and future prospects. For example, the dual model, whereby some senior library

staff perform subject-based functions, while other senior library staff perform the rest of the library activities on a centralised basis; this is the recommended subject librarian model for those university libraries with adequate staff, as it allows subject librarians to focus on subject-based work. Subject librarians in this model can be of equal status/grade, or they can carry out the main library functions on a subject team basis, consisting of a team leader, senior and junior staff member, paraprofessional staff and trainees at different levels and grades, who can be located with the subject collection. This arrangement facilitates the development of a career path, from trainee to team leader to head of unit.

However, the hybrid model, whereby subject librarians perform subject-based work, as well as functions in other parts of the library, usually on a centralised basis, may be the only feasible model for those libraries that are short-staffed, or for those libraries which believe in rotating staff so that subject librarians obtain experience in all sections of the library and do not fall into a rut, or for those libraries that believe in using the expertise of their staff in the areas of the library that would most benefit from it.

2. UNIT AND UNIT HEAD

Subject librarians should have their own specific units, with a recognised unit head, who performs administrative functions, makes decisions and liaises with library management and senior academic staff as appropriate. The unit should have a mission which should include the role of the subject librarian, as perceived by the university library. Suggested goals and activities for the unit head are as follows:

2.1: To manage and supervise the unit

- By recruiting new subject librarians;
- By developing and providing clear, easily understood job descriptions for staff;
- By developing guidelines, strategies, policies and plans for the unit;
- By monitoring the workload of subject librarians and constantly keeping the demands made on them under review (Pinfield 2001; Agyen-Gyasi 2008);

- By mapping the career paths, prospects, promotions, grades and salaries of subject librarians (Crossley 1973);
- By mentoring subject librarians on their work and career paths.

2.2: *To encourage a team spirit in the unit*

- By fostering a friendly, ethical, supportive and cooperative environment, that encourages team spirit and the recognition, acknowledgement and celebration of team and individual achievements and contributions;
- By arranging regular departmental meetings, whereby subject librarians can brainstorm, discuss important issues and problems, find solutions and learn to work as a team.

2.3: *To develop subject librarians professionally*

- By using various methods to assess the competencies and training needs of staff;
- By using various teaching methods, including vendor training, the use of faculty, e-learning, blended and in-service training, to arrange training sessions for subject librarians on: new, existing and future resources, tools and methods, the research process, pedagogy, presentations, and other areas of current/future importance to subject staff;
- By recognising the unique knowledge and skills held by colleagues in other units of the library, and harnessing these to assist in the development of subject librarian skills, and reciprocating by using subject librarians skills to train colleagues in other units;
- By arranging peer-review sessions for the unit members, to encourage subject librarians to regard themselves as a team, to learn techniques and methods, and to give and accept constructive criticism from each other;
- By encouraging subject librarians to experiment, try new approaches and technologies, so as to improve in every area of their work.

2.4: *To periodically evaluate staff*

- By arranging user satisfaction surveys on various aspects of subject librarian work;
- By carrying out subject librarian assessments, as required by the institution or library;
- By mentoring unit staff during and after evaluations and surveys, and providing them with constructive feedback, so as to facilitate work improvement.

2.5: *To represent the unit to management:*

- By attending management meetings as the head of the unit;
- By representing subject librarian ideas during management activities, including planning new facilities, expanding or revamping services, allocating funds for programmes or projects, and upgrading or planning for more staff (Crossley 1973);
- By preparing reports on, and making recommendations for the improvement of the unit;
- By preparing budgets for the unit, thus ensuring that subject librarians have the necessary resources to perform their jobs well, and presenting these to management colleagues.

2.6: *To establish networks to promote and enhance the unit and its services:*

- By establishing relationships with other units in the library;
- By establishing relationships with administrative units in the university, by encouraging staff to volunteer for university committees, thus enhancing visibility, or by representing the library on committees whose work is relevant to subject librarians, for example, the e-learning committee and the research and publications committees;
- By establishing relationships with vendors, and providing them with feedback about their products, especially any requiring improvements (Special Libraries Association [SLA] 2003);
- By collaborating with the web master to make sure subject pages and online marketing materials are as striking, informative and as interesting as possible;
- By building with other libraries, library organisations, non-library organisations, and the business community, and by recognising the need for and encouraging the establishment of a national or regional community of practice (CoP), whereby subject librarians can share experiences, concerns and training (University of Minnesota n.d.).

3. TITLES OF SUBJECT STAFF

University libraries should select a title that reflects what the subject librarian does.

- Those in current use include librarian, subject librarian, information librarian, faculty librarian, information specialist, personal librarian, branch librarian, and research librarian;

- The library cannot go wrong if it uses a title already in use in the region, including information specialist, which implies vast knowledge of information, or research librarian/research support librarian which reflects the current emphasis in universities.

4. ROLE OF SUBJECT LIBRARIANS

The current role of the subject librarian is to support, on a subject, discipline, departmental or faculty basis, the teaching, learning and research activities of students, faculty and staff

- By selecting, managing, providing or facilitating their access to information;
- By empowering them, through information literacy instruction, to independently search for, retrieve and optimally and legally use information for their various needs;
- By participating in and facilitating the creation and dissemination of scholarly research and knowledge, so as to fully understand the research process.

5. JOB DESCRIPTION

The subject librarian job description should be clear and easy to understand and it should include all relevant aspects/issues of the subject librarian job. It should include:

- A cautionary note informing the incumbent that the job will be periodically reviewed, leading to possible future changes in the job description;
- The official job title;
- The job grade;
- The required qualifications and skills, and any additional ones to be obtained, and if relevant, when these should be obtained;
- The amount and type of experience needed;
- The library hierarchy and/or reporting structure, including the unit name and immediate supervisor;
- The role/purpose of the job;
- The after-hours, overtime, or other unusual hours related to the job.

6. KEY RESPONSIBILITY AREAS

The main subject librarian functions should be specified, including their associated duties. Currently, as revealed by the study, they include information literacy instruction, subject-based reference and research support, faculty liaison, collection development, marketing, and administration. If subject staff are expected to perform duties in other units of the library, this expectation should be made clear.

6.1 Information skills training goals and activities

Information skills training is an essential part of university life, mainly because of the constant developments in information formats, sources and tools. Subject librarians should try to be involved in this area as this is part of teaching, learning and research support. Their goals as instructors should be:

6.1.1 *To familiarise users with the library's spaces, facilities, resources and services*

- By conducting subject-specific resource-based *physical* library tours;
- By conducting subject-specific resource-based *online* library tours;
- By developing, managing, constantly improving and promoting the library's physical and online learning spaces, facilities, resources and services (University of Minnesota n.d.);
- By informing students about other student support services based in the library, that they might need, for example, the writing centre, internet café and others.

