



**EXAMINING THE RELATIONSHIP BETWEEN CONCEPTUALISATION AND
PRACTICE OF RESEARCH SUPPORT BY LIBRARIANS IN SELECTED
ZIMBABWEAN UNIVERSITY LIBRARIES**

NOTICE PASIPAMIRE
BSC (LIS), MPhil (LIS), PGDHE

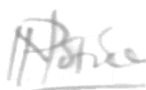
Submitted in fulfilment of the requirements for the degree of Doctor of Philosophy
(Information Studies) in the School of Social Sciences, College of Humanities University of
KwaZulu-Natal, Pietermaritzburg, South Africa.

2018

DECLARATION

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Student Signature

Professor Ruth Hoskins

Name of Supervisor



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ABSTRACT

This study was carried out to examine and gain insight into the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. This was mooted after realising that librarians practising research support were struggling to make a positive impact on the scholarly work of researchers. To facilitate the investigation, the study employed the Theory of Action: espoused theories and theories-in-use by Argyris and Schön (1974) as the fulcrum. Mission statements, strategic documents and policies of selected libraries were examined as conveyors of espoused theories to gain understanding of how research support was conceptualised. Services and facilities offered to researchers were examined to establish theories-in-use of librarians practising research support. Interviews and questionnaires were used to gather data about research support services. A constant comparison approach was used in analysing mission documents and interview scripts using the ATLAS.ti 8.0 software. The comparative analysis allowed for the development of subcategories and broad themes which facilitated the development of statements of claims for both conceptualisation and practice in each of the bounded cases. Meta-claims were developed from iterative cross-case comparison of findings from individual libraries investigated. Findings and conclusions showed that libraries conceptualised and espoused an information role in support of researchers which emphasised traditional services such as resource provision and training. Research support was practised using the Resources, Liaison and Shared Service models where services and facilities such as literature search, e-resources training, and institutional repositories were dominant. Practice of research support was conducted within a collaborative and technologically driven environment. Librarians reported ambiguity in the roles which they should play in the transitional research environment. Comparative analysis between conceptualisation and practice of research support meta-claims revealed several congruent and incongruent aspects which helped to explain why librarians were not being effective in support of researchers. It was discovered that librarians encountered several unusual experiences ranging from low attendance in training to antiquated policies. It was further established that librarians dealt with these unfamiliar experiences in practice using the Single Loop Learning strategy which emphasised the technical operating environment under which research support was being practised without necessarily questioning the goals, values and policies that inform the practice of research support. Contribution of this study to practice includes encouraging librarians to be reflective practitioners who should be sensitive to their operating environments in order to swiftly respond to new trends.

ACKNOWLEDGEMENTS

Humble thyself in the sight of the Lord and He shall lift you up [higher and higher] James 4:10

There can be no gainsaying of the fact that, to a believer, there is nothing impossible with God. Nevertheless, I would like to register my heartfelt and eternal gratitude to the Almighty for His grace and beneficence which made it possible for me to accomplish this study. To that end, I put on record the men and women who carried His radiance and made this mission a success.

I extend my special thanks and sincere appreciation to my supervisor, Prof Ruth Hoskins, who guided me in every single step of the way. Prof Hoskins imbued me with a sense of diligence, empathy, patience and professionalism that I had never known before. Her confidence in me pushed me to do better to avoid the ignominy of disappointing her. It was truly a privilege and honour to be supervised by this intellectual giant.

I am also thankful to the Higher Degrees Committee from the School of Social Sciences at University of KwaZulu Natal (UKZN) which reviewed my work and provided constructive criticism and intellectual advice. I also appreciate the work done by the Administrative staff of the School of Social Sciences at UKZN for their efficient handling of logistical issues during my studies. I also thank my PhD colleagues at UKZN for the spirit of collegiality. I was lifted to appreciate that in as much as the academic achievement eventually rewards the individual; it is a product of many hands.

I am grateful to the Staff Development office at the National University of Science and Technology (NUST) for giving me the green light to pursue my studies in South Africa. I also appreciate the assistance, in many ways, the Office provided throughout my studies. I also appreciate a research grant I received from the Research Board at NUST which enabled me to meet all the data collection costs in the field.

I thank the gatekeepers of the eight Zimbabwean universities namely Africa University (AU); Bindura University of Science Education (BUSE); Chinhoyi University of Technology (CUT); Midlands State University (MSU); Women University in Africa (WUA); Solusi University; Lupane State University (LSU); and NUST for granting me the permission to conduct research at their institutions. I was also humbled by the hospitality and support I received from Heads of Libraries, Faculty/Subject Librarians, Client Service Librarians, Systems Librarians and Institutional Repository staff from the above-mentioned institutions. I thank them for

honouring me with their time so that they could contribute to this work despite their busy schedules.

My heartfelt thank you goes to Emmanuel Choga who worked as my research assistant with a spirit of brotherhood. I cannot thank him enough for taking the trouble to help me with data collection, data transcribing and data analysis. I sincerely appreciated the hard work and energetic effort he put towards this study.

I also acknowledge the encouragement I received from Dr L. Hikwa, during his tenure as the Dean of the Faculty of Communication and Information Science to enrol for a PhD after he successfully co-supervised my MPhil studies. It is sad that Dr Hikwa passed on when this study was still in its embryonic stage. I am sure if he were here today he would be proud of the progress I have, thus far, made.

I also thank my colleagues in the Department of Library and Information Science for shouldering some of my responsibilities and keeping the department strong during my absence from work. A word of appreciation goes to Mr S. Chabikwa, the current Dean of the Faculty of Communication and Information Science who has been a much more gregarious colleague to me. I cherished the spirit of brotherhood, friendship and generosity reciprocated to me throughout this adventure.

A big thank you to Dr N L Dlodlo for the final clean-up of word and structure. It truly was the icing on the cake.

Finally, I thank my family for the love and support. I am deeply indebted to my partner for carrying more than her share of burdens and for appreciating the challenges that come with studying in a foreign land. I thank my father and mother for their blessings and prayers that helped to suppress all the negative forces meant to derail this mission. I managed because of them.

May God bless everybody who touched my life in every way possible throughout this gruelling odyssey.

While I acknowledge the contribution of the above men and women, as the researcher, I bear the responsibilities of any weaknesses, omissions, errors and misinterpretation in the study.

DEDICATION

To my two beautiful daughters - Nokukhanya and Tariro. You are the reason I have a hopeful deposition and want to see tomorrow!

To my father and mother for all the sacrifices.

To my late grandfather and grandmother for seeing the value of education early.

To my brother, Paul Purazeni for being magnanimous towards me and making it possible for me to receive the best possible education. I owe my life to you!

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LIST OF ABBREVIATIONS AND ACRONYMS

ACBF	African Capacity Building Foundation
ACRL	Association of College and Research Libraries
ANDS	Australian National Data Service
ANOVA	Analysis of Variance
AU	Africa University
BUSE	Bindura University of Science Education
BL	British Library
CCA	Constant Comparative Analysis Method
CCT	Closed Circuit Television
CE	Continuing Education
CIBER	Centre for Information Behaviour and Evaluation in Research
CNI	Coalition for Networked Information
CRIS	Current Research Information System
CURL	Consortium of Research Libraries
CUT	Chinhoyi University of Technology
EOS	Enabling Open Scholarship
FAQ	Frequently Asked Question
IBA	Individual Based Assistance
IFLA	International Federation of Library Associations
ICT	Information Communication Technologies
ILS	Information Literacy Skills
IR	Institutional Repository
LSU	Lupane State University
MSU	Midlands State University
NLDS	National Library and Documentation Services
NUST	National University of Science Technology
OPAC	Online Public Access Catalogue
OCLC	Online Computer Library Center
OA	Open Access

OJS	Open Journal System
PPT	PowerPoint
RAE	Research Assessment Exercise
REF	Research Excellence Framework
RDM	Research Data Management
RDS	Research Data Services
RIN	Research Information Network
RLUK	Research Libraries United Kingdom
SARUA	Southern African Regional Universities Association
SCECSAL	Standing Conference on Eastern, Central and Southern African Association of Libraries
SDI	Selective Dissemination of Information
SPSS	Statistical Package for the Social Sciences
RSS	Really Simple Syndication
SU	Stellenbosch University
UCT	University of Cape Town
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UNC-CH	University of North Carolina at Chapel Hill
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
USC	University of Southern California
UZ	University of Zimbabwe
VAE	Value Added per Employee
QDAS	Qualitative Data Analysis Software
QUT	Queensland University Technology
QULOC	Queensland University Libraries Office of Cooperation
Wi-Fi	Wireless-Fidelity
WUA	Women's University in Africa
ZIMLA	Zimbabwe Library Association
ZULC	Zimbabwe University Library Consortium

CHAPTER 1

INTRODUCTION

1.0 Background to the study

Higher education has undergone major transformation, rationalisation, restructuring and redefinition in response to socio-economic developments and educational needs of modern society, as well as pressure from funding agencies to demonstrate productivity (Virkus and Metsar 2004; Kennan, Corral and Afzal 2014). Because of this, significant developments have taken place in higher education which include, inter alia “the new modes of knowledge production and e-science” (Hessels and Lente 2007:4); “emergence of new modes of publishing and scholarship” (Ellis *et al.* 2014); development of globally networked research communities and new pedagogical methods such as project-based learning, distance learning and student-centred research (Ellis *et al.* 2014). However, what has drawn much attention has been the emerging dominance and dramatic growth of research in institutions of higher learning, in part because “research is a major component of the various indicators of the overall university performance” (Research Information Network (RIN) 2010:5) and increased pressure from funders on the impact of research output. Kennan, Corral and Afzal (2014:667) observed that academic culture had been evolving with a particular emphasis on increased accountability, increased casualisation, and increasing emphasis on producing research outputs (for example, publications and grant applications).

Speaking in Parliament on the 2nd of July 2015, the Deputy Minister of Higher and Tertiary Education, Science and Technology Development in Zimbabwe, Dr G. Gandawa validated the dominance and attention research has received when he reported that the Government of Zimbabwe had channelled one million five hundred United States dollars (US\$1, 500 000) towards research in institutions of higher learning (notwithstanding the fact that the amount is arguably small, this was an unprecedented move by the Government of Zimbabwe). The Deputy Minister also reported that the Government had taken measures to ensure that students and/or researchers in institutions of higher learning develop products in their research that can be used in industry rather than just the acquisition of certificates. Consequently, most tertiary institutions were adopting a research-based approach to education (learning through inquiry), which fosters an environment in which research endeavours and academic studies command attention in equal measure.

The establishment of central research units and research parks in institutions of higher learning in Zimbabwe such as the Research and Innovation Office at the National University of Science Technology (NUST), the Office of Research at the Midlands State University (MSU), the Research Section of Lupane State University (LSU) and Techno-park (NUST) are all examples that demonstrate the considerable amount of attention research has received in recent times at the institutional level in Zimbabwe. NUST reported an increased level of confidence amongst staff following these interventions, and an increase in applications for external grants (Kotecha and Perold 2010:45). Research areas have also been streamlined into clusters of multidisciplinary teams that are in the process of answering requests for proposals in their respective areas of interest (Kotecha and Perold 2010:45). These developments reflect a new mode of knowledge production and science characterised by ‘context of application, transdisciplinary, heterogeneity of practise, close interaction of many actors and ‘synergy between university and corporate researchers’ (Hessels and Lente 2007:4) and the generation of large amounts of data. As a result, the developments have affected almost everyone in the academic community. RIN and the Consortium of Research Libraries (CURL) (2007) reports that the rise of e-research, interdisciplinary work, cross-institution collaborations, and the expectation of massive increases in the quantity of research output in digital form all pose new challenges such as managing generated data for reuse.

Consequently, the new trends in higher education have brought about a change in relationships between researchers and libraries (RIN and CURL 2007). For academic libraries, this shift in approach has led to a scholarly debate around the world regarding the role which librarians, especially subject librarians must play because for a long time the academic libraries’ primary function was to support teaching. In their submission, Raju and Schoombbee (2014:27) noted “within the new higher education paradigm, where education is mooted to be conducted collaboratively, libraries are purported to be at the core”. Other scholars fear that “libraries are on the brink of extinction” (Bourg, Colman and Erway 2009:1) because researchers “use online tools and commercial services related to their discipline rather than tools provided by their university” (Kroll and Forsman 2010:5). As Wood, Miller and Knapp (2007:3) remarked:

“Academic libraries are in trouble . . . They have been edged out of the top spot as the “go-to” place for virtually all aspiring researchers by the delicious (if deceptive) convenience and immediacy of the Web. Worse yet, some funding entities now view academic libraries more as bottomless pits than as what economists call a self-evident good.”

According to Brown and Swan (2007:3) the role of libraries in research was in danger of being ‘diluted’ due to the rise of virtual research communities, the increase in interdisciplinary work and cross institutional collaboration, and researchers’ use of social networking space to share information. This has led others to “question the continued value of large academic libraries in hard times” (Bourg, Colman and Erway 2009:1).

However, Raju and Schoombee (2014) make the point that academic libraries were transforming themselves with changes in higher education. One dimension of this transformation has been research support by librarians. The term ‘research support’ is a phrase that has been coined to illuminate the new support role which the university community gives to researchers, especially support from academic libraries. In the new research landscape, research support has been heralded as an avenue for libraries to move away from ‘life support’ to a more critical role in the new research context. Gayton (2008:60), for example, asserts that “the impending death of the traditional library” has resulted in libraries creating new spaces and implementing new services in order to remain relevant. These new spaces and services are being adopted to stave off any continuance of being on ‘life support’. Parker (2012) believes ‘research support’ is more than the traditional provision of services to assist students and others who are conducting research. In this context, Raju and Schoombee (2014:29) identify two significant trends in research support, namely, “the repurposing of library spaces and the provision of new services”. Academic libraries are seen to be repurposing library space with research commons as an example. The idea of research commons being that libraries should provide study spaces that enable students to conduct the near-synchronous acts of information access, reading, evaluation and writing with comfort (Raju and Schoombee 2014:29).

Another significant transformation in libraries was being seen in the new expanded role in the research process through the provision of a new suite of services (Raju and Schoombee 2014:29). Kennan, Corral and Afzal (2014:637) reveal that librarians are responding with service innovations in areas such as bibliometrics and research data management. Auckland (2012:5) observes,

“A shift can be seen which takes subject librarians into a world beyond information discovery and management, collection development and information literacy training, to one in which they play a much greater part in the research process and in particular management, curation and preservation of research data, and in scholarly communication and the effective dissemination of research outputs.”

There was a shift in the role of the librarian from a supporter of the research process to a contributor to the process (Raju and Schoombbee 2014:29). Librarians were moving into the research space, providing services and support to researchers throughout the research life cycle. Conversely, research support services are not always valued by researchers in institutions of higher learning. According to MacColl and Jubb (2011:3), researchers are often resistant to services which they feel belong more naturally to their disciplines rather than their institutions. The involvement of librarians in research is questioned by some because of the 'level of technical know-how and domain understanding required' (Swan and Brown 2008 cited by Kennan, Corral and Afzal 2014:669). This is evident in the findings of a study by MacColl and Jubb (2011) which revealed that institutionally-provided research support services were not appreciated by researchers in universities, who consider them marginal at best and burdensome at worst. The study indicated that researchers are often resistant to services which they feel belong more naturally to their disciplines rather than their institutions.

There was a call for librarians to change and re-conceptualise their roles and responsibilities with changing trends in higher education as a way to move away from 'life support'. A pertinent question about this re-conceptualisation was raised by Tise (2015:3) who asked; "has there been a mind shift from a supporter of the research process to a partner in the research process?" This question pointed to the need to investigate the conceptual approach to research support. This study, therefore examined how librarians conceptualised and practised research support to establish whether a paradigm shift had occurred. The study also identified issues affecting practising librarians in their re-conceptualisation efforts. It was thought that without knowledge of the conceptualisation and practice, library managers, policy makers and library educators are presented with difficulties in assisting librarians in changing their fundamental beliefs, values, assumptions and strategies employed in support of researchers. Kennan, Corral and Afzal (2014:667) make the point that trends in professional practice need to be examined. It was this view that provided the researcher with the impetus to examine the professional practice of research support by librarians hoping that the investigation would contribute to the transformation of the profession.

Many of the recent studies on research support have looked at the service development, tools and facilities offered by librarians to researchers, knowledge and skills sets required by librarians to support researchers, new roles, researchers' information needs and researchers' perspectives of library support (Raju and Schoombbee 2013; Jaguszewski and Williams 2013; Tenopir, Birch and Allard 2012; Corral, Kennan and Afzal 2013; RIN 2010; Auckland 2012;

Garner 2006). This study took a different perspective on the topic by focusing on how research support is conceptualised and the relationship between conceptualisation and practice. It appeared that there were no studies focused on espoused theories that inform and govern the conduct and practice of research support and their appropriateness vis-a-vis the changes in the work environment and the fundamental beliefs and values that librarianship is founded and based upon. It was the researcher's contention that success of the emerging services and roles of librarians as they respond to changes to the external environment and move in uncharted territory is hinged upon their mental models expressed via espoused policy documents and services /facilities. Hence, the study of conceptualisation and practice of research with a special focus on the espoused theories and theories-in-use. A closely related study which employed the Theory of Action upon which the current study draws much technical insight was conducted by Kerr (2010) who looked at conceptions and practice of information literacy.