6.1.2 *To produce information literate lifelong learners*

- By conducting general or subject-specific information literacy (IL) classes that help students to realise when they need information; and to develop competencies in searching for, locating, evaluating, and legally using information, that is, empowering them;
- By using IL classes to contribute to the institution's aim of producing lifelong learners who are able to think critically, plan, solve problems and make decisions about their work, further education, leisure and personal activities;

- By collaborating with faculty to produce relevant library assignments that require students to demonstrate their ability to use library and information sources effectively and ethically, and by finding other ways to test students;
- By encouraging faculty to attend and participate in IL classes with their students;
- By conducting refresher or advanced IL classes for students in designated departments;
- By assisting students individually, with their subject-based information seeking activities;
- By conducting user satisfaction surveys after all or some IL sessions, in order to determine the areas that need to be revamped, changed or added to.

6.1.3 To promote alternative training for students:

- By designing, implementing and maintaining online training courses, which include methods of assessment like assignments and tests;
- By collaborating in the design, implementation and maintenance of online tools in support of teaching, learning and research (University of Minnesota n.d.);
- By encouraging faculty to insert links to library subject portals, web guides and other online resources and training materials within their online courses, and by promoting the embedding of IL materials in subject-specific online courses;
- By compiling and using printed and electronic subject specific training materials;
- By actively searching for and adopting different ways of catering for students with little or no knowledge of libraries, computers and other technologies;
- By actively searching for and adopting different methods of instructing students with language, sight, hearing and other challenges.

6.1.4 To provide library and information skills and resource use training to faculty:

- By providing library orientation to new lecturers within the library, or in their offices;
- By regularly giving presentations of new and existing library resources to faculty, within the library or in their offices;
- By arranging seminars for faculty on detecting plagiarism (Holtze 2002);
- By compiling printed and electronic subject-specific library guides for faculty;
- By telephonically walking faculty through the use of various databases, when necessary.

6.1.5 To promote IL instruction in the university:

- By empowering students with skills that demonstrate, to faculty, students, student groups and administrators, the importance of IL training;
- By engaging with faculty to promote the inclusion of IL training into the curriculum as a compulsory and credit-bearing course (University of Minnesota n.d.);
- By spearheading and overseeing the development of an IL curriculum and by working with faculty to ensure that it is relevant to their needs and to those of students.

6.2 Reference/research/information service

Emphasis on the area of research output is being emphasised in universities today, and because of their knowledge of, and liaison with faculty and students, subject librarians are best suited to facilitate and support the reference, research and other information needs of students and faculty. Subject-specific reference and research support should include the following goals and related activities:

6.2.1: To develop a strong knowledge of the research process:

- By conducting research interviews/consultations and requesting research proposals or overviews, in order to understand “the typical researcher’s experience, including their workflow, and how researchers access and use information, within a discipline/subject” (Brewerton 2012:105);
- By individually conducting research so as to better understand the research process, including search and retrieval of information;
- By recognising the needs of researchers at different stages/levels in their careers: master’s student, doctoral student, junior researcher, new academic staff member, established academic staff member, senior researcher, expert (RLUK 2012);
- By reviewing, periodically the library needs of designated faculty and students, “by way of verbal interrogations, questionnaires and surveys” (Fadiran 1982:46).

6.2.2: To keep abreast of on-going research in the institution and in designated departments:

- By reading all relevant institutional documents about on-going or completed research, working with the institutional research office and attending institutional/departmental

research committee meetings, research workshops and presentations, thus developing a strong knowledge of institutional and departmental research strategies;

- By finding out and recording information about the research being conducted in designated departments and building strong relationships with the faculty, students and researchers conducting this research.

6.2.3: To keep abreast of the literature in designated subject/s:

- By becoming knowledgeable about the coverage of designated subject areas, in the library's physical and online collections, including databases, repositories, archival and other digital collections, in all formats, including printed, graphic and audio-visual;
- By becoming knowledgeable about coverage of the subject/s in local/national collections;
- By compiling and circulating subject-specific bibliographies from various collections;
- By reading about current and future trends in higher education, especially those relating to designated subjects, and disciplines (Duke University Libraries 2011).

6.2.4: To develop a strong subject-specific reference and research support service

- By “developing and implementing a research support strategy” (Brewerton 2012);
- By being receptive to queries from researchers, students and staff, and by assuming responsibility to research and answer all enquiries, in the designated subject area/s, which cannot be answered by other members of the library staff (Crossley 1973);
- By using authoritative sources to respond to queries knowledgeably, factually, accurately, thoroughly, in a calm and professional manner, within the designated time frame, using various methods, including inter-library-loan, electronic mail, weblogs, wikis, journal alerts, chat and call-centre based software;
- By knowing when to call on colleagues for assistance (Schwartz & Deakin 1986), and by developing methods of dealing with “unanswerable” questions (Schwartz & Deakin 1986);
- By knowing when to assist researchers with information via inter-library-loan (ILL), and by being able to explain the advantages and challenges of this process to them;
- By developing the “ability to synthesise, analyse and provide digests of ‘discovered’ information” to patrons (Brewerton 2012:105);

- By analysing and documenting the avenues used and the results obtained from research transactions, so that best practices can be repeated by other researchers;
- By following up with patrons to ensure that all their needs have been met;
- By developing and maintaining subject portals/guides so as to point researchers and students to alternative sources of subject-based information;
- By providing subject-specific support in research spaces, for specific groups of users, for example the ‘research commons’ for faculty, senior students and researchers, and knowledge or learning commons for undergraduate users;
- By assisting circulation desk staff to answer queries presented at the reference desk, if so requested.

6.2.5: To assist patrons to ethically and legally use information:

- By developing competencies in copyright, intellectual property (IP), fair use, plagiarism and the ethical use of resources for research and academic purposes and passing them on;
- By supporting patrons with their referencing and citation needs, using the officially recognised (by the university) citation guides or manuals, and reference management software or tools;
- By finding ways to provide more detailed support for those students new to citing.

6.2.6: To assist patrons to manage their research output:

- By informing faculty and student researchers about their rights as authors (University of Minnesota n.d.);
- By advising patrons about commercial, paid, open access and other forms of scholarly publishing and distribution, including institutional repositories.

6.2.7: To assist researchers with any other research-based issues:

- By supporting researchers with their research foundation/association applications;
- By sourcing and disseminating information about funding and grant opportunities in the field (Holtze 2002);

- By looking for opportunities to partner, co-create, co-publish, co-present with faculty and researchers in projects that require strong library and information, data management and referencing and other subject librarian type skills (University of Washington n.d.).

6.3 Faculty liaison

Subject librarians need to spend time building relationships with faculty since they are their main constituents. The following goals and activities will assist with this function:

6.3.1: To build relationships with faculty so as to meet their information needs:

- By finding ways to establish relationships with faculty from different countries and cultures, with different mother languages and customs/etiquette;
- By using various methods, including visits, meetings, telephone and email contact, to establish and maintain formal contact with designated departments, faculties, departmental representatives/liaisons and individual faculty members (Crossley 1973);
- By using various methods to contact new lecturers at the beginning of every semester, including writing introductory letters to them (Holtze 2002);
- By using the contacts with faculty to acquire knowledge about their individual responsibilities, interests, studies, research and related information needs.

6.3.2: To become, and remain, visible to faculty:

- By ‘getting out of the library’, attending all Faculty Board of Studies (BOS) and departmental meetings and by placing the library on the BOS agenda whenever library issues need to be discussed or conveyed;
- By passing on faculty/departmental concerns to the library management, and passing on library concerns to faculty;
- By creating “strategic opportunities to participate in and influence disciplinary and departmental decisions” (Hahn 2009:2);
- By embedding oneself in the faculty or department by maintaining set office hours, even just if for just one day each week.

6.3.3: *By supporting faculty in other ways as required:*

- By contributing to accreditation review processes and reports;
- By giving ad hoc presentations on library related issues to groups of lecturers on request.

6.4 Collection development and management

Subject librarians know the strengths and weaknesses of the collections in their designated subjects, and the needs of faculty, researchers and students; therefore they should be actively involved in collection development activities. The following goals and activities should be attempted:

6.4.1: *To develop knowledge of departmental resource-based needs:*

- By studying departmental documents and prospectuses so as to determine priority areas;
- By becoming familiar with departmental course offerings, curricula and reading lists;
- By attending faculty/departmental curriculum meetings to learn about new, changed and discarded courses/curricula.

6.4.2: *To build strong, balanced physical library collections:*

- By contributing to the library's collection development policy and informing faculty of any changes in timely fashion;
- By actively cooperating or working with the Technical Services, Serials or Acquisitions departments to build strong library collections;
- By managing designated departments' acquisitions budgets when required, and actively participating in the selection of free or open source information items, in all formats;
- By circulating catalogues, bibliographies, book lists and book reviews to faculty, and by providing online links, on the library website, to publisher pages, so as to encourage faculty to participate in materials selection, and to help them to make informed selections;
- By sending faculty periodic reminders about the importance of their participation in the selection/collection development function;
- By arranging for lecturer copies of new books 'on approval', or by encouraging or assisting the Acquisitions department to perform this function (Crossley 1973).

6.4.3: *To build strong online library collections:*

- By working closely with the Technical Services, Serials or Acquisitions departments to build strong online library collections;
- By participating in the selection of electronic resources through testing and evaluation in terms of cost, content, functionality, interfaces, methods of access, limitations of the license, authentication requirements (IP, password), format (CD, DVD, online), technical requirements, archiving arrangements, back-files, perpetual access, vendor training and support, the possibility of integrating them with the library's other resources, and the possibility of them becoming substitutes for the print versions (Pinfield 2001);
- By remaining aware of faculty intellectual and research output, by collecting it in the form of preprints, post-prints and published items, by showing faculty how to self-deposit or archive it in the institutional repository (IR), or by depositing their intellectual output for them if requested to do so;
- By contributing personally - researching, compiling and adding items to the IR;
- By contributing to the discussion on planning, collecting, preserving, digitising and making accessible, various library materials, and by actively participating in the library's digitisation projects.

6.4.4: *To manage library collections:*

- By assisting the technical services or cataloguing departments, by contributing controlled vocabulary for the description of materials;
- By making cataloguers aware of any anomalies or errors in the library catalogue that would prevent users finding useful information;
- By providing or assisting IR managers with quality control and use of metadata in the IR, or by being prepared to assume responsibility for the IR in the absence of an IR manager.

6.4.5: *To evaluate and maintain library collections:*

- By assisting the technical services or acquisitions departments with the assessment of the collection, using diverse methods, including collection mapping, numeric counts, and subject-based analysis, and by compiling usage reports so as to build a user-centred library collection based on use;

- By carrying out user satisfaction surveys to assess the relevance of the collection;
- By assisting with weeding the collection, especially in designated subject area/s, so as to have a say on what stays or is removed from the collection;
- By participating in library stocktaking so as to keep track of, and remain aware of, the strengths and weaknesses of the collection, especially in designated subject area/s;
- By identifying and recommending items for digitisation/online archiving.

6.5 Marketing and promotion

Since marketing is the responsibility of all library staff members, subject librarians can achieve success with the following goals and related activities:

6.5.1: To develop a marketing policy:

- By understanding the basic principles of marketing and promotion, and how these can be applied to library services;
- By developing a marketing strategy that constantly promotes the library as the core part of teaching, learning and research within the university (Crossley 1973);
- By periodically evaluating, revising and updating marketing strategies, policies and procedures so that they remain relevant, and by incorporating new technologies to improve on the marketing avenues and methods;
- By creating and circulating marketing materials, in the form of printed and electronic brochures, posters, information sheets and other materials, in order to promote the subject librarian service as the ultimate faculty, teaching, learning and research support service;
- By participating in, or coordinating subject-based exhibits, presentations, talks, and by using every opportunity to explain/market subject librarian services to faculty/students.

6.5.2: To provide a strong current awareness service (CAS):

- By keeping faculty apprised, but not overloaded with information about new developments in the library (Holtze 2002);
- By providing periodic information about resources (books, reports, journal articles, and conference papers, posters or presentations), services and events through the use of various methods including printed or electronic bulletins, news items, conference alerts,

information circulars, blogs, newsletters, brochures, posters and displays and by posting information on faculty or departmental bulletin boards or websites.

6.5.3: To provide a strong selective dissemination of information (SDI) service:

- By using knowledge of individual lecturer's teaching and research needs to periodically forward to them, relevant subject-specific information items, including published statutes, government notices/gazettes and Tables of Content of new print and e-books/e-journals;
- By periodically compiling and circulating subject specific bibliographies and acquisitions lists, received to the appropriate people.

6.6 Management and administration

All librarians are involved in management in some way, whether to a greater or lesser extent, therefore they should aim:

6.6.1: To carry out unit-based administration and management as and when required:

- By managing teams and/or branches;
- By managing students in the classroom situation;
- By assisting the unit head with the in-service training of new colleagues when requested;
- By compiling or contributing to the production of subject manuals, guides and policies;
- By adding to the "knowledge base of the profession by sharing best practices and experiences" and by committing to "professional excellence" (SLA 2003:4).

6.6.2: To develop personally and professionally:

- By acknowledging and assuming responsibility for their personal development;
- By being self-aware and thus able to identify areas of personal or professional weakness and strength;
- By being prepared to use various methods to eliminate weaknesses, including learning from colleagues, reading professional journal articles, attending library or university-based in-service training and attending professional workshops or conferences; and by being prepared to work hard to enhance professional and personal strengths and increase the personal skills base;

- By maintaining a professional portfolio which records the personal and professional training received and performed, the functions carried out and the successes achieved.

6.7 Additional duties and duties in other units of the library

If staff librarians are expected to take on extra functions in other units of the library, this should be included in the job description,.

7. QUALIFICATIONS AND EXPERIENCE

In order to maintain the quality and reputation of the subject librarian unit, staff need to have the relevant qualifications. However, in the case of a shortage of qualified applicants, or in order to attract younger librarians into the profession, different grades/levels and salary scales are recommended. These also present a career path that will motivate young librarians to stay in the profession. The following could be considered:

7.1 Trainee/Student level

- A 4 year degree/honours degree in library and information science (LIS); or
- A degree in a non-library subject (with the proviso that an honours or post-graduate LIS qualification is obtained within a designated time frame).