It was hoped that the study of theories that inform professional practice of research support would fill a knowledge or theoretical gap because conceptualisation of research support had not been an issue until recently where the role and philosophical traditions of librarianship were being challenged by “a scholarly and communication landscape which has changed profoundly and irrevocably” (Richardson *et al.* 2012). How research support was conceptualised and practised called for both a systematic examination of what academic libraries were doing (services) as well as an examination of what they said they were trying to do (objectives and missions). According to Dermol (2012: 321) a mission statement is a managerial tool which has the power of directing the behaviour in a company. However, as noted by (Du Mont and Du Mont 1981:12) there is not necessarily a correspondence [congruence] between the library's stated goals [mission] and its actual outcomes [practice] (*emphasis added*).

This study followed the view that academic libraries are learning organisations that should continuously change in professional practice to suit the changing trends in higher education. Bourg, Colman and Erway (2009:2) note that in order to continue to play a central role in support of scholarly research and publishing, academic libraries must commit to continual study of the ever-changing work patterns and needs of researchers; with particular attention to disciplinary and generational differences in adoption of new modes of research and publication. The stable and predictable days of the 20th century, when research libraries could rely on their priced local collections to define their distinct and distinguished place on campus, are long gone (Kelley 2013). The learning organisation appears to be the ideal model to which all structures should turn nowadays especially in the context of the need to maximize their

responsiveness to the complexity of the challenges and changes in the external environment (Madge 2013).

1.1 Background to the problem

The establishment of institutional repositories (University of Zimbabwe (UZ) in 2005; NUST in 2007; Africa University (AU) in 2008) and research commons (UZ in 2013; AU in 2013) demonstrates that libraries in Zimbabwe were responding and transforming with the changing nature of the higher education and research landscape. Research commons are an innovation that has been mooted to cater for the new research environment designed to emphasise knowledge creation. It provides a flexible, technology-enabled space for postgraduate students and researchers and supports collaboration between students and academics, and between researchers and research communities (Raju and Schoombee 2014:33), while institutional repositories are intended to showcase the research output of an academic or research institution (Machimbidza 2014a). Whereas this indicates a positive move in support of research, a review of studies that were conducted at Zimbabwean state universities revealed that institutional repositories and research commons were characterised by slow growth and low usage (Machimbidza 2014a; Mazhude 2015). While the reasons for their poor use could be varied and many, including the economic meltdown which resulted in mass exodus of highly skilled labour to other counties leading to “diminished institutional capacity of higher learning” (Kotecha 2010:38), the lack of growth and usage suggested that researchers were not benefitting much from these new facilities built by academic libraries to support research and learning.

As a lecturer and a researcher in one of the institutions of higher learning in Zimbabwe, it was observed that there was little benefit from research support services of librarians beyond the traditional services of collections provision. More often, the researcher relied on colleagues and supervisors for support on almost everything from idea generation to dissemination of research results. It was further observed that librarians were too focused on providing resource services of teaching and learning. For example, subject/faculty librarians would ask departments about the nature of resources they need to cover their respective programmes. There was no clear engagement with researchers to establish their needs and support them accordingly. From the proceeding, it became clear to me that there was not only reduced practice of research support by librarians in the new research landscape but also that there was an imbalance of support to the different constituencies served. Preliminary investigations revealed that librarians acknowledge that research support was not well developed as the

teaching and learning support. Research support in new research landscapes was conceived as some efforts that cover the whole research life cycle with librarians engaging and embedding themselves in research activities.

Traditionally research support has been understood and practised around collection development and information discovery without librarians getting involved in the research process itself. However, the changes in the research landscape have redefined this role. As noted by Raju and Schoombee (2014: 28), research support is regarded as a “relatively new area of service provision by higher education libraries (especially in the Southern African context) that demands librarians to be involved in deep research support”. It appeared that the abridged practice of research support by librarians was linked to the understanding of research support in these transformative times in higher education. A preliminary investigation by this researcher on selected state university libraries revealed that librarians were focused on information literacy training, developing acquisition lists and serving as reference persons. The involvement of librarians in deep research support was thought to be intrinsic to the understanding of the concept and how it must be practised rather than possible challenges in the external environment.

The contention of Stafsudd and Collin (1999:6) is that people have trouble learning new behaviour due to the inherent difficulty of blending new ideas with the existing ones presently used in practice. As such, conceptualisation of research support as a concept became important in trying to understand the actions of librarians. Change in actions without a change in conceptualisation would be tantamount to giving supremacy to practice over theory. As theory accompanies practice at every moment, the understanding that must come from espoused theories provided by the institutional leadership shape the actions of librarians in practice. To this end, the behaviour of librarians in practising research support was attributed to the way in which they conceptualised it. It was then suspected that librarians were thought to be clinging to old dogmas in the new research landscape.

A review of literature on research support revealed a dissonance on the role that the academic library in general as well as individual librarians are to play in the new research and educational landscape. One view suggests that the new research landscape is engendering libraries to face extinction, with MacColl and Jubb (2011) noting that “in this new area mission for libraries seems at best orthogonal, and at worst irrelevant, to the support needs of researchers” while the competing view sees libraries as being dynamic and transforming with new trends as witnessed

by the new suite of services such as data management, bibliometrics and open access initiatives. These debates gave rise to the following three questions which eventually sparked the ignition to pursue this study:

- 1) Does the ambiguity surrounding the role and specific responsibilities librarians are supposed to play affect how they are offering research support?
- 2) Do practising librarians believe that they are moving with time or do they feel that they do not have a role to play in the new research landscape?
- 3) Can answers to these questions explain the reason behind ineffective research support?

A paradox was discovered between research support needs in the new research landscape and the role librarians were expected to play in higher education. ACRL (2006: Changing Roles of Academic and Research Libraries) points to the “iconographic power of a college or university library as to collect, organises, preserve, and make knowledge accessible”. Conversely, in the new landscape, high-end research support demands that librarians be embedded in the research process itself and become de facto researchers if they are to survive. Yet, it is well known and widely agreed that librarians are in institutions of higher learning to provide informational support to researchers. To this end, do librarians hold the view that they should change, or do they hold that the calling is beyond their ability and jurisdiction to be involved in high stream research support?

1.2 Statement of the problem

The emerging dominance of research in institutions of higher learning in Zimbabwe has problematised a historical imbalance in library support to the academic community which appears to be skewed in favour of teaching and learning support to the detriment of research. With academic library's service for research needed more than ever today in due to the proliferation of research activities, it appears librarians working in universities libraries in Zimbabwe are struggling to make a positive impact on the scholarly work of researchers as they are supporting the needs of researchers through relatively traditional services revolving around information discovery, collection development and publishing using institutional repositories. Such services are thought to be inclined to teaching more than anything. There is a call for librarians to change and re-conceptualise their roles and responsibilities with changing trends in higher education as a way to move away from 'life support'. As noted by Edmondson and Moingeon (1998:21),

“yesterday’s knowledge and skills are vulnerable to obsolescence, and future success requires flexibility, responsiveness and new capabilities... yet psychological and organisational factors conspire to make organisations and their members resist change and miss opportunities to create preferred futures.”

Traditional approaches to research support such as design and delivery of information literacy, provision of resources, referencing, attending meetings and committees are now being considered inadequate in the new higher education landscape. According to Garner (2006) the shift from print to electronic journals, databases and e-books has witnessed a major shift in the importance of collections as an indicator of support for research. Librarians are now expected to conduct research and collaborate with researchers on projects, embed themselves and spend time in departments and other university spaces. Staley and Malenfant (2010:65) believed librarians needed to be careful not to cling to past practices for nostalgic reasons. Anderson (2011:289) warned that academic libraries would become irrelevant if they continued the path of service provisions based on “an eroding traditional functional model”. The complications of research support in Zimbabwean university libraries seem to relate to the conceptual approach to research support; lack of consensus of what librarians should do in the new research landscape and contradiction between what is considered a norm to the concept of research support and the role librarians are supposed to play in institutions of higher learning. Research Libraries United Kingdom (RLUK) (2015) pointed out that in the new research environment; librarians need a concerted and collaborative response if they are to be accepted as offering essential and effective research support.

One critical element for the organisations’ survival and success in the current changing environment is learning (Madge 2013). As such, this study examined the professional practice of librarians from a learning organisation perspective. This study regarded an academic library as a learning organisation in an academic setup which should continuously change in practice to suit the needs of the parent institution. As noted by Argyris and Schön (1978), organisational learning occurs when members of the organisation act as learning agents for the organisation, responding to changes in the internal and external environments of the organisation by detecting errors in organisational theories-in-use, and embedding the results of the inquiry in private images and shared maps of the organisation.

1.3 Purpose of the study

The aim of the study was to examine and describe the nature of the relationship between conceptualisation and practice of research in Zimbabwean university libraries.

Conceptualisation is the specification of indicators that show the presence or absence of concepts showing research support. A practice is a sequence of actions undertaken by a person to serve others, who are considered clients (Argyris and Schön 1974). Practice is the services and methods of offering research support to researchers as observed in the action and attitudes of librarians.

1.3.1 Objectives

The objectives of this study were:

- i. To establish the conceptual understanding of research support by librarians in Zimbabwean university libraries;
- ii. To determine how research support is practised by librarians in Zimbabwean university libraries;
- iii. To establish the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries;
- iv. To discover disconfirming experiences and dilemmas faced by librarians in the practice of research support; and
- v. To find out the corrective reflective strategies employed by librarians to deal with challenges experienced in research support.

1.3.2 Research questions

To give the study direction and focus, the objectives were rehashed to form the following set of research questions.

- i. How is research support conceptually understood by librarians in Zimbabwean university libraries?
- ii. How is research support practised by librarians in Zimbabwean university libraries?
- iii. What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?
- iv. What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?
- v. What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support?

1.4 Delimitation of the study

The study focused on librarians in Zimbabwean university libraries as explained by the substantial and growing evidence of research taking place in universities compared to other

academic institutions such as polytechnics and teacher colleges. Universities are the major producers of research (SARUA 2009) because research is considered one of the performance indicators of a university. *Ipsa facto*, the major thrust of most universities in Zimbabwe is centred on research and innovation in the spheres of science and technology as well as societal development.

The study was limited to librarians who actively engage with researchers. It goes without stating that an academic library is made up two major units namely the technical service which is responsible for cataloguing, acquisition and weeding of library materials and the reader services unit which is responsible for referencing, circulation, information literacy, research commons and other kindred issues. To this end, the study focused on heads of libraries, reference librarians, subject/faculty librarians, institutional repository and research common staff. These library staff members were in a better position to explain what was going on in their respective libraries as they deal with researchers on a frequent basis. Full justification is provided in Chapter 4.

Researchers were found to be a relevant group in this study of conceptualisation and practice of research support as recipients of the service. As such, their views were important to provide a holistic picture of research support in Zimbabwean universities. However, the need to focus on the relationship between conceptualisation and practice of research support by librarians meant that the study could not include them. Another study focusing on this constituency will be necessary if research support is to improve and be in line with the current trends in higher education in Zimbabwe. In America, a study was commissioned by Research Information Network (RIN) and Consortium of Research Libraries (CURL) (2007) on researchers' use of academic libraries and their services. Such a study in Zimbabwe would complement this study towards holistic understanding of research support.

1.5 Significance of the study

It has been argued that scientific inquiry bridges two seemingly different but closely related aspects. The first aspect is the world of everyday life (practice) which explains 'first-degree constructs'. The second aspect deals with the theoretical abstractions (theory) of the everyday occurrences and explains 'second-degree constructs'. In the 80s and earlier, Du Mont and Du Mont (1981:12) observed that the great bulk of library related research had been limited to the use of first-degree constructs as explanations. They further noted that whether this has changed is subject to empirical investigation. However, the study of conceptualisation and practice of

research support addressed both the first and secondary degree constructs and it is hoped that this would improve practice, knowledge/theory and policy of research support. This is also in line with Creswell (2010) who noted that any study should be able to contribute to practice, literature and policy. As such, the following reasons were found to be compelling in pursuing this area of study.

The study is significant in that it expected to promote the value and role of librarians practising research in the development of highly skilled researchers in institutions of higher learning. RLUK (2015) lamented that researchers tend to have a limited view of what librarians can offer them. Research support has been heralded as activities by librarians who support researchers throughout their research life cycles that demonstrate the impact librarians could have on the scholarly life of researchers. It is hoped that by documenting what librarians are doing and what they can offer to researchers, the academic community can appreciate the efforts of librarians. Being able to demonstrate impact and value is crucial in an increasingly tough economic climate for academic libraries in Zimbabwe.

Librarians work in a volatile environment where skills and knowledge quickly become antiquated. Findings of this study are expected to help managers in the identification of the skills and knowledge gaps of research support librarians. As always, library managers are expected to plan for staff development from an informed point of view (evidence-based decision making) thereby reducing the cost of training and retraining. The study managed to bring out the skills and knowledge requirements of research support librarians in the new research landscape.

The conceptual approach to research support can help explain why research support librarians act the way they do towards researchers who complained that librarians were more focused on teaching and learning support. As such, this study is significant in that it provided both a diagnosis of research support practices and an illumination of new practices that make librarians more relevant to the needs of researchers. It is expected that the study will help research support librarians to effect change in their frames of reference and break mental models that prevent them from learning new practices as the study managed to unravel blind spots in practice which librarians were not seeing as they practiced.

The study is expected to help managers to understand what informs the behaviours of research support librarians as they offer research support services. The study brought out the theories-in-use of research support and examined whether they fit espoused theories in Zimbabwe. After

reading this study, library managers are expected to develop policies that will ensure effective delivery of research support by all parties concerned.

This study is theoretically significant in that, from the literature reviewed, studies that were carried out around the world on research support by librarians focused on skills and knowledge gaps (Auckland 2012); tools and services for research support (Kroll and Forsman 2010; RIN 2010); and services offered by libraries (Raju and Schoombee 2013; Afzal, Corral and Kennan 2012). It appeared there were no studies that focused on the conceptualisation of research support as well as the relationship between conceptualisation and practice and the corrective, reflective measures employed by librarians to remain relevant in the new research landscape.

A cursory review of related literature found no comprehensive studies that were carried out in Zimbabwe that covered research support as a broader higher-level concept. However, there are piece meal studies that were carried out focusing on separate activities and services that form an important part of the research support concept viz institutional repositories (Nyambi 2011); information literacy (Chanakira and Madziwo 2013); and open access (Kusekwa and Mushowani 2014). This study took a broader view of research support and it is hoped that this study adds Zimbabwe into the on-going discourse on research support around the world and provides imperial data on the state of research support in Zimbabwe.

1.6 Theoretical framework

The study was guided by theories of action namely espoused theories and theories-in-use by Argyris and Schön (1974) as a means to examine the relationship between conceptualisation and practice of research support. According to Argyris and Schön (1974:5) theories are “vehicles for explanation, prediction, or control”. Theories appear in an “if-then” format: if the individual faces a particular situation, then based on the individual’s core assumptions about this situation, the individual should take a particular action to either explain, predict or control the situation or outcome. Argyris and Schön (1974) in Houchens and Keedy (2009) called this if-then formulation a theory of action. Theories of action therefore are the master programmes, governing variables, values, theories, beliefs, concepts, rules, routines, policies, practices, norms or skills that underlie actions (Action Science 2007).

According to (Smith 1983: 51), people have a ‘theory-in-use’ a kind of executive programme that actually directs their actions; but, they also have an ‘espoused theory’ a theory of action that they talk about or write down if asked to explain their actions. Argyris and Schön’s (1974: 6) explain:

“When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that governs his actions is this theory-in-use.”

The Theory of Action provides an avenue to gain an understanding of professional practice. The theory is important in this study because it provides guidance on how to establish the manner in which librarians conceptualise and practice research support. Espoused theories in form of mission statements, policies and strategic documents will be used to question the behaviour of librarians. Since theory-in-use is inferred from practice, services offered by librarians to researchers were used in revealing how librarians practised research support.

The Theory of Action helped to examine relationships between espoused theories of research support and theories in use of research support to establish whether there is congruence or incongruity. This helped to answer the question; what is the relationship between actions of librarians and what they say they do? Table 1 shows how the Theory of Action undergirded the study of research support. A full justification of the theory is undertaken in Chapter 2.