7.2 Entry level

- 4 year degree/honours LIS degree and 3-4 years' experience in an academic library; or
- Non-LIS degree, a post-graduate LIS qualification, and 3-4 years' experience in an academic library.

7.3 Senior level

- Master's degree in LIS, and 6 years' experience; or
- Master's degree in a non-LIS subject, a post-graduate LIS qualification, and 6 years' experience in an academic library.

7.4 Supervisor level

- Master's degree or higher in LIS, and over 6 years' experience in an academic library; or
- Master's degree or higher in a non-LIS subject, a post-graduate qualification in LIS and more than 6 years' experience in an academic library.

8. SKILLS

Subject librarians need to continuously enhance and increase their skills in order to remain relevant and to demonstrate their value.

8.1 Reference and research skills

Subject librarians need to spend time answering both general and subject-specific queries for staff and students in their designated departments. In order to do this effectively, they need to follow certain goals:

8.1.1: To develop a sound knowledge of the subject

- By acquiring qualifications, taking classes, or observing classroom sessions in the subject, so as to better understand the topics covered in the department (Holtze 2002).

8.1.2: To acquire knowledge of the literature in the subject field:

- By learning about the literature and resources, the teaching, learning and research techniques, terms and concepts involved in the subject area (Pinfield 2001), and learning how to incorporate these into IL classes and subject librarian services;
- By learning all the tangible sources, formats and locations of information on the subject, in printed, audiovisual and other tangible formats including journals, books, videos, sound recordings, and graphic items within the library and elsewhere;
- By learning about the electronic books, journals and book/journal databases on the designated subject, in terms of their content, format, functionality, cost, technical/authentication requirements, training support, and archival or preservation aspects; and about electronic books/book databases, including their availability and their subscription methods, for example, patron-driven access;

- By using various methods to learn about various information providers, including referring to colleagues, attending exhibitions, reading reviews and publisher catalogues, viewing and listening to media;
- By developing the “ability to identify documents through a knowledge of bibliography and indexing” (RUSA 2003).

8.1.3: To develop reference skills:

- By listening to students, faculty and researchers, and finding out exactly what they need, at what level, and finding out from them the avenues they have already tried;
- By learning how to use the different technologies available for answering reference questions, including email, chat, use of call-centre-based software, video conferencing, ‘ask a librarian’ and ‘frequently asked questions’ on the library website, and other online methods (Pinfield 2001; Tyckoson 2001);
- By looking out for other new ICTs and learning how they can be used to answer reference/research questions.

8.1.4: To develop research skills

- By using various methods, including online guides, to learn how to conduct in-depth research, using alternative search routes, sources and terms and various information sources including online public access catalogues, databases, websites, and subject portals/guides, using the metasearch, general, scholarly or federated search engine best suited to the purpose;
- By developing data mining skills, that is, the ability to extract, analyse, summarise and make meaningful, data from various viewpoints;
- By learning how to synthesise all the information sources identified during a search, in order to provide a compact and relevant collection of sources to each user;
- By learning to respect “the right of users to determine the direction of their research by empowering them to pursue their own preferences” through IL instruction (RUSA 2003);
- By learning how to conduct research, including defining a research problem and understanding research methods, literature searches, data collection, analysis, interpretation and presentation/reporting, so as to better understand the research process;

- By collaborating with researchers in designated departments, including co-authoring articles, writing research reports, disseminating research findings, looking for funders and learning how to comply with their directives.

8.1.5: To develop data management skills:

- By learning how to preserve and disseminate research output, including through institutional repositories and digital collections/digitisation;
- By learning how to preserve project records;
- By learning how to develop and use metadata, metadata schema and/or subject-based standards, how to mine, manipulate and curate data, so as to ensure that they play an essential role in “the description, management, storage, access, and reuse of data” (ALA 2013:36).

8.1.6: To be able to use information sources legally and ethically

- By developing a sound knowledge of copyright, intellectual property, authors’ rights, “fair use”, plagiarism and citing/referencing;
- By developing good referencing skills, using the citation style/s recognised by the department/university, for example, the Harvard, Chicago, Turabian, Modern Languages Association (MLA) and American Psychological Association (APA) styles, and by being able to pass on these skills;
- By becoming competent in the application of the commercial referencing and citation management tools in use within the department, for example, EndNote, RefWorks and Reference Manager; or to develop competence in the application of any open source referencing and citation management tools like Zotero, Mendeley and CiteULike, that may be in use within departments that cannot afford commercial tools.

8.2 ICT/Technological skills

Given the nature of their jobs, ICT skills are now mandatory for subject staff. It is therefore imperative for them to become very computer literate:

- By leaning about the computer, including the central processing unit, the terminal, keyboard, mouse, printer/network printer, scanner, data storage devices like hard drives,

DVDs, CD-ROMs, flash drives/memory sticks and other tools; and by knowing how to use alternatives to the computer, for example laptops, notebook computers, and other mobile devices like tablets;

- By knowing the computer operating system in use in the institution for example, Windows, MacOS, UNIX or Linux;
- By developing skills in the use of office suite applications like word processing, spreadsheets, presentations, databases and file management and knowing the most appropriate time to use each of them; or alternatively, by obtaining an international computer driver's licence (ICDL) which covers all these components; and being able to optimally create and delete files; copy, paste and delete items;
- By developing the ability to be able to quickly learn and apply various commercial and open source software including statistical packages like SPSS, anti-virus and anti-spam software like Kapersky, and referencing tools like EndNote and others mentioned above (7.1.9.1, goal 6);
- By understanding, and being able to evaluate and use commercial and open source web browsers, for example Internet Explorer, Google Chrome, Mozilla Firefox, Safari and Opera, and to assist users when necessary;
- By developing a basic understanding the meaning and use of extensible mark-up language (XML) and its relationship to hypertext mark-up language (HTML);
- By knowing and being able to use, evaluate and explain the differences, advantages or disadvantages of meta search engines, general search engines, scholarly search engines, subject portals/guides, and federated search engines;
- By knowing and being able to use, evaluate and teach the major library subscription and free e-journal and e-book databases in use in the library;
- By knowing how to explain the benefits of library databases over sites like Google web and Wikipedia;
- By developing expertise in the use of library Online Public Access Catalogues (OPACs) in general, and the library's OPAC in particular, and being able to train users;
- By knowing the value of various tools and sites, for example, online sharing, collaboration or web 2.0/library 2.0 tools (including web 3.0 the next step in the evolution of internet tools and web applications), like weblogs, micro-blogs (Twitter),

podcasts, RSS (really simple syndication) feeds, instant messaging tools (Skype), social networking sites (Facebook, LinkedIn), social bookmarking sites (Delicious), photo-sharing sites (Flickr), music sharing sites (iTunes), video sharing sites (YouTube), file sharing or collaboration tools (wikis, Slideshare), web conferencing programmes for synchronous online meetings and other online/internet tools/sites;

- By developing the ability to download, preview/print/save files, images, audio-visual items, e-books, e-journals and other electronic items from the World Wide Web;
- By knowing and being able to use the library management system (LMS) in place within the institution/library;
- By knowing and being able to use computer-assisted learning and e-learning systems like Moodle or Blackboard, and by being able to integrate these and other appropriate technologies into information literacy classes;
- By knowing and being able to use various academic online software, for example, statistical tools like SPSS, commercial referencing tools like RefWorks, Reference Manager, EndNote and open-source Zotero, Mendeley and CiteULike;
- By knowing how to optimally use electronic mailing, including writing, sending, opening, reading, answering, printing, saving, and deleting messages; also opening attachments and attaching files to messages;
- By understanding the importance of the library's web presence and having knowledge of basic web hosting, web design, cloud computing and content management;
- By learning other important computer, internet and World Wide Web topics, for example domain names/codes the function of cookies, cloud computing and other issues.

8.3 Communication and pedagogic skills

Subject librarians liaise with faculty and students; therefore it is imperative for them to be able to communicate clearly. They also have to teach information literacy (IL) skills and provide teaching and learning support, so they need to be able to understand the teaching and learning process, and to be able to teach effectively. They need:

8.3.1: To develop and/or enhance teaching/pedagogic skills

- By creating and maintaining an environment conducive to teaching and learning;

- By creating and applying “student learning outcomes for library instruction sessions, using easy assessment methods to evaluate student learning, and using results to improve instruction” (Duke University Libraries 2011);
- By using pointers/suggestions from the documents, guidelines, practices and procedures of national, regional and international IL and library associations or organisations;
- By observing database vendors during their presentations, and learning effective techniques from them regarding their particular resource/s;
- By developing the ability to explain, clearly, honestly and constructively, IL concepts and skills, demonstrate techniques, and elicit and answer questions and follow-up queries in a way that is understood by all students, taking into consideration language barriers and finding ways to accommodate these;
- By accepting and acting on feedback about personal teaching methods and outcomes from students, lecturers and colleagues;
- By learning and developing skills and methods to deal effectively with language and technologically disadvantaged students;
- By obtaining relevant teaching qualifications.

8.3.2: *To develop oral communication skills:*

- By learning how to be friendly, but not condescending; developing the ability to orally liaise, cooperate and coordinate with different groups of people including faculty, library, administrative and outside colleagues, and developing the ability to put patrons at their ease, since many student researchers approach intermediaries while feeling intimidated, confused and overwhelmed by what they have taken on in terms of their research;
- By listening/paying attention to what patrons have to say during consultations and reference/research interviews, and using this information to elicit further details, determine research objectives and pinpoint true information or research needs;
- By developing a genuine interest in all areas of research in the designated subject area, and being objective and non-judgemental during the research interview and follow-up consultation sessions, even when the research is ‘far out’;
- By developing and demonstrating good, clear public-speaking skills, including good delivery of presentations, on various subjects, including library resources, to all types of

users, at the level best suited to the particular audience; using eye contact, hand gestures, and other non-verbal skills and demonstrating the ability to ‘think on your feet’, so as to answer questions resulting from the presentation, or to respond to patron concerns expressed at public forums and meetings;

- By demonstrating the ability to communicate according to the specific aim, for example, to educate, inform, persuade, market, promote, instruct, or motivate.

8.3.3: To develop written communication and marketing skills:

- By using various methods, including taking courses, to develop and demonstrate good writing skills, including good grammar, punctuation, spelling, sentence construction and critical and logical thinking;
- By learning how to edit and correct written documents;
- By learning how to use various online channels, including web 2.0 tools and social media where appropriate, to write to/communicate with patrons;
- By learning how to create written and graphic documents like bibliographies, reference lists, acquisitions lists, brochures, posters and other current awareness and promotional materials to market library and subject librarian services.

8.3.4: To develop negotiation skills

- By learning how to persuade and influence patrons for their benefit (Rodwell 2001);
- By learning how to get the best terms in any negotiation, for the benefit of patrons;
- By learning how to educate, convince and advocate, in order for the continuing value of the library and its resources and personnel to be recognised (Battin 2001).

8.4 Collection development/management skills

Subject librarians need to remain involved in collection development function as they know the collection and the needs of their patrons, so they can make valuable contributions to the development of a collection that meets patrons’ needs. They also need to maintain their bibliographic skills since these help them to break down a subject during the search and retrieval process. Subject librarians need:

8.4.1: *To know and be able to adhere to the library's collection development policy:*

- By learning and following the standards for the development of the collection;
- By learning, understanding and participating in the development and application of selection criteria like author credentials, publisher reputation, evidence of peer review, currency, purpose, relevancy, intended audience, and the presence of supporting references, for the evaluation of resources in all formats (Gulati & Raina 2000);
- By developing the ability to apply the selection criteria to look for, evaluate and select subject-specific commercial and free items for the collection;
- By being able to distinguish between primary, secondary and tertiary sources, between popular, trade and scholarly information, and being able to decide which source fits which situation;
- By participating in the development and application of criteria for weeding the collection.

8.4.2: *To acquire and maintain bibliographic and metadata skills*

- By using various methods to maintain cataloguing and classification skills, including studying the catalogue records for items in the designated subject field;
- By developing and using analytical skills and using them to spot errors in the catalogue, so as to assist cataloguers to maintain a quality catalogue;
- By using subject analytical skills to assist cataloguers with cataloguing and classification issues, for example, the controlled vocabulary for the description of materials.

8.5 Management/Interpersonal Skills

All librarians have management duties, related to various areas, including their units, designated faculties, departments, subjects, and patrons. They therefore need to be able:

8.5.1: *To manage the IL classroom:*

- By observing colleagues and faculty and using any identified successful techniques to manage students, as well as classroom debates or discussions;
- By keeping accurate records and statistics of classes and/or topics taught;
- By participating in peer review sessions and using constructive criticism to improve;

- By learning to manage time so that IL classes correspond with the time allocated, and by streamlining jobs, prioritising some and letting go of others, so that duties are completed within a reasonable time span.

8.5.2: To manage the faculty team and/or branch library

- By using various methods, including attending workshops, reading literature on it and observing colleagues, so as to develop leadership qualities, applicable to working with colleagues in teams;
- By recognising that the importance of the team and building/promoting team spirit by learning to be selfless, for example, by assisting colleagues to carry out or complete duties, in a way that shows the unit, branch or team in a good light;
- By developing analytical, problem solving and decision-making skills.

8.6 Professional and Personal Skills

In order to remain valuable to the library and to their designated departments and patrons, subject staff need to develop the ability:

8.6.1: To understand the importance of personal lifelong learning:

- By mapping out a career path, with aims and objectives and a plan for achievement;
- By pursuing professional growth through continuing education courses, reading online articles, subscribing to/joining professional listservs, attending/participating in online courses, technology-based modules and workshops when available and appropriate, and attending conferences and workshops;
- By learning to actively apply the IL skills taught to students to critically think, plan, solve problems and make decisions concerning individual professional and personal issues.