Table 1.1: Mapping research questions to the Theory of Action

Research questions	Theory of action's attribute
How is research support conceptually understood by librarians in Zimbabwe university libraries?	Espoused theories - library mission statements, strategic documents and policies
How is research support practised by librarians in Zimbabwean universities?	Theories-in-use - traditional, hybrid or modern approaches
What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?	Relationships - congruence or incongruent
What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?	Dilemmas, disconfirming experiences
What corrective reflective strategies are used to deal with dilemmas and challenges in research support in these transformative times in Zimbabwe universities?	Reflective strategies - single loop and double loop learning strategies

1.7 Terms and concepts

This section is justified by the fact that “words of everyday language are rich in multiple meanings” (Firestone 1987 in Creswell 2009). As with other symbols, their power comes from the combination of meanings in specific setting (Firestone 1987 in Creswell 2009). This is the reason why common terms are given technical meanings for scientific purposes (Firestone 1987 in Creswell 2009). Accordingly, this section defines research support, higher education, researcher, the new and higher education landscape, theory of action, espoused theory, and theory-in-use as they are used in this study.

1.7.1 Defining librarians

Librarians are professional individuals who work in libraries of academic institutions. They manage, organise, evaluate and disseminate information, providing support to members of an academic community including students, researchers and lecturing staff.

1.7.2 Defining research support

Research support has been defined differently by different authors depending on the form of support referred to, but all point to the fact that research support is help given to researchers during their research life cycle (Institute of Germanic and Romance Studies 2010; Parker 2012; Raju and Schoombee 2013). In this study research support is viewed as the services and facilities provided to researchers by librarians in their process of research.

1.7.3 Defining higher education

This is education beyond the secondary level; especially: education provided by a college or university (*Merriam-Webster Dictionary* 2015). In this study, higher education carries the same meaning.

1.7.4 Defining the new higher education landscape

An environment with research-based approach to education, new mode of knowledge production and science which is characterised by ‘context of application, trans-disciplinary, heterogeneity of practise and close interaction of many actors’ (Hessels and Lente 2007:4) and the generation of large amounts of data.

1.7.5 Defining research

The concept research has been defined differently, in part due to the fact that there is more than one kind and partly as a result of substantive levels of research conducted outside formal education. Hillway (1964) historically defined research as a method of study through which the careful and exhaustive investigation of all the ascertainable evidence bearing upon a

definable problem, we reach a solution. Mouly (1978) stated that research is best conceived as a process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data. Research can also be defined as the studious inquiry or examination; especially investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical applications of such new or revised theories or laws (Kidd 1992:27). The main phrase which recurs in these definitions is ‘systematic investigation’ which means that it is not a haphazard but planned scholarly activity for the purposes of discovering, interpreting or revising of facts or theories.

1.7.6 Defining a researcher

A researcher is a scholar who can, or will, in time through learning and experience, demonstrate specialised knowledge or expertise, conceptual and intellectual capacities, academic skills such as the ability to produce scholarly high-quality written work and research papers as well as research skills such as the ability to use sources effectively, to gather and organise information, analyse text, data and theory (Institute of Germanic and Romance Studies 2010:1). According to Auckland (2012:14), there are categories of researchers in academic institutions which include masters’ students, doctoral students, contract research staff, early career researchers, established academic staff, senior researchers, and experts/research fellows.

1.7.7 Defining Theory of Action

A framework for explaining professional practice in various organisations was developed by Argyris and Schön (1974). It is made up of two theories, namely espoused theory and theory-in-use.

1.7.8 Defining espoused theories

Espoused theories are those that some individual claims to follow (Argyris, Putnam and Smith 1985:82). In this study, espoused theories are mission statements, strategic plans and policies that guide the practice of research support.

1.7.9 Defining theory-in-use

Theories-in-use are those theories that can be inferred from action (Argyris, Putnam and Smith 1985). In this study theories-in-use are derived from actual models that are followed by librarians when providing research support.

1.8 Research methodology

The researcher used an interpretivist paradigm. This paradigm denotes the methods of research which adopt the position that people's knowledge of reality is a social construction by human actors (Whitley 1984 in Chowdhury 2014: 433). It helps to discover the underlying meaning of events and activities because the researcher tends to rely upon the "participants' views of the situation being studied" (Creswell 2003:8). Lin (1998:162) believes qualitative work seeks

“to understand what general concepts... [research support] mean in their specific operation, to uncover the conscious and unconscious explanations people have for what they do or believe, or to capture and reproduce a particular time, culture, or place so that actions people take become intelligible.”

The researcher adopted a multiple case study strategy using the constant comparative method (CCM). In this study, the units of analysis were libraries in Zimbabwean universities namely the National University of Science and Technology, Bindura University, Solusi University, Africa University, Lupane State University, Midlands State University, Women's University in Africa and Chinhoyi University of Technology. These were selected based on their geographical and organisational diversity. A multiple case study enabled the researcher to explore differences within and between cases using espoused theory and theory-in-use. This study used the constant comparative analysis method (CCA) outside of the Grounded Theory and followed a naturalistic inquiry.

The study used constant comparison method in three ways, firstly in developing themes and categories from concepts derived from espoused documents. Secondly, it was used to compare how research support is conceptualised and how it is practised in order to bring out the relationship between the two variables within each case (university) and thirdly it was used to make cross-case comparison to develop an integrated description of the relationship between conceptualisation and practice of research support in Zimbabwean university libraries. The sources of data for the study was heterogeneous and consisted of library documents, reference librarians, subject librarians, heads of libraries, research commons and institutional repository staff in academic libraries in both private and state-owned universities in Zimbabwe. The study worked with eight university libraries, the eight become the cases of the study. Three were private university libraries while the other five were state owned university libraries. The study employed interviews, document review and qualitative questionnaires as data collection techniques.

The researcher catered for dependability by using a multi-case study approach to ensure that the findings are true for different settings. The researcher catered for credibility in design by clearly identifying and labelling the major concepts which are ‘conceptualisation’ and ‘practice’ of research support. This was achieved by rooting the construction within a wide variety of literature on the same issue. Credibility of the design was achieved through detailed documentation of each step taken in the research process to ensure that the study is repeatable. A conformity audit was developed to ensure that data can be traced to its original sources as suggested by Mertens (2010:261). Regarding credibility in measurement, the study triangulated the data collection methods videlicet interviews, document review and questionnaires to ensure that what the study intended to measure came out through different ways. Peer debriefing was done with the researcher’s supervisor and research assistant to seek corroborations about the constructs developing from data analyses of interviews transcripts and documents. Prolonged and persistent engagement with participants to ensure deep and close involvement with them was another way of ensuring dependability of measurement.

The study used meta-analysis to develop an integrated description of the findings from cross-case comparison of cases investigated. Thus, the study treated the findings of primary studies as data for meta-analysis. Focus was placed on comparisons among primary cases and abstract understandings of principles present in primary studies. As a common practice in research, several ethical concerns were addressed in this study. To this end, permission to undertake the study in the eight Zimbabwean universities was sought and granted beforehand. The study was also cleared by the Ethical Clearance department of (UKZN) (see Appendix L). Participants were requested to sign informed consent forms (see Appendices M and N) to show that they were participating voluntarily. Participants’ confidentiality was upheld by removing identity details, careful and secure maintenance of documents to prevent hacking.

1.9 Summary of the chapter

This chapter provided the prologue to the study of conceptualisation and practice of research support by containing the background to the study which revealed the historical, contextual and theoretical aspects of the subject research support under study. It also provided the background to the problem which revealed the triggers of the study, that is, how the problem of research support as a concept manifest itself in practice, literature and policy. This is followed by the statement of the problem which revealed that librarians were not effective and visible in the lives of researchers as they provided support in some relatively traditional ways, which were considered inadequate given that the trends in higher education were continuously

changing. Objectives and research questions that provided milestones and direction to the study were listed together with the theoretical framework (Theory of Action) that informed their development. The reasons to embark on this study are given under the significance of the study. The definition of terms to aid understanding of how terms are used in the study followed thereafter. The chapter closed by providing a brief overview of the methodology which is grounded in the interpretivism framework.

CHAPTER 2

THEORETICAL FRAMEWORK

2.0 Introduction

The previous chapter introduced the study by providing the background, statement of the problem, objectives and a summary of the methodology. This chapter is concerned with the theoretical framework which underpinned the study. The chapter starts by providing the role of theory and a theoretical framework in a study of this magnitude. It goes on to discuss theories that are relevant in the study of professional practice. Subsequently, the theory that provided the fulcrum and structure for this study is then presented and discussed. The chapter provides a justification of adoption of the Theory of Action - espoused theories and theories-in-use over the others. The chapter closes with a presentation of the conceptual framework developed for the study.

As a recap, the purpose of this study was to understand and examine the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. The need for the study was mooted after discovering that libraries were not being effective and visible in offering research support. It was also observed that research support was seemingly practised in traditional ways of collection and development notwithstanding that the higher education research landscape had changed due to technological development, new modes of knowledge production as well as pressure from funding agencies. These developments had witnessed the emerging dominance of research in these institutions of higher learning which exposed librarians' ineffectiveness in supporting researchers. One critical element for an organisations' survival and success in the fast-changing environment is learning (Madge 2013). As such, this study examines the professional practice of librarians offering research support from a learning organisation perspective. Professional practice refers to performance in a range of professional situations (Schön 1983:60). This study regarded an academic library as a learning organisation in an academic set up which should continuously change in practice to meet the exigencies of the moment. As noted by Argyris and Schön (1978), organisational learning occurs when members of the organisation act as learning agents for the organisation, responding to changes in the internal and external environments of the organisation by detecting errors in organisational theories-in-use, and embedding the results of the inquiry in private images and shared maps of the organisation. The essence of a learning organisation is "adaptation to changing environments and circumstances" (Gregory 2000:161).

To remain viable in an environment characterised by uncertainty and change, organisations and individuals alike depend upon an ability to learn (Edmondson and Moingeon 1998).

2.1 The role of a theoretical framework in research

The term theory has been defined in a variety of manners depending on the field of study, area of science and even the era it was recognised to be a vital device in the process of knowledge construction throughout history (Tavallaei and Abutalib 2010: 572). Scholars who attempted to define the term theory at different stages include Argyris and Schön (1974); Senge *et al.* (1994); Toracco (1997); Leedy and Ormrod (2005) and Swanson (2007). Argyris and Schön (1974:4) note that a theory is a set of interconnected propositions that have the same referent, namely the subject of the theory. This interconnectedness is reflected in the logic of relationships among propositions. Leedy and Ormrod (2005:4) point out: “A theory is an organised body of concepts and principles intended to explain a particular phenomenon”. Gioia and Pitre (1990) in Swanson (2007:323) described a theory broadly as a “coherent description, explanation and presentation of observed or experienced phenomena”. In simplistic terms, Toracco (1997) notes that theory explains what a phenomenon is and how it works. Senge *et al.* (1994:29) contend that a theory represents a fundamental set of propositions about how the world works, which has been subject to repeated tests and in which we have gained some confidence. Homans (1952) in Tavallaei and Abu Talib (2010:572) clarified that essentially no theory exists unless there is a clear ‘explanation’ on the ‘properties’ and ‘propositions’ which clarify their relations and finally forming a ‘deductive system’.

The preferred working definition from the above is that of Argyris and Schön (1974:4) who note that a theory is a set of interconnected propositions that have the same referent, namely the subject of the theory. According to Argyris and Schön (1974:5), theories are “vehicles for explanations, predictions, or control”. The two authors clarified that an explanatory theory explains events by setting forth propositions from which these events may be inferred, a predictive theory sets forth propositions from which inferences about future events may be made, and a theory of control describes the conditions under which events of a certain kind may be made to occur.

Theories can be distinguished from theoretical frameworks. As noted above theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical binding assumptions (University of Southern California (USC) 2015). The theoretical framework is the structure that holds or

supports a theory of a research study. Merriam (2001) describes the theoretical framework as the structure, the scaffolding, and the frame of the study. The theoretical framework is the presentation of a theory that explains a given problem (Statistics Solutions 2015). According to Silverman (2001:294) theory without some observation to work upon is like a tractor without a field. Therefore, a theoretical framework gives the researcher a chance to ‘observe’ and ‘perceive’ certain aspects of the phenomenon under study while some are concealed (Tavallaei and Abutalib 2010: 573).

The fact that the theoretical framework is the theory on which the study is predicated, helped to shape how this study progressed from the research problem up to the data presentation and conclusion. To this end, it had “implications for every decision made in the research process” (Mertens 1998:3). The theoretical framework introduced and described the theory that explained why the research problem under study existed (USC 2015). It helped the researcher to see clearly the variables of the study because as noted above a theoretical framework consists of concepts together with their definitions. The theoretical framework helped to demonstrate the concepts that were relevant to the topic of research support and broader areas of knowledge. According to the USC (2015), the theoretical framework strengthens the study because it connects the researcher to existing knowledge. The theoretical framework connected the researcher to the existing knowledge of the subject and guided the research to determine what was to be measured.

Articulating the theoretical assumptions of the research study forced the researcher to address ‘why’ and ‘how’ questions. It permitted the researcher to intellectually transition from simply describing a phenomenon observed to generalising about various aspects of that phenomenon as noted by USC (2015). To this end, it gave the researcher a “valuable opportunity to see what appeared familiar to everyone through a new and distinct perspective” (Tavallaei and Abutalib 2010:573). The theoretical framework also helped to specify the key variables which influenced the phenomenon under investigation and “to alert how the key variables differed” (Rojewski 2002). The theoretical framework also helped to perceive, make sense of, and interpret the data collected for the study. It is hoped that the explanation given by the theoretical framework would help the reader understand the researcher’s perspective and context as noted by the Statistics Solutions (2015).

Qualitative studies use theory in various ways. As with quantitative research, it is used as a broad explanation for behaviour and attitudes and it may be complete with constructs, variables

and hypotheses (Creswell 2009:61). Using the theory as a theoretical lens or perspective provides an overall orienting lens for a study. This lens becomes an advocacy perspective that shapes the type of questions asked, informs how data is collected and analysed, and provides a call for action or change (Creswell 2009:62). However, theory can be the endpoint of a study. This is an inductive process of building from the data to braid themes to generalised model or theory (Creswell 2009:62). The research begins by gathering data from participants and informs this information into categories or themes. These themes are developed into broad patterns, theories or generalisations. In this study, theory is used in two ways, first, it is used as a paradigm that underpins research design. The Theory of Action espoused theories and theories-in-use has been used in qualitative manner. Secondly, the theory was used as a theoretical lens that helped the researcher's understanding of the phenomenon under investigation.

2.2 Theories relevant to the study of professional practice in the context of a learning organisation

As noted before, this study examined the professional practice of research support by librarians in Zimbabwean university libraries from a learning organisation perspective. Studies that were carried out under the realm of professional practice with a learning organisation perspective include those by Greenall and Sen (2014); Smith (2013); Kerr (2010); Houchens and Keedy (2009); de Vaujany *et al.* (2008); Houchens (2008); Orrell (2006); Quinn (2003); Kane, Sandretto and Heath (2002); Stafsudd and Collin (1999); Sadique (1996); Fook (1996); Willis (1993); Anderson (1992); Smith (1983) and Nauratil (1982). Between them, these studies employed three education theories of professional practice namely theory of action, also known as theory of practice by Argyris and Schön (1974); the transformative learning theory of Mezirow (1978) and theory of reflective practice by Schön (1983).

Theories of professional practice are best understood as special cases of the theories of action that determine all deliberate behaviour (Argyris and Schön 1974: 4). Of the five characteristics of a learning organisation - personal mastery, system thinking, shared vision, mental models and team learning; conceptualisation and practice which were the cornerstones of this study fall under the mental models. Argyris and Schön (1974) explored the concept of organisational learning by articulating a framework that explained the cognitive structure and processes of problem solving that all people, not just professional practitioners, engage in. As a result, it was suitable to be guided by the Theory of Action namely espoused theories and theories-in-use by Argyris and Schön (1974) as a way of examining how librarians conceptualised and

practised research support as well as how they were responding to changing environments in institutions of higher education. This enabled the researcher to understand why librarians were being ineffective in their support for researchers. This justified the use of the theory of professional practice namely Theory of Action by Argyris and Schön (1974) which was developed in the field of education.

The researcher found the Theory of Action – espoused theories and theories-in-use by Argyris and Schön (1974) more appropriate for the study due to many reasons adequately dealt with in the later stages of this chapter. For the sake of brevity, the theory provided a framework upon which the researcher gained an understanding of how research support was conceptualised. The espoused theories guided the researcher to examine mission statements, values, policy and strategic plans to establish the concepts that guided librarians in their practice. The Theory also points out that a practice of a profession is subject to incongruences between espoused theories and theories-in-use, which can render a professional practice ineffective. This aspect was crucial in this study because it allowed the examination of the relationship between espoused theories of libraries and theories-in-use of research support librarians. This theory has been successfully used in several studies that were carried out throughout the world (Smith 2013; Kerr 2012; Houchens and Keedy 2009; Houchens 2008; de Vaujany *et al.* 2008; Stafsudd and Collin 1999; Nauratil 1982).

2.3 Theory of reflection-in-action

This theory was developed by Donald Schön in 1983. For Schön, the crucial competence for all professionals is ‘reflection’. This is important for the initial development, day-to-day practice and continuous improvement (Cheetham and Chivers 1998:267). Schön (1983) noted that the capacity to reflect on action so as to engage in a process of continuous learning was one of the defining characteristics of professional practice. It is the entire process of reflection-in-action which is central to the ‘art’ by which practitioners sometimes deal well with situations of uncertainty, instability, uniqueness, and value conflict (Schön 1983:50). According to Smith (2005) the cultivation of the capacity to reflect in action (while doing something) and on action (after you have done it) has become an important feature of many disciplines.

Knowing-in-action- refers to the implicit knowledge that underpins and accompanies action (Redmond 2006:36) and the characteristic mode of ordinary practical knowledge (Schön 1983: 54). In this context knowing has the following properties as explained by Schön (1983:54):

- These are actions, recognitions, and judgements which we know how to carry out spontaneously, we do not have to think about them prior to or during their performance.
- We are often unaware of having learned or doing these things; we simply find ourselves doing them.
- In some cases, we are often unaware of the understandings which were subsequently internalised in our feelings for the stuff of action. In other cases, we may never have been aware of them. In both cases, however, we are usually unable to describe the knowing which our action reveals.

As examples of knowing-in-action, Schön offers physical skills such as walking, crawling, bicycle riding and juggling, and activities such as getting around the neighbourhood or everyday personal interaction, and Schön considers that knowing-in-action is sometimes labelled ‘intuition,’ ‘instinct,’ or even ‘motor skills’ (Schön 1992 in Newman 1999).

Reflection-in and on-action for Schön occurs after knowing-in-action and is the next component of reflective practice. It is sometimes described as ‘thinking on our feet’, ‘keeping your wits about you’ and ‘learning by doing’. Schön identifies two types of reflection at this stage in his argument. The first is reflection on knowing-in-practice, which involves looking back at a situation (Schön 1983:61); the second is reflection-in-action: reflecting on practice, whilst ‘in the midst of it’ (Schön 1983:61). Reflection-in-action is thus ‘bounded by the ‘action-present’ (Schön 1983:62). Schön considers that someone who is engaged in reflection-in-action ‘becomes a researcher in the practice context’ (Schön 1983:68). Schön (1983:54) argues that if common sense recognises knowing-in-action, it also recognises that we sometimes do without thinking about what we are doing. It involves looking to our experiences, connecting with our feelings, and attending to our theories-in-use (Smith 2005). According to Schön (1983:56) much reflection-in-action hinges on the experience of surprise. He explained:

“When intuitive, spontaneous performance yields nothing more the results expected for it, then we tend not to think about it. But when intuitive performance leads to surprise, pleasing and promising or unwanted happenings, we may respond by reflecting-in-action.”

The practitioner allows him or herself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. S/he reflects on the phenomenon before her/him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a

change in the situation (Schön 1983:68). The practitioner becomes a researcher in the practice context. S/he is not dependent on the categories of established theory and technique but constructs a new theory of the unique case.

Reflection-in-practice - for Schön (1983:59) is very far from our usual images of professional practice. To Schön (1983:60) professional practice refers to performance in a range of professional situations. As the practitioner experiences many variations of a small number of cases, s/he is able to 'practice' their practice. Schön mentioned that as long as the practice is stable, in the sense that it brings the same types of cases, a practitioner becomes less and less subject to surprise. Their knowing-in-practice tends to become increasingly tacit, spontaneous and automatic. Further, as practice becomes more repetitive and routine and knowing-in-practice becomes increasingly tacit and spontaneous, the practitioner may miss important opportunities to think about what s/he is doing. They may be drawn into patterns of errors which s/he cannot correct (Schön 1983:60).

If a practitioner learns to be selectively inattentive to phenomena that do not fit the categories of their knowing-in-action, they may suffer from boredom or burnout and afflict their clients with the consequences of their narrowness and rigidity. According to Schön (1983:61), when this happens, the practitioner has 'overlearned' what he knows. A practitioner's reflection can serve as a corrective to overcome learning. Through reflection, a practitioner can surface and criticise the tacit understandings that have grown up around the repetitive experiences of a specialised practice and can make new sense of the situations of uncertainty or uniqueness which s/he may allow them to experience.

When a practitioner reflects in and on their practice, the possible objects of their reflections are varied. S/he may reflect on the tacit norms and appreciations which underlie a judgement, or on the strategies and theories implicit in a pattern of behaviour. They may reflect on the feeling for a situation which has led them to adopt a particular course of action, on the way in which s/he has framed the problem s/he is trying to solve, or on the role they have constructed for themselves within the larger institutional context (Schön 1983:62). Reflection-in-action, in these several modes is central to the art through which practitioners sometimes cope with troublesome 'divergent' situations of practice (Schön 1983:62). Redmond (2006) amalgamated and developed further the process of reflective practice by Schön (1983).

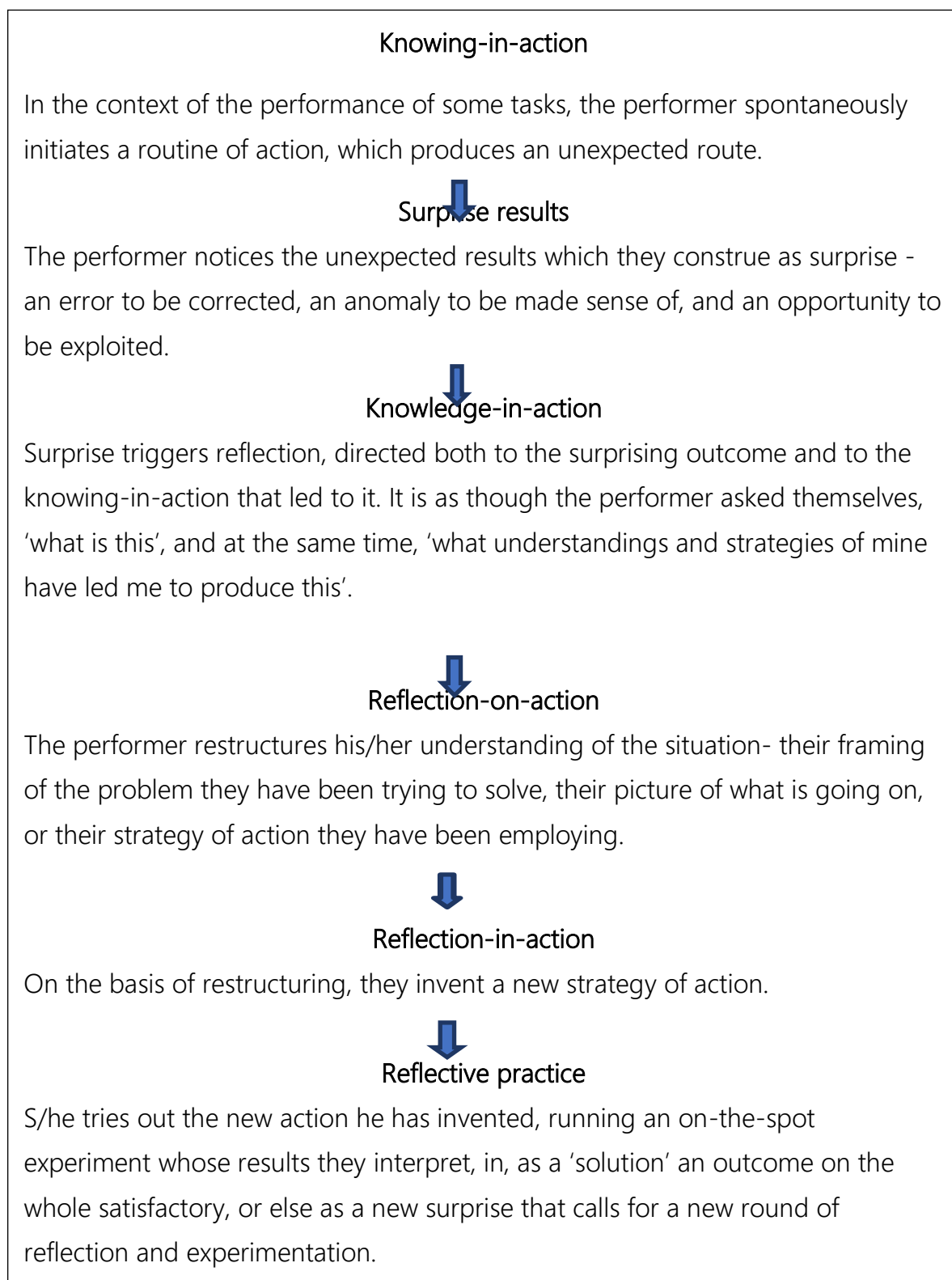


Figure 2.1: Schön's process of reflective action

Source: Redmond (2006:37)

Theory of reflection-in-action has been used in various disciplines such as library information science; nursing, medicine, education and management (Greenall and Sen 2014; Birch 2015; Quinn 2003; Schön 1983; Clarke 1995; Valkenburg and Dors 1998; Adams, Turns and Atman 2003). In library and information science Greenall and Sen (2014) explored the use of reflection by library and information staff in the United Kingdom to support practice and continuing development using questionnaires. The study discovered that 92% of the staff identified themselves as reflective practitioners. They concluded that reflective practice and reflective writing are valuable tools for library and information staff, particularly for professional development. Employers and professional bodies had a role in facilitating reflective practice.

In the field of education, Quinn (2003) employed theory of reflection-in-action as its theoretical underpinning in a study sought to discover if the Post-Graduate Certificate in Higher Education and Training programme at Rhodes University in South Africa was successful in helping lecturers to think critically about what they did and why they did it, evaluate what they did and ways of improving practice. The course was meant to encourage lecturers to explore their espoused theories about teaching and learning as well as their teaching practice. The course was found to be successful for most experienced lecturers. However, Quinn (2003) questioned the suitability of the theory of reflection in action underpinning the course in the context of post-apartheid.

The reflective-in-action theory was found to be relevant in this study because it brings about the dangers of non-reflection in practice which is a central thesis of this study. However, despite its relevance and success in guiding several studies, this study did not employ the theory of reflection-in-action for several reasons. First, the theory is epistemological, “with its point of departure in the competence and artistry already embedded in the indeterminant zones of skilful practice” (Harris 1989:13). Its focus is on knowledge, new epistemology of practice as a response to the inadequacies of the technical rationality theory which posits that knowledge for practice is created through research, disseminated and inculcated in professional education, and applied more or less directly to practice.

As Schön 1971 in Newman (1999:146) put it “we need to think ...about knowledge ... in a different way”. Schön claims that there is a type of practical knowledge which his account allows to be identified, a type which he calls ‘knowing-in-action’ (Schön 1983: 54). He was concerned with ‘the knowing we manifest in the doing’ (Schön 1987 in Newman 1999). Schön was particularly interested in the knowledge that practitioners bring to bear on the problems

they encounter in the action setting (Clarke 1995). This study is not concerned about nature of knowledge rather it is concerned about the strategies and reactions of practitioners to problems in practice. The researcher admits the problem may be epistemological, but this is not the only problem research support practitioners face in practice, that is whether librarians practice what they say they do in the context of research support.

Secondly, there is no attempt to clarify what is meant by the key concept of reflection. Schön failed to clarify what is involved in the reflective process. Schön (1983:50-55) begins by claiming reflection is about “how professionals think about what they are doing”, then goes on to associate reflection with a ‘feel for’ something and an ‘intuitive knowing’ (Canning 2008:16). Finally, reflection is then given a functional capability whereby it can ‘surface and criticise our tacit understandings’ and perform ‘frame experiments’ (Canning 2008:61). There is no clarity here or explanation of how reflection encapsulates such a bewildering array of activities. Under such a circumstance it becomes very difficult to use the theory of reflective practice as vehicle for explanation in this study as it “does not provide finer details necessary to fully comprehend how it can be achieved” (Redmond 2006:51). Purcee 2006 in Canning (2006) confirms this by stating that in the concept of reflection different and even contradictory meanings are at stake. This in turn leads to conceptual confusion and, more worryingly, poor educational practices (Canning 2006).

Thirdly, Schön’s theory regards knowing-in-action as the basis for examining our theories-in-use. He does not regard our professional body of knowledge, environmental issues and institutional policies as important considerations in terms of our theoretic-in-use. Donald Schön creates, arguably, a descriptive concept, quite empty of content (Richardson 1990:14). This study is to focus on the institutional espoused theories as a basis for questioning behaviour in action, whether theories in use fit espoused theories of the institution. All this will be done in context of changes in environmental issues affecting academic libraries and librarians.

Closely related to the above is the issue that Schön’s reflective practitioner is focused on ‘individual’ reflection’. An emphasis on individual reflection fails to consider the accounts of ‘others’ within the community within which reflection occurs (Sandywell 1999 in Kinsella 2003). The question here is the exclusion of the ‘other’ when we talk about reflection processes which make considering it for this study weak.

Finally, Schön’s theory describes the importance of developing tacit, implicit practice into thoughtful reflective practice. However, the theory is not explicit in describing how the change

is actually going to happen. In this respect, the theory falls short on the last objective of this study which investigates how practitioners change their strategies because of new experience, new surprises and/or confusion.

2.4 Transformative learning theory

Transformation theory is a model of adult learning developed and first presented by Mezirow in 1978 in collaboration with Marsick. Jack Mezirow's theory is a result of research he embarked on concerning the processes and changes that 83 adult women went through when they returned to college (1975). This research led him to conclude that these women had undergone a change in perspective because of their experiences. Since then Mezirow continued to refine, clarified and extended aspects of Transformation theory his thinking and his model of perspective transformation way into the 21st century. According to Mezirow from dissertation (n.d), Mezirow based the modifications to the theory on other researchers' applications of the Model in research; discussions and dialogues with peers at conferences; arguments and expositions with peers in journals; and peer responses to his own books on the subject. This theory has evolved "into a comprehensive and complex description of how learners construe, validate, and reformulate the meaning of their experience" (Cranton 1994: 22). As a result, the presentation of the model in this study incorporates his refinements, clarifications and adjustments made by him to the theory.

Transformative learning is the process of effecting change in a frame of reference (Mezirow 1997: 5). It is learning that occurs when an adult engages in activities that cause or allow them to see a different worldview from their own. Mezirow describes this learning as a process of an adult modifying or adjusting narrow, problematic, fixed, or static assumptions and expectations in themselves.

Mezirow (1997) says transformative learning "involves transforming frames of reference through critical reflection of assumptions, validating contesting beliefs through discourse, taking action on one's reflective insight, and critically assessing it" (Mezirow 1997:11). The author describes these assumptions and expectations in adults as part of a 'frame of reference' or 'meaning perspective' through which we filter out our incoming sense impressions of the world. The author further explained that adults have acquired a coherent body of knowledge - associations, concepts, values, feelings, conditioned responses- frame of references that define our life world.

The first concept '**frame of reference**' denotes structures of assumptions through which we understand our experiences (Mezirow 1997). He noted that these selectively shape and delimit expectations, perceptions, cognition, and feelings and set our line actions (Mezirow 1997). Frame of reference is composed of two dimensions: habits of mind and a point of view (Mezirow 1997:5). Referring to the habit of mind Cranton (2012:1) wrote:

“We expect what has happened in the past to happen again. If we failed to understand mathematics, we expect to continue to fail. If our boss has always been critical of our work, we expect her to continue to be critical. If our parents told us we were stupid, we think we are. Habits of mind are established. Habits of mind may have to do with our sense of self, our interpretation of social systems and issues, our morals and religious beliefs, and our job-related knowledge. It may take a significant or dramatic event to lead us to question assumptions and beliefs. Other times, though, it is an incremental process in which we gradually change bits of how we see things, not even realizing a transformation has taken place until afterwards.”

As human beings, we frequently repeat what we have done before unless we deliberately intervene to change a habit. This requires an understanding and awareness of what we are doing in order to make that change (National College for Teaching and Leadership n.d).

Another concept, **the meaning perspective**, selectively shapes and delimits perception, cognition, feelings and disposition by predisposing our intentions, expectations, and purposes. It provides “the context for making meaning within which we choose what and how a sensory experience is to be construed and/or appropriated” (Mezirow 2000:16). Mezirow states that a transformation in a meaning perspective means that a person views their world differently and this includes viewing themselves differently. Mezirow’s idea of a transformation of a meaning perspective is partially derived from Kuhn’s (1970) idea of a paradigm shift where he describes a paradigm as a collectively held meaning perspective (Mezirow 1990: 46). He writes that Transformation theory is, applying the idea of a paradigm shift to an individual. That is, a transformation of a paradigm has equivalences with a perspective transformation. Thus, transformative learning may arguably be seen as a ‘paradigm shift’ for an individual, rather than community. Mezirow proposes that an individual who experiences transformative learning would have a shift’ in his or her meaning perspective. The shift is usually away from a narrow, problematic, fixed, or static meaning perspectives and towards more inclusive,

discriminating, open or permeable (to different ideas), flexible, holistic, reflective or examinable and autonomous meaning perspectives.