8.6.2: To become the ideal subject librarian

- By developing a vision of the ideal subject librarian;
- By actively working to become the ‘best of the best’ by being proactive and looking for challenges, being innovative, and displaying initiative, confidence and flexibility;

- By using various methods to identify personal and professional weaknesses, including requesting performance feedback from colleagues and supervisors and examining personal behaviour; and by using this information to eliminate negative characteristics or behaviours and thus turn weaknesses into strengths.

8.6.3: *To become politically aware*

- By understanding that all organisations are naturally political, learning how the politics underlying the institutions and designated departments impact on subject librarian services, and developing ways of dealing/working with these;
- By understanding the international, political, social and economic environment in which the institution operates, and all the positives and negatives attached to it.

8.6.4: *To network internally and locally so as to grow personally and professionally*

- By belonging to institutional committees and associations and participating in university events so as to learn the workings of the institution;
- By belonging to professional associations, so as to learn from professional colleagues, remain aware of developments in the field, and learn about training programmes, workshops, seminars and conferences which can enhance professional skills.

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APPENDIX B

QUESTIONNAIRE COVER LETTER

Address

Date:

Dear Colleague,

Please could you kindly assist me with the data collection for my study, by taking a few minutes to complete the following questionnaire? I am a doctoral student at the University of South Africa, and my research study investigates the roles, responsibilities and skills of Subject or Learning Support Librarians in universities in the Southern African Customs Union (SACU) region.

In terms of this research, a Subject Librarian has been identified as a library professional who deals with a particular subject/s, and who is the main point of contact between the library and faculty in relation to this subject/s.

This research may benefit libraries which are considering the establishment of new Subject and Research Services, or who may like to assess the strengths and weaknesses of their existing services, by informing them about what Subject Librarians in SACU university libraries do, and what they need, in terms of skills, in order to perform their work well.

I intend to share my findings with colleagues in the profession, by publishing my research findings, in collaboration with my supervisor, in professional journals.

Although I am sending this questionnaire to all SACU-based Subject Librarians, whose contact details are available mainly online via their library's websites, in line with the *UNISA Policy on Research Ethics*, participation in this study is strictly voluntary.

However, please be assured that if you choose to participate, your responses will be treated confidentially, and the findings of the study will be presented without identifying you as the respondent.

Although this questionnaire is 14 pages long (excluding this letter page), and has 39 questions, some of which have sub-questions; most of them merely require you to select an answer or to give brief explanations or answers. It should take less than forty-five minutes to complete

If possible, please could you return the questionnaire to me as soon as possible? I look forward to your assistance, and I thank you in advance for your time.

Regards,

Bernadette Chanetsa

APPENDIX C - QUESTIONNAIRE

Please could you kindly answer the following questions by:

- Placing an (X) in the given box when selecting an appropriate answer, OR
- Entering information in the given box, OR
- Entering (N/A) in the given box, if the question is not applicable to you.

Background information

1. Demographic information

a.	Please indicate your gender group	Female		Male	
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b.	Please indicate your age group	20-35		35-50		Over 50	
----	--------------------------------	-------	--	-------	--	---------	--

2. Years of service:

a	For how long have you worked in an academic library?	Period	
---	--	--------	--

b	For how long have you worked as a Subject Librarian?	Period	
---	--	--------	--

Role and title

3. Main role

a.	What is the main role or purpose of Subject Librarians at your library?

b.	Has this role changed since you joined the profession?	Yes		No	
----	--	-----	--	----	--

c.	If YES, please explain how and/or why it has changed:

4. Job title:

a.	What is your	Job title?	
----	--------------	------------	--

b.	How satisfied are you with your job title?						
	Very satisfied	5	4	3	2	1	Very unsatisfied

c.	If you are not fully satisfied, which job title do you think would be more appropriate?

5. Library service unit, section or department:

Which unit, section or department do Subject Librarians in your library belong to?	
Unit	X
Bibliographic Services section	
Client/User Services section	
Information or Information Services section	
Reference section	
Subject and Research Services section	
Technical Services section	
Other unit (<i>please specify</i>):	

6. Academic library model

Please indicate the Library model/s in operation at your university Library	
Library Model	X
<i>Subject Centred model:</i> <ul style="list-style-type: none"> The Library (and all its functions) is run on a subject basis; Subject Librarians team up with other senior and junior library staff, to carry out library functions on a purely subject basis. 	
<i>Dual model:</i> <ul style="list-style-type: none"> Subject Librarians carry out functions like user education, collection development faculty liaison and research support on a subject basis; Other senior staff carry out the rest of the library functions like acquisitions, cataloguing and classification. 	
<i>Hybrid model:</i> <ul style="list-style-type: none"> Subject Librarians provide services like user education, collection development, faculty liaison and research support on a subject basis; They also carry out other library functions 	
<i>Other (please specify):</i>	

7. Learning/research commons?

a.	Does your institution have a Learning Commons?	Yes		No		Not sure		
b.	If YES, is it the responsibility of the Library?	Yes		No				
c.	If YES, how involved are Subject Librarians in this facility?	Very much	5	4	3	2	1	Not at all

Responsibilities

8. Job description

a.	Do you have a written job description?	Yes		No	
b.	Is your job description easy to understand?	Yes		No	

9. Key Responsibility Areas (KRA)

Please indicate which of the following is your Key Responsibility Areas, by inserting the percentage (%) time you spend on it <i>(please insert 0% if it is not your KRA)</i>	
KRA	% time spent
Faculty liaison	
User education/ Information literacy (IL)	
Reference and research support	
Collection development and management	
Marketing and promotion of library services	
Duties in other units, sections, departments of the library	
Other <i>(please specify and please add more rows if necessary)</i>	

Faculty liaison

10. Departments

a.	How many departments do you serve as a Subject Librarian?	Number	
b.	How do you feel about the number of departments you serve?		
	Too many	5	4
			3
			2
			1
			Too few

11. Liaison duties

How often do you carry out the following faculty liaison duties?				
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
Duty	4	3	2	1
Keep in contact with faculty members				
Provide e-Learning support services to faculty				
Work with departmental library representatives				
Prepare reports for accreditation or audit purposes				
Represent departmental information needs to the library				
Represent library issues to departments				
Stay abreast of/current with new courses in departments				
Other faculty liaison duties <i>(please specify and please add more rows if necessary):</i>				

12. Methods of communication:

How often do you use the following methods to communicate with lecturers?				
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
Method of communication	4	3	2	1
Board of Studies meetings				
Departmental meetings				
Visits to lecturer/faculty offices				
Informal or chance meetings				
Presentations				
Facebook				
Twitter				
Blogs				
Telephone				
Email				
Other methods of communication (<i>please specify and please add more rows if necessary</i>):				

13. Academic gatherings/meetings

How often do you attend the following gatherings or meetings as part of your job?				
<i>4-Always; 3-At times; 2-Rarely; 1-Never</i>				
Gathering	4	3	2	1
Board of Studies meetings				
Departmental meetings				
Research committee meetings				
E-learning/VLE meetings				
Information Technology (IT/ICT) meetings				
Institutional teaching and learning meetings				
Library committee meetings				
Curriculum committee meetings				
Academic retreats				
Other meetings attended (<i>please specify and please add more rows if necessary</i>):				

14. Relationship with faculty:

a.	How satisfied are you with your relationships with the lecturers in your departments?						
	Very satisfied	5	4	3	2	1	Very unsatisfied

b.	If you are not fully satisfied, what challenges or issues do you face?					