2.4.1 Shifting meaning making structures

Mezirow, (1991) developed a theoretical map of adult meaning making structures. He described two structures called ‘meaning schemas’ and ‘meaning perspectives’. A meaning schema is belief or basic idea a person might have about how something ought to work or does work. A meaning schema, could be about how to do something, how to understand something, someone or a group or how to understand oneself (Mezirow, 1991). This could be a belief, for example, about how an engine may work.

A meaning perspective is a “structure of assumptions within which one’s past experience assimilates and transforms into new experience” (Mezirow 1991: 42). Beliefs might include, for example, a notion of a person’s legitimate role in the world, or a belief about the importance of family, or a belief in a person’s identity. Meaning perspective is also known as the ‘habit of mind’, a ‘perspective’, a ‘concept’, an ‘attitude’, an ‘outlook’, a ‘way of thinking’, a ‘strongly held group of opinions or beliefs’ a ‘deeply held value’, ‘identity’, ‘worldview’ and ‘point of view’ (Mezirow 2000). The impact of the transformation can come from the on-going and expanding divergence between how a person used to think and act and were seen by those around them, and how they now think and act and as seen by those around them, following the transformation (Mezirow from Dissertation n.d).

2.4.2 Domains of learning

Mezirow describes transformation in meaning perspectives as occurring in either the ‘instrumental domain’ or the ‘communicative domain’ (Mezirow from dissertation n.d). Mezirow describes the instrumental domain as involving an understanding of ‘how things work’. This includes an understanding of such areas as: how to manipulate the environment (including people), engineering, adult learning and training, trades, management skills, and other technical areas. The instrumental learning domain relates to learning about cause-effect relationships and problem-solving process. The communicative domain involves the relationships between people; how people communicate together; how people present themselves; and generally, how beliefs and practices of human communication occur. The communicative domain includes understanding, describing and explaining intentions; values; ideals; moral issues; political, philosophical, psychological, or educational concepts; feelings

and reasoning (Mezirow 1991:75). The communicative domain is where people learn about cultural and social group norms of behaviour and thought.

2.4.3 Types of transformations

Mezirow (1978) stated that there are two types of transformation in meaning perspective. He calls them ‘epochal’ transformations and ‘incremental’ transformations (Mezirow 1978:1991). An epochal transformation is said to occur when learner’s meaning perspective shifts very quickly, over perhaps minutes or days. A common example would be when someone feels a sense of ‘Eureka’ or ‘Ah ha!’ about an area of study or research or life. An incremental transformation is the result of small shifts in meaning schema that over time, perhaps over months or years, lead a learner to slowly realise that a meaning perspective has shifted. With incremental transformation, there is a dawning awareness that a meaning perspective has changed, rather than a direct experience of the change. Both incremental and epochal transformations assume there is a conscious appreciation of a shift in meaning perspective in order to be called transformative.

2.4.4 The Transformative process

Mezirow (1978) describe ten steps that are involved in the transformative learning process. Broadly, these steps describe the process of a person being engaged in activities that may lead them to a shift in a meaning perspective; the effects of the shifting process; grappling with the consequent learning pressures and, finally, engaging with others to work through the struggle to integrate the new meaning perspective with their other existing meaning perspectives and larger life. Mezirow has restated the steps that are illustrative of many of the experiences transformative learners go through (Mezirow 2000; Mezirow 2009). These steps are as follows:

1. Disorienting dilemma. A disorienting dilemma is a dilemma that causes a significant level of disruption or disturbance in a person; for example, engaging in a professional development programme, attending a university, a new career, or reading a particularly disturbing book.

2. Self-examination. The implication of the new worldview generates feelings that stem from an uneasy, and at times frightening, consideration of previously ways of looking at the world that felt very certain.

3. Critical assessment of assumptions. The person undertakes an assessment via critical reflection of some of their underlying basic beliefs because of the self-examination of the previous step.

4. Relating discontent to others. The person engages in rational discourse with friends, colleagues, family or fellow students and discovers that the new worldview is not foreign or weird to other people. They also discover that other people have had similar responses to earning in their lives and can understand the disruption of the disorienting dilemma.

5. Exploration of options for new roles, relationships and actions. Rational discourse is used to work through possible alternate ways to move forward in life with close friends, peers, teachers or colleagues.

6. Planning a course of action. The person plans a way forward that will accord with their new larger, more flexible and developing worldview.

7. Acquiring knowledge and skills for implementing one's plan. The person engages with different types of learning to gain specific knowledge and skills to follow their plan, such as training in new capabilities, or getting a new job.

8. Provisional trying of new roles. The person tries out their new roles in their life to see what happens, and to modify and adjust the roles as required, such as trying new work roles.

9. Building competence and self-confidence in new roles and relationships. The person continues to practice new roles with greater confidence and a wider range of situations such as trying a new job or continuing with new work in their existing job (Mezirow from Dissertation nd).

10. Integration. The person integrates the new responses to life, and the new skills and abilities with those they care about, in such a way as to be respectful of the newly-acquired expanded, and more flexible worldview.

Transformative learning theory guided many studies of professional practice in various disciplines such as education, library and information science, management (Kiely 2005; Kenney 2008; Nerstrom 2013; Stephens 2012).

The Transformative learning theory was relevant to this study in that it allows the interrogation of 'meaning schemas' that is, a belief or basic idea a person might have about how something ought to work or does work. This is captured in one of the objectives of this study which is concerned with conceptualisation of research support by librarians. The fact that the theory highlights the steps a learner goes through in the transformative process makes

it relevant to this study when viewing academic libraries as learning organisations. As Kiely (2005:6) noted, transformative learning:

“focuses on how people make meaning of their experiences and, in particular, how significant learning and behavioural change often result from the way people make sense of ill-structured problems, critical incidents, and/or ambiguous life events.”

However, the research did not adopt the transformative learning theory because it emphasises the transformation of the individual within the context of organisational change. Newman (1993) in Taylor (1998:23) noted:

“perspective transformation appears to focus on the individual examining her or his personal experiences.... about understanding and changing oneself [and accepting] a reintegration by the individual into society where the dominant ideology may go unquestioned.”

As a result, this theory becomes short in that it does not allow one to address the dominant ideologies of a grouping which may be captured in espoused documents such as policies, plans, mission statements and other kindred documents. This study attempts to understand and question the dominant ideologies of librarians as they provide support to researchers. According to Taylor (1998:23) the theory fails to address adequately questions of context and ideology of the social change. The theory does not accommodate the possibility of the transformation of the society on the perspective of the individuals who are group members.

2.5 Theory of Action- espoused theories and theories-in-use

As mentioned earlier these theories were developed by Argyris and Schön (1974) as a framework for explaining professional practice in various organisations, theories of action are explanations arising from unconsciously or consciously held beliefs, values, theories, concepts, rules policies, norms or skills which are utilised to describe or predict action (Kerr 2010).

This study used theories of action, namely espoused theories and theories-in-use by Argyris and Schön (1974) as a means to explain conceptualisation and practice of research support not as a means to control and predict. According to Argyris and Schön (1974:5) theories are “vehicles for explanation, prediction, or control”. Theories appear in an ‘if . . . then’ format: if the individual faces a particular situation, then based on the individual’s core assumptions about this situation, the individual should take a particular action to either explain, predict or

control the situation or outcome. Argyris and Schön in Houchens and Keedy (2009) called this 'if-then' formulation a theory of action. Theories of action therefore are the master programmes, governing variables, values, theories, beliefs, concepts, rules, routines, policies, practices, norms or skills that underlie actions (Action Science 2007).

People hold theories of action about how to produce the consequences they intend (Smith 1983:50). Argyris and Schön's (1974) argue that people have mental maps with regard to how to act in situations. This involves the way they plan, implement and review their actions. According to Smith (1983:51), people have a 'theory-in-use' a kind of executive programme that actually directs their actions; but, they also have an 'espoused theory' a theory of action that they talk about or write down if asked to explain their actions. Argyris and Schön's (1974:6) explain,

“When someone is asked how he would behave under certain circumstances, the answer he usually gives is his espoused theory of action for that situation. This is the theory of action to which he gives allegiance, and which, upon request, he communicates to others. However, the theory that governs his actions is this theory-in-use.”

Espoused theories are those that individuals claim to follow. Theories-in-use are those that can be inferred from action (Action Science 2007:82). Theories-in-use involve assumptions about the self, others, a specific situation and the relationships between situation, action and consequence (Stafsudd and Collin 1999: 6). A theory constructed to account for a person's actions by attributing to him a complex intention consisting of governing variables or values, strategies for action, and assumptions that link the strategies to the governing variables (Schön 1975 in Newman 1999:147). Making this distinction allows us to ask questions about the extent to which behaviour fits espoused theory; and whether inner feelings become expressed in actions (Smith 2013). Thus, the distinction made between the two contrasting theories of action are those theories that are implicit in what we do as practitioners and managers, and those on which we call to speak of our actions to others (Smith 2013). Distinction is not between theory and action but between two different theories of action: those that people espouse, and those that they use. The latter can be described as theories-in-use. Theories-in-use govern actual behaviour and tend to be tacit structures (Smith 2013). They contain assumptions about self, others and environment. These assumptions constitute a microcosm of science in everyday life (Argyris and Schön 1974: 30).

A theory-in-use cannot simply be learned by asking a person, although it may be constructed from observations of that person's behaviour (Stafsudd and Collin 1999: 6). When confronted with difficult situations people often do not act in congruence with their espoused theory. That is to say, the espoused theory and theory in use can be juxtaposed resulting in congruence or incongruity. Argyris (1980) makes the case that effectiveness results from developing congruence between theory-in-use and espoused theory.

A person's, or an organisation's, theories of action are subject to a variety of dilemmas that relate to the gap between espoused and in-use theories (Federman 2006 in Kerr 2010). First, there is the potential for incongruities between espoused and in-use theories. Then there is the potential for inconsistencies among the actions that comprise one's theory-in-use (Federman 2006 in Kerr 2010). When confronted with difficult situations people often do not act in congruence with their espoused theory. Moreover, they are usually unaware of the discrepancies. Argyris (1982 in Smith 1983:51) suggests some reasons why people are unaware of the disparities between what they do and what they say they do. He argues that people have built into their theory-in-use features that prevent them from becoming aware and from learning beyond the confines of their theory-in-use (Smith 1983:51).

According to Smith (1983:51), many writers have suggested that the identification of a problem, a disconfirming experience and a challenge to our sense of competence, is a powerful and essential stimulus for learning. Detection and correction of dilemmas between espoused and in-use-theories is foundational to the theory of action (Kerr 2010: 48). To deal with these dilemmas requires corrective action, not only to correct specific behaviours associated with theory-in-use, but to adjust one's theory-in-use, perhaps to bring it more in line with the corresponding espoused theory (Federman 2006). Such reflective action is referred to as 'double looping' which entails reflecting not only on whether the theory-in-use is effective (as in accomplishing goals), but also whether theory-in-use is compartmentalized from espoused theory when there are inconsistencies (Federman 2006). In double-loop learning, governing variables, policies, goals, plans and action strategies should be questioned and subjected to critical scrutiny to achieve overall effectiveness in practice (Kerr 2010:48). Single-loop learning in contrast is present when values and goals are taken for granted and the emphasis is on techniques and making techniques more efficient (Kerr 2010:48).

As a result, Argyris and Schön (1974) developed two models that are deduced from peoples' action (theories-in-use) that either inhibit or enhance double-loop learning, termed Model 1

and Model II. Model 1 governing variables and values reflect the behaviour of many professionals studied by Argyris and Schön (Kerr 2010: 48). Argyris (1985) claims that most of our social systems are Model 1. According to Argyris (1982) a person with a Model I theory-in-use, behaves in ways that are consistent with four governing values or variables:

- 1) Achieve the purpose as actors define it;
- 2) Win, do not lose;
- 3) Suppress negative feelings; and,
- 4) Emphasise rationality.

The primary behavioural strategies are to control unilaterally the relevant environment and tasks and to protect self and others unilaterally. Model I emphasises that people be as articulate as they can be about their purposes and goals and simultaneously control others and the environment in order to ensure that their purposes are achieved (Argyris 1982 in Smith 1983:56).

The theory-in-use that increases ‘double loop’ learning is called Model II by Argyris and Schön (1974). The governing variables or values of Model II are valid information, free and informed choice and internal commitment. Model II combines articulateness and advocacy with an invitation to others to confront one's views, even to alter them, in order to produce action which is based on the most complete, valid information possible and to which people can become internally committed (Argyris 1982 in Smith 1983: 56). The behavioural strategies of Model II involve sharing power with anyone who has competence and who is relevant to deciding or implementing the action.

Double Loop Learning: Argyris & Schön

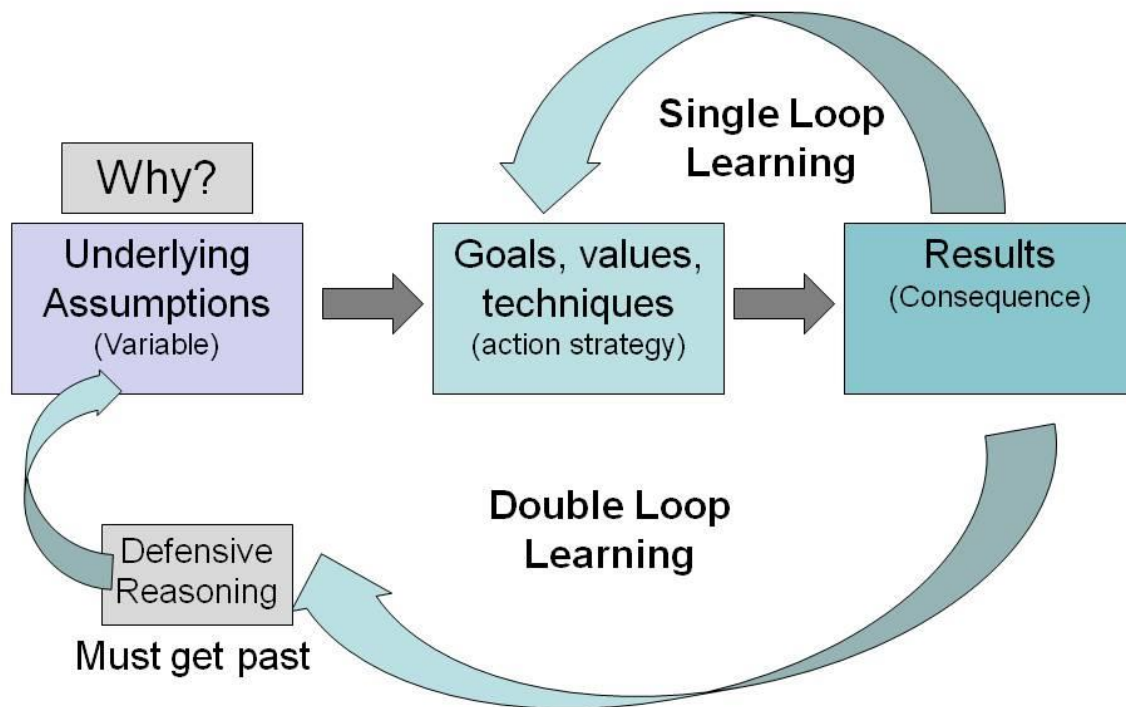


Figure 2.2: Double Loop Learning

Source: WordPress (2014)

2.6 Studies guided by theories of action - espoused theories and theories-in-use

Theory of action has been applied and tested by several researchers across several disciplines and in various contexts of study, among them include library and information science, nursing, management, and education (Kerr 2010; Edwards 2010; de Vaujany *et al.* 2008; Kane, Sandretto and Heath 2002; Anderson 1992; Stafstudd and Collin 1999; Orrell 2006; Willis 1993). However, most of these studies addressed professional practice from a teaching perspective rather than a learning organisation perspective.

In the field of library and information science, studies that adopted the Theory of Action are scant, few and were conducted far between. Edwards (2010:19) also made a similar observation: “the current application of these models to LIS practice, as evidenced through literature searches, is relatively sparse; the specific application of these models to LIS education has yet to be fully articulated”. As a result, this study reviewed in detail these landmark studies that were conducted using the theory of action to demonstrate how these few studies successfully used the theory in the LIS profession.

The Theory of Action was applied in a study conducted by Kerr (2010) in America to investigate the relationships between conceptions and practice of information literacy in academic libraries. The study adopted the framework of Argyris and Schön (1974) in which professional practice was examined via theories of action, namely espoused theories and theories-in-use. Espoused theories were examined by investigating understandings and beliefs of information literacy and learning as seen in a range of policy documents including mission and goal statements of eleven academic libraries as well as those of their parent universities. Theories-in-use were identified by analysing information literacy practice via online tutorials utilized by these libraries in instruction initiatives. These documents and representations of practice were augmented by semi-structured interviews conducted with practitioners of information literacy education in these libraries. The research used a constant comparison approach (Strauss and Corbin 1998) to develop broad themes, subcategories and statements of claims from these multiple data sources. Meta-claims were used by Kerr (2010) to provide rich descriptions towards a comprehensive, holistic picture of information literacy education.

The research found out that information literacy education in the selected academic libraries was multi-dimensional, complex, and contradictory. Further analysis revealed those explicit espoused theories of information literacy coalesced around themes of knowledge creation and lifelong learning; varied, less explicit and sometimes conflicting theories-in-use. Kerr (2010) found ad hoc levels of congruence in the relationships between espoused theories and theories-in-use as indicated by the few successful attempts to realise goals and outcomes in instruction initiatives. There were major contradictions and incongruence in the relationships between the espoused theories and theories-in-use as indicated by significant gaps in addressing goals and missions.

Edwards (2010) combined two theories of professional practice namely theories-in-use and reflection-in-action of Argyris and Schön (1974) and Schön (1983) respectively, to examine the extent to which these two concepts, theories-in-use and reflection-in-action, could align with typical learning outcomes associated with LIS education, using two illustrative case studies: one from an undergraduate-level course on search strategies, and one from a graduate-level course in collection development. Based on the kinds of classroom experiences that are reported to be most valuable to students, the two concepts (theories-in-use and reflective-in-action) appeared to be useful for designing and assessing the effectiveness of activities, exercises, and assignments. The research noted that student feedback from these two cases,

while not universally positive, is suggestive of the utility of these concepts as guiding principles for instructional design and evaluation in the context of LIS education.

Nauratil (1982) also employed the theory of action in a study of the congruence and incongruence between espoused theories and theories-in-use relating to public library services to older adults in Ontario and New York. The aim of the study was to determine whether a significant incongruence exists between public librarians' commitment to officially espoused theory of service to older adults which reflects the activity perspective on ageing and commitment to a theory-in-use operationalising, in terms of actual library practice, the gerontological perspective underlying the espoused theory. Using Argyris and Schön's theory of action, the study's instrument contained two sections; first, 'an inventory of preferred practice to older adults' (representing theories-in-use) and the second sent separately consisted of the American Librarian Association (ALA) statement itself (representing espoused theories). Research results indicated that commitment to an espoused theory of service for ageing which was officially sanctioned by ALA and which reflects an activity perspective was high. Conversely, the study found out that commitment to theories-in-use operationalising the same activity perspective was low. Age, nationality, sex, position among other variables bore no relationship to the degree of difference between the librarians' commitment to the espoused theories and commitment to the theories-in-use. The research concluded that the incongruence found in the findings appears to be rooted in the survival of certain traditional library philosophies or theories-in-use which conflict the officially espoused theory of service to older adults in response to the social and demographic developments.

In a closely related discipline of information system, de Vaujany *et al.* (2008) used the theory of action –espoused theory to study the crisis of the information system discipline. In other fields, theory of action was applied in the field of management, for example Stafsudd and Collin (1999) used the espoused theories and theories-in-use on recruitment policy vs. recruitment process, Anderson (1992) used the theory when examining the critical elements of a process for reducing the gap between espoused theories and theories-in-use of organisational consultants. In education, Willis (1993) sought to identify inconsistencies between espoused theories of learning expressed in many policy statements and the theory that actually informs assessment practice. The author argued that the rhetoric of curriculum reform in education and references to lifelong learning is meaningless unless assessment in practice reflects similar theoretical principles. In education, a doctoral dissertation by Houchens (2008) used Argyris and Schön's (1974) theory of practice framework to explore the theories of practice for

instructional leadership of four successful Kentucky school principals. The multi-case study used a naturalistic design based on interviews with principals and teachers, observations, and a self-reflective written exercise for a principal (Ruff and Shoho 2005). Case study participants were chosen based on a nomination process and a series of screening interviews conducted by the researcher.

2.7 Theory of action in the study of conceptualisation and practice of research support

Theory of action has been applied to the reasoning and actions of professionals in management, education, nursing, medicine and social services in which library and information services falls. The theory of action provides an avenue to gain an understanding of professional practice. They provide a framework that explains the cognitive structure and processes of problem solving that all people, not just professional practitioners, engage in (Houchens and Keedy 2009:49). The theory was important in this study because it gave guidance on how to establish the manner in which librarians conceptualise and practice research support. The theory had an explanatory power in this study because it describes the causes, conditions and variables that lead professionals to be effective and ineffective. The following theories and constructs of theory of action explain this.

2.7.1 Espoused theories

Argyris and Schön (1978:15) state that formal corporate documents such as organisation charts, policy statements and job descriptions often reflect espoused theory. In line with this, the study examined policies, mission statements and strategic plans of academic libraries as espoused theories to gain an understanding of concepts which guided librarians in providing research support. This construct addressed the first objective of the study which looked at how librarians conceptualise research support. How librarians conceptualise research support was used to examine the behaviour of librarians in practice by comparing what the espoused theories pronounce and the actual practice (theories-in-use).

2.7.2 Theories-in-use

Theories-in-use offer a framework to gain an understating of professional practice of research support. Argyris and Schön (1978:16) assert that in order to discover an organisation's theory-in-use, we must examine its practice, that is, the continuing performance of its task system as exhibited in the rule-governed behaviour of its members. Accordingly, the study examined research support activities of librarians as they offer this service in the new research landscape in Zimbabwean universities. This addressed the second objective of the study which looked at

the service and activities librarians partook in support of researchers. It was from these services and activities that the researcher built the theories-in-use that librarians use to attain their goals. Argyris and Schön (1974) characterise two main models, termed Model I and Model II. The decision on whether and how far, to commit in deep research support, requires a deep reflection by librarians based on a deep understanding of their role and the environment they operate in.

2.7.3 Relationships

The Theory of Action allowed the examination of the relationship between espoused theories and theories-in-use of research support to establish whether there was congruency or incongruency. This concept helped to address the third objective of the study which was to establish the nature of the relationship between the research support actions of librarians and what they say they did as seen in policy, plans and mission statements. According to Argyris and Schön (1974) organisational effectiveness can be achieved by aligning theories-in-use to espoused theories. Establishing the relationship between theories-in-use and espoused theories help to explain the actions of librarians and infer whether their ineffective support to researchers can be attributed to the congruence or incongruence between the two. In other words, was conceptualisation affecting practice of research support? Was it responsible for the ineffectiveness of research support? Incongruence assisted in explaining and inferring that librarians' actions are not informed by theory and that they are blindly practising research support. The rhetoric about research support in academic libraries was meaningless unless actions in practice reflected support throughout the research life cycle as well as the new service and roles expected in the new research landscape.

2.7.4 Disconfirming experience and dilemmas

The theory of action was also useful in addressing objective number four that looked at disconfirming experiences and dilemmas faced by librarians as they support researchers. According to Kerr (2010: 48) the “detection and correction of dilemmas between espoused and in-use-theories is foundational to the theory of action”. Smith (1983:51) notes that many writers have suggested that the identification of a problem, a disconfirming experience and a challenge to our sense of competence, is a powerful and essential stimulus for learning. The identification of disconfirming experiences and dilemmas allowed the researcher to examine whether librarians were being stimulated to learn about their research support practices towards effectiveness to researchers.

2.7.5 Single loop and double loop learning strategies

To remain viable in an environment characterised by uncertainty and change, organisations and individuals alike depend upon abilities to learn (Edmondson and Moingeon 1998). The Theory of Action helps to explain barriers that can trap members of a professional practice from learning new ways of doing work and to cope with the ever-changing working environment. The Theory of Action proffers ways for corrective, reflective measures to deal with dilemmas in practice. The Action Theory provides single loop and double loop learning strategies as corrective measures. These two strategies enabled the researcher to address the fourth objective which is to identify the strategies being used by librarians to cope with the ever-changing research environment. Thus, the theory became useful in understanding the strategies used by academic libraries in dealing with dilemmas posed by changes in the research landscape. This theory offered a defined method of facilitating the examination of dilemmas, values, beliefs and assumptions. Action Science focuses on identifying and resolving the difficult, complex, real-life problems that are critical to organisations and society (Action Science 2007). This includes the formidable challenges of leadership, innovation, informed participation, and reducing prejudice (Action Science 2007). As Argyris and Schön (1974) note, reflective learning provides a means of understanding both internal and external dimensions of professional practice. A deep reflection on instructional values, beliefs and practices may address the challenges and dilemmas in institutional practice of research support.

2.8 Limitations of Theory of Action

The theory of action can be quite complex if unquestionably replicated in an unequivocal manner (Redmond 2006:50). Sadique 1996 in Redmond (2006: 50) found the theory of action overly complicated her research design because as Argyris and Schön (1974) explained it was designed to be part of the reflective coach's repertoire of skills. They further pointed out that an individual is unable to diagnose his/her own theory-in-use. In order to overcome this problem as suggested by Argyris and Schön (1974) this study did not simply rely on observing and asking librarians their theory-in-use but helped the librarians to construct their theories-in-use from the research life cycle which captured the activities of researchers. To achieve this, multiple sources of data gathering were used namely qualitative questionnaires and interviews.

The Theory of Action does not provide a sound framework upon which to begin to design new approaches to practice (Mezirow 1990 in Redmond 2006:50). However, this limitation did not affect this study because it was not the intention of this study to design a new approach to the practice of research support. The theory was employed as a means to explain research support

practice. It is the duty of practitioners in the respective libraries to design new approaches to research; this study ended with the explanation of what was going on in practice.

A further consideration is that, from the literature accessed no studies were found to have used the Theory of Action in Africa. Most of the studies that used this theory were from Asia, Europe and America (Kerr 2010; Edwards 2010; de Vaujany *et al.* 2008; Kane, Sandretto and Heath 2002; Anderson 1992; Stafsudd and Collin 1999; Orrell's 2006; Willis 1993). However, the Theory's application in various disciplines such as management, nursing and medicine in explaining practice made a strong case for its use in this study. Professional practice is practice whether it is in Africa, Asia or Europe; as such, it is possible to apply the theory anywhere as its constructs can explain different practices obtainable in different parts of the world. From the benefit of hindsight, the theory was successfully used to explain professional practice of research support in Zimbabwe.

2.9 Conceptual framework for the study

A conceptual framework is the researcher's idea on how the research problem will have to be explored (Regoniel 2010). This is founded in the theoretical framework, which lies on a much broader scale of resolution. Whereas the theoretical framework describes a broader relationship between things, the conceptual framework is much more specific in defining this relationship (Regoniel 2010). The conceptual framework serves several purposes: (a) identifying who will and will not be included in the study; (b) describing what relationships may be present based on logic, theory and/or experience; and (c) providing the researcher with the opportunity to gather general constructs into intellectual 'bins' (Miles and Huberman 1994:18). As such, the conceptual framework serves as an anchor for the study and is referred to at the stage of data interpretation (Baxter and Jack 2008: 553).

The study adopted the Theory of Action as it is, without adding or removing any of its assumptions; constructs and conventions. The background explained how the problem of the study manifest itself in the literature (Chapter 1, section 1.2 Background to the problem). To explain and understand why the librarians were not being effective in support of researchers, the study examined mission statements as espoused theories to establish how research support was conceptualised by librarians. The study examined services of research support as theories-in-use to establish the models being employed by librarians in order to explain their effectiveness. The Theory of Action demands that for academic libraries to be effective there must be congruence between espoused theories and theories-in-use, as such the study went

further and determined the relationship between the espoused theories and theories-in-use. As research support practice was continuously being affected by changes in the research environment, how librarians dealt with such changes were investigated to explain their strategies. Figure 2.3 provides an illustration of the conceptual framework as explained above.

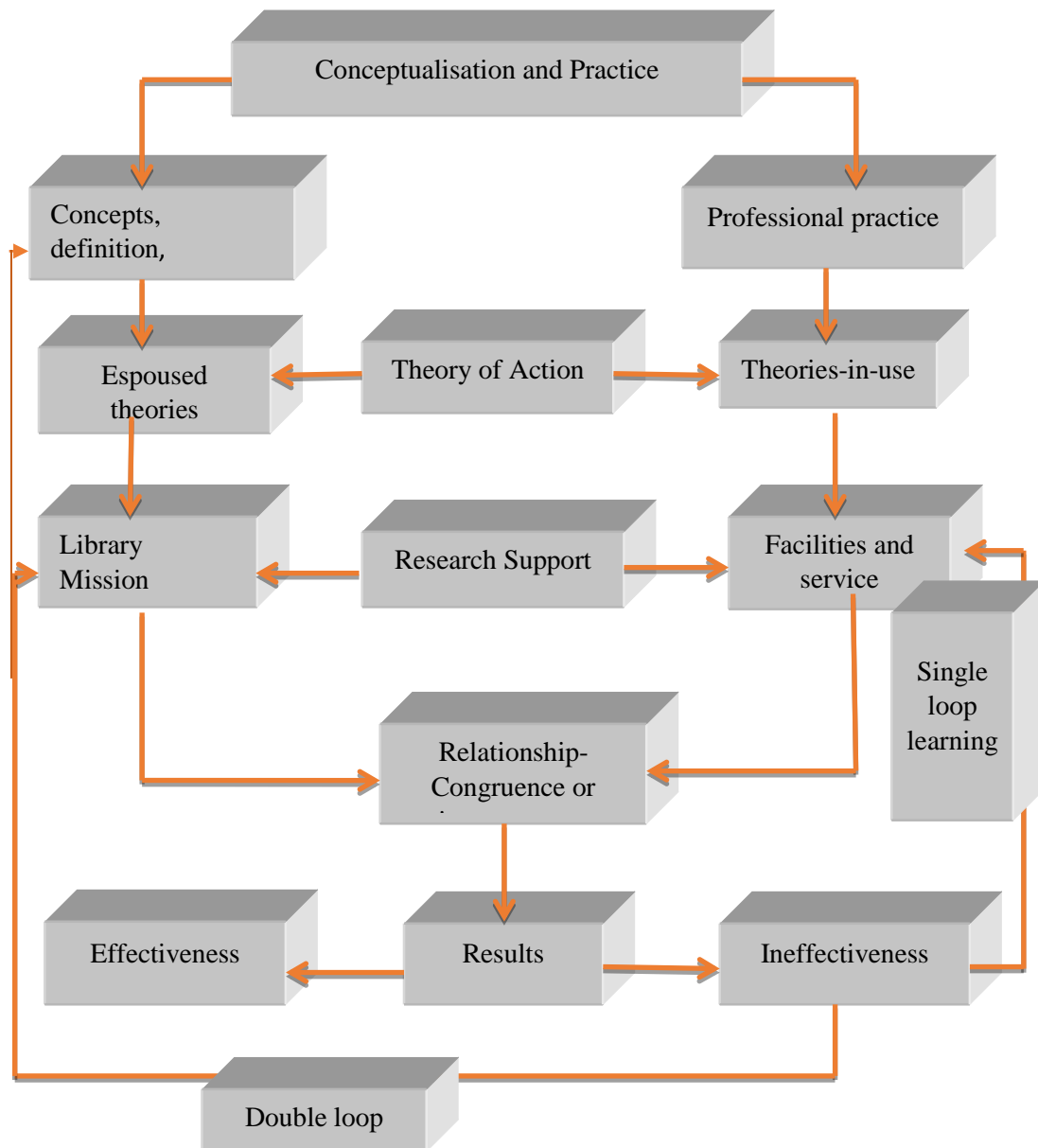


Figure 2.3: Conceptual framework for the study

Source: Researcher (2017)

2.10 Summary of the chapter

The chapter discussed the theoretical framework of the study; Theory of Action: espoused theories and theories-in-use. It started by explaining the role of theory in a study. It demonstrated that theory in general can be distinguished from a theoretical framework which is the structure that holds or supports a theory of a research study. It explained that quantitative researchers use theory differently from qualitative researchers. The Theory of Reflection-in-Action and Transformative Learning Theory were found to be relevant to the study of professional practice. However, the study did not adopt them for various reasons among them their emphasis on individual as opposed to the system. To this end, the study chose the Theory of Action principally for its explanatory power in describing the causes, conditions and variables that lead professionals to be effective and ineffective through its constructs namely theories-in-use, espoused theories, relationships and learning strategies. The theory then informed the conceptual framework developed by the researcher for the study which is hitherto presented as the epilogue of the chapter.

CHAPTER 3

LITERATURE REVIEW

3.0 Introduction

This chapter reviews literature germane to research support. The review of literature is justified by the fact that “knowledge accumulates and that we learn from and build on what others have done” (Newman 2000:446) and that today’s studies build on those of yesterday. To this end, the goal of reviewing literature in this study was manifold. First, it was done to demonstrate a familiarity with knowledge of and around research support and establish credibility thereof and create familiarity with current thinking and research of research support. Another goal was to show the path of prior research on research support and identify gaps in literature and to demonstrate how this study builds to the overall body of research support knowledge. Yet another goal of reviewing literature in this study was to improve the research methodology of the study, bring focus and clarity to the research problem. To achieve this, a review of past literature based upon a concept-centric approach was used. Thus, concepts determine the organising framework of the review. As the study was guided by the Theory of Action - espoused theories and theories-in-use, the literature reviewed is organised using concepts of this theory. Therefore, the review covers literature that addresses mission statements and strategic documents as conveyers of espoused theories and research support services as representative of theories-in-use.