15. Faculty status

a.	Do Subject Librarians at your institution have faculty status?				
	Yes		No		Not sure
b.	How important is faculty status to you as a Subject Librarian?				
	Very important		Important		Not important
					No opinion

User education/information literacy (IL)

16. IL duties

How often do you carry out the following user education/IL duties?				
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
Duty	4	3	2	1
Give general library orientation to new students				
Provide classroom-based IL training to students				
Provide online IL training to students				
Provide advanced IL training to students				
Provide refresher IL training to students				
Provide IL training to individual students				
Give general library orientation to lecturers				
Present new library resources to lecturers				
Train faculty members on the use of library resources				
Promote IL training as part of the curriculum				
Other user education/IL duties (<i>please specify and please add more rows if necessary</i>)				

17. Information literacy (IL) instruction

a.	Is IL instruction a routine Subject Librarian responsibility?	Yes		No	
b.	If NO, who in your institution runs them?				

Please go to Question 17

c.	If YES, are IL classes compulsory for students?				
	Yes		Sometimes		No
d.	Are students given IL tests or assignments?				
		Yes		Sometimes	No
e.	Do Subject Librarians follow a standard curriculum for IL classes?				
	Yes		Sometimes		No
f.	What issues/challenges do you face when carrying out IL classes/duties?				

Reference and research support

18. Research support duties

How often do you carry out the following research support duties? <i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
	4	3	2	1
Conduct literature searches for staff/researchers				
Conduct literature searches for post-graduate students				
Conduct literature searches for undergraduate students				
Assist with retrieval of electronic and print information				
Provide subject based reference services				
Work at the reference desk (general reference queries)				
Provide citation support and advice to students				
Provide citation support and advice to staff				
Apply for copyright permission for staff				
Maintain subject portals/gateways				
Request items on inter-library-loan for lecturers				
Other research support duties (<i>please specify and please add more rows if necessary</i>):				

19. Researcher awareness and research support duties

a.	How strong is your knowledge of those carrying out research in your departments?						
	Very strong	5	4	3	2	1	Very weak
b.	How strong is your knowledge of students carrying out post-graduate research?						
	Very strong	5	4	3	2	1	Very weak
c.	What issues challenges do you face when carrying out research support functions?						

Collection development and management

20. Collection-related duties

a.	How often do you carry out the following collection development/management duties? <i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
	Duty	4	3	2	1
	Solicit for book orders from faculty members				
	Select information resources for purchase, on a subject-basis				
	Circulate information resource catalogues				
	Weed collections				
	Participate in library stock-taking				
	Catalogue and classify				
	Facilitate inter-library loans for departments				

Other collection-related duties <i>(please specify and please add more rows if necessary):</i>				
Participate in library stock-taking				
Catalogue and classify				

b.	What challenges or issues do you face with regards to collection-related duties?

Marketing and promotion

21. Marketing duties

a.	How often do you carry out the following marketing and promotion duties?
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>	
Duty	4 3 2 1
Market Subject Librarian services	
Market library information resources	
Compile guides to resources	
Provide Current Awareness Services	
Provide Selective Dissemination of Information services	

Other marketing duties <i>(please specify and please add more rows if necessary):</i>				

b.	What challenges or issues do you face with regards to your marketing duties?

Additional duties, workload and appraisals

22. Institutional repository (IR)

a.	Does your institution have an IR?	Yes	No	Not sure
----	-----------------------------------	-----	----	----------

If NO, please go to Question 22

b.	If YES, is it the responsibility of the library?	Yes	No
----	--	-----	----

c.	If NO, whose responsibility is it?

d.	If YES, is it the responsibility of Subject Librarians?	Yes	No
----	---	-----	----

e. If YES, how often do you carry out the following IR-related duties?				
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
Duty	4	3	2	1
Collect items for the IR from contributors/faculty				
Solicit copyright permission for items meant for the IR				
Carry out data entry and document uploading into the IR				
Carry out quality control within the IR				
Other duties connected to the IR (<i>please specify and please add more rows if necessary</i>):				

23. Other duties

a. How often do you carry out the following additional duties?				
<i>4-Often; 3-At times; 2-Rarely; 1-Never</i>				
Duty	4	3	2	1
Attend library management meetings				
Participate in/contribute to library strategic/action plans				
Participate in/contribute to library policy documents				

Other duties not mentioned above (<i>please specify and please add more rows if necessary</i>):				

b. To what extent have your duties increased since you became a Subject Librarian?						
Very much	5	4	3	2	1	Not at all

c. How do you feel about your responsibilities, in terms of workload?						
Very over-worked	5	4	3	2	1	Very under-utilised

d. How often are Subject Librarians at your library assessed?						

24. Change in responsibilities

a. In your opinion, have subject librarian duties changed since you joined the profession?						
Very much	5	4	3	2	1	Not at all

b. If YES, how have they changed and what caused the changes?						

Skills and qualifications

25. Management/interpersonal skills

In your opinion, which of the following skills are <i>necessary</i> for Subject Librarians?				
Skill	Yes	Maybe	A little	No
Good knowledge of library policies and practices				
Analytical/critical thinking skills				
Communication skills				
Listening skills				
Leadership skills				
Management/organisational skills				
Marketing and advocacy skills				
Decision-making skills				
Team building skills				
Problem solving skills				
Budgeting skills				
Political (institutional politics) skills				
Ability to be proactive in all areas of the job				
Interpersonal skills				
<i>Other (please specify and please add more rows if necessary)</i>				

26. Core/technical skills

How <i>strong</i> are your skills in the following technical/core areas?				
Skill	Strong	Fair	Poor	None
Pedagogic/classroom skills				
E-learning and teaching				
Presentation skills				
Ability to design information literacy courses				
Knowledge of the reference interview				
Information search and retrieval skills				
Knowledge of search engines				
Knowledge of information sources in all formats				
Ability to evaluate information sources				
Knowledge of reference tools, e.g. Endnote				
Ability to cite using e.g. Harvard, APA				
Knowledge of copyright, plagiarism, fair use				
Licensing skills (for e-resources)				
Metadata skills				
Bibliographic (cataloguing/classification) skills				
<i>Other (please specify and please add more rows if necessary):</i>				

27. Technological skills

a.	Do you have an International/Computer Driver's Licence	Yes		No	
b.	How <i>strong</i> are your technological/ICT skills in the following areas?				
	Skill	Strong	Fair	Poor	None
	MS-Word				
	MS-PowerPoint				
	MS-Excel				
	MS-Publisher				
	MS-Access				
	Library management systems e.g. Millennium				
	E-mailing				
	Knowledge of HTML/XML/PDF				
	Web design				
	Other (<i>please specify and please add more rows if necessary</i>):				

28. Skills training

Which of the following <i>methods</i> did you use to acquire your ICT and core skills?				
Method	Mostly	At times	Rarely	Never
Part of my degree course				
Took formal non-degree courses				
Attended Library Association courses				
Attended training workshops				
Attended in-service training				
Observed colleagues				
Taught myself				
Other methods used (<i>please specify and please add more rows if necessary</i>):				

29. New skill requirements

a.	Do you think you need more or new skills for your job?	Yes		No	
b.	If YES, in what areas do you feel the need for more or new skills?				