However, it is noteworthy in passing, that some authors take an author-centric approach and essentially present a summary of the relevant articles. Webster and Watson (2002: xvii) warned that this method fails to synthesize the literature. It is Webster and Watson’s (2002: xvii) view that “isolating concepts by unit of analysis should result in a crisper review because it is easier to detect when you let a concept stray outside the scope of its domain”. Saint Mary’s University (2009:2) echoed the same sentiments by noting that grouping themes or concepts of research together, demonstrates the types of topics or concepts that are important in a research. Additionally, Webster and Watson (2002: xvii) recommended the use of tables and figures for communicating major findings and insights. This was done sparingly in this chapter.

To ensure adequate coverage of the relevant literature and for better presentation, the review was closely guided by the research questions of the study which were developed using the theory of choice mentioned earlier. The research questions of the study were as follows:

- i. How is research support conceptually understood by librarians in Zimbabwean universities?
- ii. How is research support practised by librarians in Zimbabwean universities?
- iii. What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?
- iv. What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?
- v. What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support in Zimbabwean universities?

Accordingly, the review begins by looking at concepts, definitions and models of research support; after that it addresses the beliefs, assumptions, debates and challenges surrounding research support as pointed out by scholars. It then tackles mission statements and strategic documents as espoused theories and research support services as representation of theories-in-use. It proceeds to review literature on the relationship between espoused theories and theories-in-use as well as the strategies employed by practitioners in dealing with challenges they encounter. The penultimate section discusses the strategies being employed to deal with new challenges and then closes with a summation of all the salient issues discussed in the Chapter.

The literature reviewed covered publications mostly from 2000 to 2015 but also included some older material of historical or contextual importance. It is noteworthy, in passing, that a scan of the literature showed that there was scanty literature on research support from developing countries, particularly in Africa. From literature accessed, only South Africa, Uganda and Zimbabwe had notable literature on research support. As a result, much of the literature was drawn from developed countries in Europe, Americas and Asia Pacific. Much of the literature was taken from electronic resources in form of refereed journal articles, books, unpublished PhD and masters' dissertation, conferences papers subscribed by the UKZN Library and those freely available online.

3.1. Libraries at the centre of research support

Higher education support environments are fighting for recognition, funding and real estate. Academic libraries, as one of the higher education support environments are striving to get funding and position themselves to provide much needed balance and have their role(s) viewed as integral to teaching, learning and scholarship and student success (Todaro 2007). However, they face tough competition as several support environments bear upon the scholarly life and professional progress of researchers. These environments include principally researchers' own

disciplinary domain, their institution, and the research funding and assessment environments surrounding researchers, affecting and directing their work (MacColl and Jubb 2011:4). Figure 3.1 shows the various forces that bear upon the scholarly life of researchers.

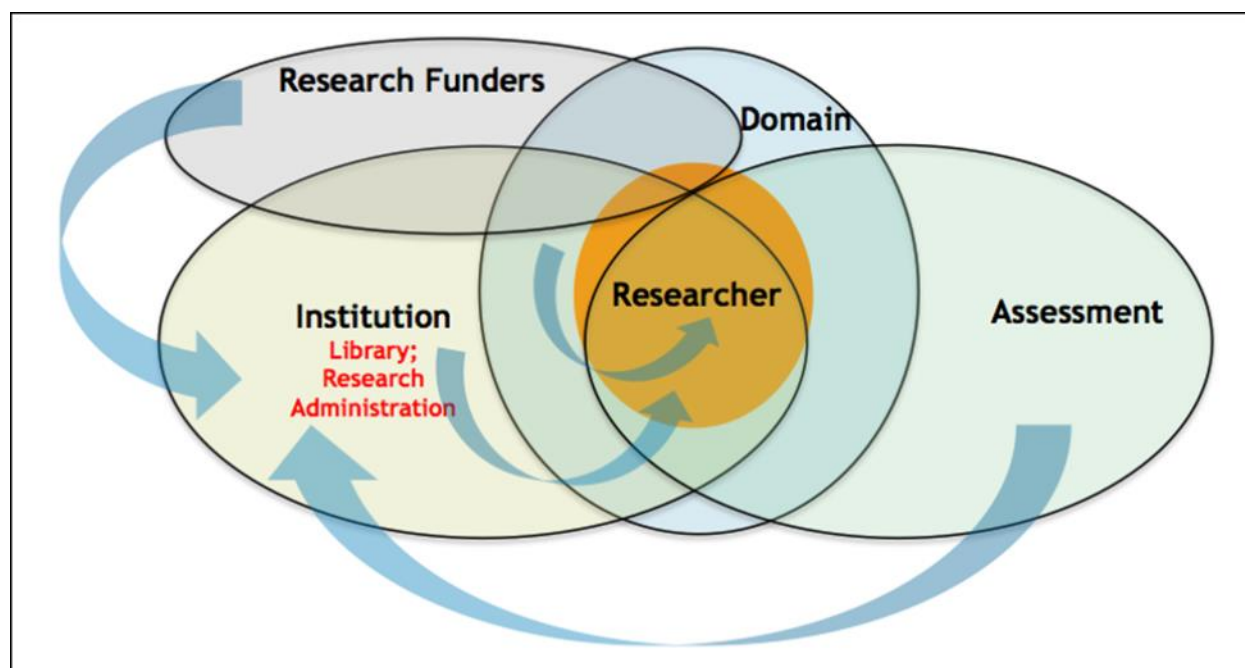


Figure 3.1 Supporting research: environments, administration and libraries

Source: MacColl and Jubb (2011:4).

The arrows in Figure 3.1 represent the forces that currently have strong impact in the scholarly life of researchers. MacColl and Jubb (2011:4) noted that the disciplinary domain acts upon the researcher directly; the assessment and funding environments act upon the institution; and the institution then reacts by acting upon the researcher with requests and requirements—via the research administration and the library. The figure suggests that administration services such as “direct help with or intelligence related to bidding for research funds and work on funding contracts after receipt; work on research strategies and policy; work on collecting and collating data on academics’ research activity; and work on assisting knowledge exchange and transfer”. This can be easily categorised into ‘pre-research’ and ‘post-research’ which academics most readily identify as ‘research support services’ and are not normally associated with the library (MacColl and Jubb 2011:6).

The description of support environments above mirrors the findings of a RIN (2010) project which notes that the library and the research office provide services to researchers from very different perspectives. The report notes that members of staff from the research office tend to be proactive in getting closely involved with researchers in the initial stages of the research

process. Library staff are said to be less proactive in reaching out to researchers with customised information support. However, researchers are not interested in which administrative unit provides what kind of service (MacColl and Jubb 2011:4). Thus, while libraries provide information skills training to researchers, especially doctoral students, many researchers see them as focused more on collection management (RIN 2010:18). As a result, MacColl and Jubb (2011) observed that there is a growing understanding in the library community that it possesses a new set of stewardship responsibilities towards the materials that are generated on campus, particularly those of researchers and academic staff.

3.1.1 Research support: concepts, definitions, approaches and models

Research support has been defined differently by different authors depending on the form and nature of support referred to. Larsen, Dorch, Nyman, Thomsen and Drachen (2010:7), defined research support as "... a service offered to academics at the university to support their role as researchers." They distinguished primary research support services from secondary research support services. Primary research services always concern the research workflow in some manner, and could, for example, be a service regarding publishing or dealing with scientific data. Secondary research services refer to services that do not necessarily concern the research workflow - although they might. These could, for example, be general services, such as "Ask a Librarian".

Parker (2012) defined research support as a set of services and facilities which assist in increasing research productivity and scholarship. A more specific, narrower and library oriented definition is from Institute of Germanic and Romance Studies (2010:1) which defined research support as "the assistance provided by the subject specialists to diverse faculties in the academic community to enhance their research skills". Here research support is for lecturers only and is only provided by subject specialists. A general but library-oriented definition is by Mamtora and Haddow (2015:83) who defined it as the information and services provided by the university library to its research community. A goal oriented definition of research support is provided by Tise (2015:4); who regard it as "a concept that embodies the library's role in contributing to increasing productivity of research and scholarship".

Raju and Schoombec (2013:28) restricted the scope and use of the phrase research support to the new services being offered by academic libraries by defining it as "... the provision of a new and expanded suite of services such as research data management, curation and preservation, facilitation of free access and bibliometric analysis". In this context, the research

librarian is an ‘active partner in the research production process, from the initial stages of engagement with the researcher in the research process to the eventual publication of the thesis or dissertation or research article (Raju and Schoombee 2013). Raju and Schoombee (2013) further expanded the phrase to mean the “proactive engagement of the librarian with the researcher”. Another definition which attempts to capture the new conceptualisation is by Curtin University in Tise (2015) who notes that research support is for the purposes of proactively support the growth and development of research activities by providing high quality resources, supporting research processes, facilitating scholarly communication and promoting research output.

Dissecting through these definitions it is axiomatic that an accurate and precise definition of research support is problematic because of the presence of a multiplicity of players purporting to support researchers. Parker’s definition of research support covers all the supporting environments within the academic community. (Raju and Schoombee 2013; Montora and Haddow 2015; Tise 2015; and Institute of Germanic and Romance Studies 2010:1) point to the fact that research support should be viewed in the context of the library. However, from these definitions there is lack of harmony as to what really constitute research support from the library side as scholars use semantically diverse and broad concepts such ‘contributing to increasing productivity of research’; ‘proactive engagement’; ‘the assistance provided by the subject specialists’ without much elaboration. This lack of specificity and consensus on what constitutes research support in these definitions could aptly have fomented the debates, contradictions and dilemmas encountered in literature and mirrored in practice of research support as demonstrated in Chapter 1.

3.1.2 Evolution of research support services in academic libraries

Academic libraries have for centuries played important roles in supporting research in all subjects and disciplines within their host universities and colleges (Jubb and Green 2007). However, library support for research was more diffuse and identified by its collections (Garner 2006). The shift from print to electronic journals, databases and e-books has witnessed a major shift in the importance of collections as an indicator of support for research (Garner 2006). Traditional practices and services are no longer adequate to support scholars, but “how best to reassess and redefine services, how best to reposition the library within the scholarly enterprise, how best to add new value, remains an ongoing, critical challenge” (Kelley 2013). In the past, Grover and Hale (1988) were among the early scholars to emphasise the need for librarians to move beyond traditional levels of service, and to assume more proactive roles in faculty

research. Research support is a phrase that has been coined to illuminate the new support role the university community gives to researchers, especially support from academic libraries. In the new research landscape, research support has been heralded as an avenue for libraries to move away from 'life support' to a more critical role in the new research landscape (Raju and Schoombbee 2013). Gayton (2008:60), for example, asserts that "the impending death of the traditional library" has resulted in libraries creating new spaces and implementing new services to remain relevant. These new spaces and services are adopted to stave off any continuance of being on 'life support'. Parker (2012) opines that research support is more than the traditional provision of services to assist students and others who are conducting research. Rather than focusing on acquiring the products of scholarship, the library is now an engaged agent supporting and embedded within the processes of scholarship (Parker 2012).

3.1.3 Re-conceptualisation of research support

Academic libraries have traditionally prided them-selves in being the stewards and gatekeepers of scholarly information (Tise, Raju and Adam 2015:2). Traditionally research support in libraries has been viewed as the realm of public services (Hoffman 2016). Reference librarians particularly liaison to academic departments have been viewed as the primary providers of research support, however when considering both the full lifecycle and variety of merging research needs it becomes clear that research support roles are distributed through the library, encompassing technical services, technology support and more, is not limited to librarians but include a variety of staff (Hoffman 2016). The front facing staff and customer service roles maybe the most visible but the work is not complete without considering specialised functional support and the technological backend.

Some of the most visible services have traditionally supported literature review part of the research lifecycle. For example, the library collections make searching the literature possible (Hoffman 2016). The disaggregation of librarians from the search link has forced them to move away from using the term 'research support' to mean providing reference services or prescribed resources for students. There is a shift in the role of the research librarian from a supporter of the research process to a contributor to the process (Raju and Schoombbee 2014:29). The research librarian is an active partner in the research production process, from the initial stages of engagement with the researcher in the research process to the eventual publication of the thesis or dissertation or research article (Raju and Schoombbee 2013:29). The role of a research librarian is to connect the library's contribution to the academic mission of their university with the focus being the researcher as opposed to the whole university (Tise, Raju and Adam

2015:4). The research librarian is an important cog in the research production cycle bringing skills and experiences to the process that will benefit the researcher and the research product (Raju and Schoombbee 2013:29). Librarians are moving into the research space, providing services and support to researchers throughout the research lifecycle. Auckland (2012:16) points out that it is crucial to understand the activities that researchers generally engage in during the research life cycle.

A fashionable way of visualising where services of librarians are required by researchers is through the research lifecycle. The research lifecycle shows the various steps that go into the intellectual work of researchers. The research life cycle moves from preparation, generation, creation, sharing and measurement (Schoombbee 2013; CIBER 2010; Auckland 2012). For each of these steps, there are coordinated support actions where many library services intersect and support researcher's work and where the potential for new services can be identified (Auckland 2012; Hoffman 2016; Schoombbee 2013:16-21). The stages are captured below.

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

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

In **creation** researchers do data analysis, writing edit/proofreading, bibliographic management, comply with copyright and plagiarism.

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

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

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

For each of these steps, there are coordinated support actions where many library services intersect and support researchers' work and where the potential for new services can be identified (Auckland 2012; Hoffman 2016).

3.1.3.1 Library research support around the research lifecycle

Case (2008 in ACRL 2010:47) notes that academic libraries contribute to research productivity in both straightforward and subtle ways. Wiklund (2013) makes the point that using the research life cycle as a model provides an effective map to structure and analyse research activities and develop the support required to flourish in the new research environment. More and more research support scholars are accepting the research life cycle as a theoretical lens for establishing services provided by librarians to researchers, albeit with different stages (Schoombee 2013; CIBER 2010; Auckland 2012; Raju and Schoombee 2013; Vaughan *et al.* 2013; Schoombee 2014; Pasipamire 2015). Research life cycle from these scholars were reconciled and condensed for the purposes of this study. The resulting conceptual model comprises of seven stages: preparation, gathering, creation and preservation, sharing, measuring, commercialisation and emerging technologies.

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

At the **gathering stage**, one of the ways subject librarians are supporting researchers in their information discovery activities is by demonstrating a detailed knowledge of information resources in their subject areas and the skills to efficiently find the resources required and, by providing advice and training to enable researchers to find relevant resources easily (Auckland 2012:19). Libraries also help with citation management by organising and tracking the literature researchers find (Hoffman 2016). According to Auckland (2012:19), many libraries report that subject librarians use traditional means, such as the creation of online guides and tutorials to help researchers learn how to use current information resources, and information literacy sessions of various kinds to support researchers' information discovery needs. However, Auckland (2012:19) notes that there is evidence that the role of subject librarians is being transformed in some libraries to provide more targeted services for researchers, tailored to their specific needs, such as developing effective search strategies, and undertaking literature searches for individual researchers or research teams (Auckland 2012:19). Garner (2006: 2-3) reveals that Australian universities were providing for multi-format scholarly resources, document delivery, online reference services for researchers, training, and support for grants applications as well as provision of physical space for researchers.

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

At the **sharing stage**, Auckland (2012:25) notes that there may be an opportunity for subject librarians to play an advisory role in identifying, promoting and indeed developing virtual networking forums, especially for niche research areas not currently catered for elsewhere. Auckland (2012:25) notes that several participating libraries report that subject librarians already are, or will be, advising and/or training researchers on dissemination and publishing options, including scholarly communication and open access. They are supporting lecturers in understanding and/or utilising new and different dissemination means and helping them to understand open access as a sustainable model of scholarly communication. Raju and Schoombee (2014:34) note advice and support for open access publishing through the open journal system (OJS).

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

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

At the final stage of **emerging technologies**, Auckland (2012:31) points that there is an opportunity for subject librarians to introduce researchers to the potential emerging

technologies such as Web 2.0 applications, text messaging, mobile/phone devices, presentation software, podcasting, and hand-held devices.

Vaughan *et al.* (2013) developed a model as group of five librarians from the University of North Carolina at Chapel Hill (UNC-CH) Health Sciences and Kenan Science Libraries. Each member of the team provided a varying suite of services tailored to their constituencies. This ultimately led to the development of a new service model based on the research lifecycle.