Qualifications

30. Library and Information Science (LIS) qualifications

a.	Do you have LIS qualifications?				Yes		No	
b.	If YES, at what level is your <i>highest</i> LIS qualification?							
	PhD		Honour's degree		Post-grad diploma		Diploma	
	Master's degree		Degree		Higher diploma		Certificate	
	Other (<i>please specify</i>):							

31. Non-library qualifications

a.	Do you have any non-library qualifications?				Yes		No	
b.	If YES, at what level is your <i>highest</i> non- library qualification?							
	PhD		Honour's degree		Post-grad diploma		Diploma	
	Master's degree		Degree		Higher diploma		Certificate	
	Other (<i>please specify</i>):							
c.	Please indicate the	Subject area/s						

32. Required qualifications

In your opinion, what qualifications does a Subject Librarian need?	
Degree	X
Master's degree in Library and Information Science (LIS)	
Honour's degree in LIS	
Degree in LIS	
Degree in LIS plus a non-LIS qualification in the subject area you serve	
Non-LIS degree plus post-graduate LIS qualification	
Non-LIS degree	
Other (<i>please specify</i>):	

33. Subject librarianship coverage in LIS degrees

a.	In your view, how well are LIS courses preparing graduates for subject librarian posts?						
	Very well	5	4	3	2	1	Not at all
b.	Which area/s (if any) are they neglecting or not covering well?						

34. Continuing Professional Development (CPD)

a.	How important is continuing education and training for you as a Subject Librarian?						
	Very important	5	4	3	2	1	Not important

b.	Has your employer ever paid for you to undergo further training?	Yes		No	
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c.	Has your employer ever paid for you to attend training workshops?	Yes		No	
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d.	Would your employer be willing to pay for your further training/workshop attendance?						
	Definitely	5	4	3	2	1	Not at all

e.	If NO, would you be willing to pay for your own further training/workshop attendance?						
	Definitely	5	4	3	2	1	Not at all

Guidelines and professional associations

35. Standards and guidelines

a.	Are you aware of any standards/guidelines for Subject Librarians in the region?			
	Yes		No	

b.	If YES please indicate who compiled them and how they can be accessed			

c.	In your opinion, how important are guidelines/standards for the profession?						
	Very important	5	4	3	2	1	Not important

36. Association or Community of Practice (CoP)*

a.	In your opinion, how important is external networking for the profession?						
	Very important	5	4	3	2	1	Not important

b.	Are you aware of any association/CoP* for Subject Librarians in the region?			
	Yes		No	

c.	If YES please indicate it's name and where it is located or where it meets			

Perception and future of subject librarianship

37. Perception

a.	In your opinion, are Subject Librarians regarded as an important part of your library?					
Definitely	5	4	3	2	1	Not at all

d.	Are you happy working as a Subject Librarian?					
Definitely	5	4	3	2	1	Not at all

c.	What encourages or interests you the most about subject librarianship?

d.	What discourages or worries you the most about subject librarianship?

e.	Do you think you will continue working as a Subject Librarian until you retire?					
Definitely	5	4	3	2	1	Not at all

38. Future of the profession (subject librarianship)

a.	In your view, will Subject Librarians be a major part of university libraries in 10 years' time, that is, by the year 2025?					
Definitely	5	4	3	2	1	Not at all

b.	Please give reasons for your answer:

In conclusion

39. Observations about the survey

Please kindly give me your general observations/comments about this survey:

Thank you very much for taking the time to complete this questionnaire.

To return the questionnaire, and/or if you have any queries

Please contact:

Ms. Bernadette Chanetsa

Email address:

APPENDIX D

INTERVIEW SCHEDULE

1. Date of establishment: When did subject librarianship start at your Library?
2. Model or Structure: Please explain the subject librarian structure in place at your library?
3. Title confirmation: Are learning support staff at your library called:
 - Insert title/s (Are these terms used interchangeably, if more than one title was identified on the library's website)
4. Unit organisation:
 - Do Subject Librarians work in teams?
 - Do they have their own HOD or do they fall under another unit?
5. Branch Libraries: Are there Subject Librarians in each branch library or only at the main Library?
6. Research Commons: Does your library have a research commons (if this is not clear or mentioned on the website)? What is the role of the Subject librarian in this facility?
7. Embedded librarianship:
 - What are your views on embedded librarianship?
 - Is it practised at your library, and if yes, what aspect of it, e.g. physical or online?
8. Repository: To what extent are Subject Librarians involved with this facility?
9. Role: My research has indicated a role for Subject Librarians which I would like to read to you to get your views on its accuracy
10. Key Responsibility Areas: My research identified 6 main functions/responsibilities of Subject Librarians: Faculty liaison services; Research and/or reference support; Information literacy instruction; Collection development; Marketing/promotion:
 - Are these KRAs correct or would you add/omit any?
 - Have Subject Librarian functions changed much in the past few years?
 - Have their duties increased?
11. LIS Qualifications: What is the preferred level of LIS qualification for Subject staff?
12. Non-LIS Qualifications:
 - Would you employ someone with a non-LIS degree?
 - If YES, would you require them to have an additional LIS qualification and at what level?
 - Would you then match them to the subject area of their qualification?

13. Experience:

- How many months/years of experience are acceptable to you from applicants?
- Would the kind/type of library from which they obtained their experience be important, e.g. academic, research, national, special
- Would you consider employing someone straight out of university as a Subject Librarian, if you were unable to fill a vacancy?

14. Skills: What skills do you value most in a Subject Librarian?

15. Continuing development:

- Do new Subject Librarians receive *in-service* or other training?
- Do you or would you pay for *further education courses*, including conferences, workshops, seminars etc.
- Would you consider sharing your human resource experience in work *exchange programmes* with other libraries in the region?

16. Faculty status:

- Do Subject librarians at your library have faculty status?
- How important is faculty status to you for your Subject Librarians and why?

17. Recognition: To what extent are Subject Librarian services recognised and/or appreciated by staff and students at your library?

18. Future: What is your view of the future of Subject Librarians at your library/in the region?

19. Observations/comments: Please could you add any other comments about subject or librarianship in general or subject librarianship at your Library

Thank you very much for granting me this interview, I really appreciate it.