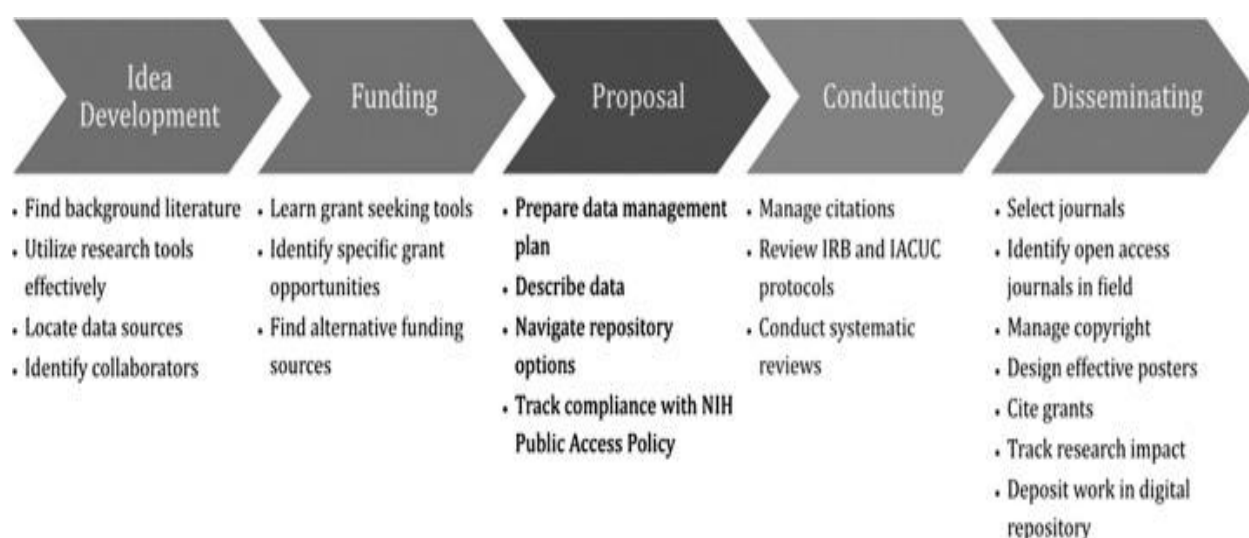


Figure 3.2: Library services across the research lifecycle

Source: Vaughan *et al.* (2013).

The utility of the model was confirmed by users, either through interactive poster sessions or in practice and it was discovered that services offered are user centred: they are presented in terms that users can relate to and understand (Vaughan *et al.* 2013). The data collected from the interactive poster sessions also suggested that scientists and administrators were familiar with services offered at the beginning and end of the research process. When the model was put to test, scientists were surprised to learn that librarians can provide support throughout the entire research lifecycle (Vaughan *et al.* 2013). Scientists and administrators were familiar with library services offered at the beginning and end of the research process. The advantage of the research lifecycle model is that it is flexible enough to change with the needs of the service group and the skills of the librarians (Vaughan *et al.* 2013).

Additionally, Auckland (2012:16) contends that for academic libraries to support researchers effectively research librarians need to be aware of the distinctions between different types of researchers. There are different categories of researchers that can be seen from Bent, Gannon-

Leary and Webb's (2007: 82) Seven Ages Model of the researcher's learning life cycle. The seven ages are listed as follows:

- i. Masters students;
- ii. Doctoral students;
- iii. Contract research staff;
- iv. Early career researchers;
- v. Established academic staff; and
- vi. Senior researchers;
- vii. Experts.

Progression through these different ages is accompanied by a changing attitude to what researchers do and in consequence, there are differing needs at each stage. As confirmed by Auckland (2012:3) researchers are not a homogeneous group, their activities, discourse, approaches to research, and their information needs differ, in relation to their discipline and/or subject and its culture and praxis, and the stage of their career. Researchers have diverse information and related needs depending, for example, on their discipline and the stage of their career.

The heterogeneity of researchers is further seen in a study by Connaway and Dickey (2009 as cited by Auckland 2012:13) who found out that science researchers use digital repositories and social media such as Twitter, while mathematicians and computer scientists are more predisposed to archive their own material, and, like classicists, to disseminate their research outputs themselves. The authors note that social scientists on the other hand are more reluctant to use new technologies, for example, they are less likely to Tweet or use a laptop at a conference.

3.1.4 Approaches to research support in academic libraries

The Association of College and Research Libraries (ACRL), (2012:47) cited Case (2008) who noted that academic libraries contribute to research productivity in both straightforward and subtle ways. Auckland (2012:46) carried out a survey in different libraries in the United States of America (USA), Australia, New Zealand, Canada, Hong Kong and Ireland and went on to construct and identify traditional and modern approaches being used by librarians in support of researchers. Below is a discussion of these models.

3.1.4.1 Tradition approaches

Library support for research has traditionally revolved around information discovery, collection development, and some elements of information management (Auckland 2012). The following models represent this approach.

i. Classical model of deploying subject librarians -Liaison model

In a traditional liaison model, librarians use their subject knowledge to select books and journals and teach guest lectures and instruction in general library research processes for students (Jaguszewski and Williams 2013:4). Auckland (2012) records that one pervasive element of the traditional model in support of research is the design and delivery of information literacy training, liaison with departments; provision of information on the library's web pages through gateways to information and resources for researchers with information about research ethics, research process, and dissemination using tutorials. Librarians can also provide support on one-to-one basis ranging from a pre-arranged consultation to an informal encounter, to discuss and respond to their needs. Librarians can offer face-to-face desk-based enquiry services, and phone or online support, meetings and committees- such as faculty or school research committees, and other support structures supplemented by other informal structures such as personal contacts, research seminars (Auckland 2012).

According to Jaguszewski and Williams (2013:7), this model has enjoyed much success, and deep networks formed across disciplines and academic departments are often genuinely valued by the students and faculty and envied by other campus professionals. Through interviews with administrators at five ARL libraries (Duke University, University of Guelph, Massachusetts Institute of Technology, North Carolina State University, and Purdue University), Jaguszewski and Williams (2013:7) found out that most of the libraries continue to embrace a liaison model in which subject librarians are assigned to academic departments, institutes and research centres.

At the University of Guelph, the liaison model was abandoned altogether in favour of a functional-specialist approach (Jaguszewski and Williams 2013:7). Guelph has 20,000 students and is a small ARL library. They found that the liaison model was not sustainable; they did not have enough liaisons to serve all departments and colleges consistently nor “could the librarians represent all services to a high degree of specialization” (Jaguszewski and Williams 2013:7).

ii. Resources Model

Libraries focused largely on capturing the end products of scholarship (Jaguszewski and Williams 2013:4). Researchers are supported through collection development and information discovery (Auckland 2012). Librarians build electronic collections in the form of journals, books, reports. They build institutional repositories to ensure that intellectual creation of the institution is preserved, easily accessed and shared; they also do interlibrary loans on behalf of researchers.

A survey of academic libraries by Pasipamire (2015) found out that Zimbabwean university libraries were supporting researchers through the traditional approaches of deploying liaison officers to faculties and by building collections.

3.1.4.2 Modern approaches

The modern approach represents research support in a new way and the following models were identified:

i. Engagement and embedding model

Engagement requires an outward focus and support for all processes of instruction and scholarship (Jaguszewski and Williams 2013:4). In this paradigm, Auckland (2012) propounds that librarians are expected to have an understanding of, and support for all the processes of scholarship. This model focuses on outside the library support for researchers where they work at the place of need. Librarians spend time in departments and other university spaces. They are involved in deep interaction with researchers- further upstream in their research. They are involved in conducting research and collaborating with researchers in their project. It requires that librarians build strong relationships with faculty and other campus professionals and establishing collaborative partnerships within and across institutions (Jaguszewski and Williams 2013:4). Subject librarians become embedded in research teams and gain a much deeper understanding of constituent research. Such librarians are characterised by assertiveness and pro-activeness, seeking researchers to discuss services assess needs, help describe and propose solutions (Auckland 2012).

ii. Hybrid Model

In this model, Auckland (2012) advocates academic libraries seek to support researchers by creating new library posts. Jaguszewski and Williams (2013:4) notes that liaisons pair their expertise with that of functional specialists, both within and outside of libraries. These are new research teams in the library. These teams develop research support offerings, for example,

data mining, bibliometrics (Auckland 2012). They are assigned resources dedicated to researchers in order to provide consistent support (Auckland 2012). These functional specialists present a wide range of educational backgrounds and advanced degrees that offer diverse perspectives and broader skill sets, further challenging the concept of who and what a librarian or liaison is (Jaguszewski and Williams 2013:4). The University of Leicester Library created a new research services team that aims to sharpen the library's focus on research support (Rowlands 2012). The new structure brings together specialist bibliometric services, the management and operation of Leicester's institutional repository (with an expanded remit for research data), and the graduate media zoo. The latter is a source of expertise in social media and collaborative working tools (Rowlands 2012). Prior Health Sciences Library at The Ohio State University created a position for a dedicated research librarian in 2004 to better support the organisation's focus on the research mission (Cheek and Bradigan 2010). The newly hired librarian identified comparable positions at other academic health sciences libraries and the roles and responsibilities assigned to these positions to find out how these librarians supported the researchers at their institutions (Cheek and Bradigan 2010).

3.1.4.3 Alternative models of information support for researchers

There are alternative approaches that may bypass traditional library support for researchers. According to Auckland (2012: 72) these come in the form of university posts, departments and initiatives with responsibilities for supporting the information and related needs of researchers. Examples include copyright offices, institutional repository staff, publications services, and researcher training programmes. At Edinburgh, the University's Institute of Academic Development runs a researcher development programme that together transferable skills and HR-related career development for researchers, integrating researcher support along the career development path from research student to research professional (Auckland 2012: 72). The Law Research Service at Melbourne Law School is an interesting model. Discrete research requests from academic staff and academic visitors are completed by law student research assistants, under the supervision of the Law Research Service Manager (Auckland 2012: 72).

Some commercial services are offering added value tools that their customers can use. Ovid, for example, has features explicitly designed to "help streamline key tasks within the research process", including results management features, citation management options, and a dedicated area for creating and managing research projects, and saving articles, citations, images (Auckland 2012: 72). Other organisations provide advice and activities for researchers in areas which subject librarians also provide support and services. According to Auckland (2012:72)

Vita provides resources, advice, information and fora for individual postgraduate researchers and members of research staff who are interested in their professional development and careers.

As a result, Auckland (2012) came up with two alternative models that universities might consider, particularly in the current economic climate. These are shared services and outsourcing.

i. Share services

ARL study designed to scope future library scenarios was cited by Auckland (2012:74) as having observed that many current services, assets and activities in research libraries are not unique to the organisation and are duplicated in other research libraries. The study led them to question how research libraries might create a means to combine efforts to gain the benefits of economies of scale. The Report observes that the scenarios evoked an interest in strategic conversation on what opportunities exist to effectively collaborate and network with other research libraries and opportunities for cross-pollinating research activities and the potential for shared endeavours are also viable strategies (Auckland 2012:74). There are already examples in the United Kingdom (UK) of shared services or partnership working to support researchers, for example, UK Research Reserve (UKRR). Members are developing re-usable online tutorials that can be shared and tailored to meet local needs. In Zimbabwe, universities are subscribing to electronic resources as Zimbabwe University Libraries Consortium (ZULC) so that they enjoy economies of scale and share cost among themselves. This initiative provides expensive academic journals online to institutions in developing countries at a cheaper or affordable price (INASP 2005 in Machimbidza 2014a:7). In 2003, ZULC managed to negotiate access to over 18000 full text and 7000 abstract peer reviewed electronic journals through the International Network for the Availability of Scientific Publications (INASP)'s Programme for the Enhancement of Research Information (PERii) initiative (Machimbidza 2014a:7).

ii. Outsourcing

According to Auckland (2012:74), a CIBER survey of 154 of 835 libraries in a range of sectors worldwide showed that 10.2% showed an interest in outsourcing as a way of dealing with the financial pressures confronting them. This is another potential model that could be used to provide services by librarians to support research, but no evidence emerged during the study that any institutions are considering this option.

3.1.5 Research support role: beliefs; assumptions; debates and concerns

A number of scholars in librarianship have published articles around the role of the librarians in research support in the new higher education and research environment (Jager, Nassimbeni and Crowster 2014; Dempsey 2014; Corral, Kennan and Afzal 2013; Jaguszewski and Williams 2013; Auckland 2012; Anderson 2011; MacColl and Jubb 2011; Hart and Kleinveldt 2011; RLUK 2010; CIBER 2010; Kroll and Forsman 2010; Bourg, Colman and Erway 2009; Cotta-Schønberg 2007; Bent, Gannon-Leary and Webb 2007; Sharifabadi 2006 and Holland 2006). Between these scholars, focus was on the fundamental beliefs, values, assumptions and challenges in the practice of research support. Within, various arguments and contradictions were raised that were considered significant and relevant to this study.

According to Anderson (2011:299) although libraries have moved their products and services (with varying degrees of willingness at first, but now generally with enthusiasm) into the digital environment in which virtually all information-seeking now takes place, still hold many of the traditional organisational structures, practices, and mindsets in an increasingly desperate death-grip. The traditional view is that professional librarians are often scholars or subject specialists who are experts in sourcing material in a range of format (RLUK 2010). According to Anderson (2011:299) it is these beliefs that have taken librarians a very long time to realise, for example, that an e-journal is not just a print journal in a different format; it is a different animal entirely. For many, it remains difficult to acknowledge that even in the print environment; books were more often used as databases than as texts for extended linear reading (regardless of what their authors may have intended). As a result, Anderson (2011:299) points out that librarians continue to view the comprehensive and well-crafted library collection as an end in itself. Despite all the efforts of libraries to move beyond their traditional resource management roles, (Hart and Kleinveldt 2011:40) maintain that academics still value their “infrastructural” role, the management of collections (print and digital), far more than their roles in teaching and research. This was echoed by Special Libraries Association (SLA) who contends that the basic professional tenets of librarianship remain the same while the methods, tools, scope and environment of information delivery continue to change dramatically.

According to Anderson (2011:299) academic library competitors in the marketplace of time and attention have not been saddled with the same legacy of assumptions: Google comprehended quickly that for researchers, much of the value of a printed book lies in its usefulness as a database, and acted accordingly to turn millions of printed books into e-books, thus making them much more effective as databases (Anderson 2011:299). The author added

that “Wikipedia is founded on the belief (largely correct, as it turns out) that crowds both can and will provide high-quality content and metadata to the world at no charge”. Anderson (2011:299) laments that in research libraries we still tend to treat books as if they are primarily tools for linear reading, and metadata records as artisanal products (Anderson 2011:299).

However, many of the functions and structures librarians cling on, play such a marginal role in the real lives of our patrons (Anderson 2011:299). The author went to observe that a picture of libraries being by-passed as the primary source of information support and services is starting to emerge; and it may seem to end-users that libraries are less relevant in the age of electronic delivery, where who provides access to what resources is not clear. The RIN and BL report as cited by Auckland (2012:73) notes “...many life science researchers have removed themselves from the mainstream library user population”. The Report states that researchers do not even use the library catalogue. It notes “conventional university library facilities rank low as a vehicle for accessing published information”. The traditional role of professional information intermediaries has been largely replaced by direct access to online resources, with heavy reliance upon Google to identify them. The majority of researchers interviewed by Kroll and Forsman (2010:5) in their study revealed that they use online tools and commercial services related to their discipline rather than tools provided by their university. In the end, as budgets across higher education are shrinking, some in the academy are questioning the continued value of large academic libraries (Bourg, Colman and Erway 2009:1).

Many library users are thus under the impression that all their information needs can be handled and satisfied by search engines (Thachill 2008). Search engines like Google and Yahoo provide users with free information in a variety of formats, including electronic documents (Thachill 2008). They believe that all information is available free on the web and that this is the information to use thereby bypassing the library as a place to find what they are seeking (RIN and Consortium of Research Libraries in the British Isles 2007). Users are beginning to perceive the library as something used at the end, or at best in the middle, of their information search (Sharifabadi 2006).

When it came to emerging services such as scholarly communications, digital research platforms, curriculum development, and user-experience based service developments the librarians did not have “the depth of expertise needed to partner with faculty at the desired level” (Jaguszewski and Williams 2013:8). Corral, Kennan and Afzal (2013:641) revealed that

development of bibliometrics services and research data management (RDM) services in their library was constrained by the perception that they are not a library role.

Holland (2006:141) argues that a subject librarian who has a broad knowledge of the organisational context in which research is undertaken, who combines this with knowledge of the information sources in the appropriate subject domain and who is skilled in one to one consultations is well placed to provide the informed individual support that researchers need. However, MacColl and Jubb (2011:9) stress that academic libraries face the dilemmas of how to meet *all* the subject domain-specific needs of researchers without employing large numbers of librarians with domain expertise because as some liaison librarians interviewed by MacColl and Jubb (2011:9) already complain of being asked to be a “jack of all trades and master of none” as they were asked by their libraries to serve different subject domains.

Conversely, institutional administrators have disputed the use of subject librarians in the Google age (Jones-Evans 2005). Cotta-Schønberg (2007) reports that their library has moved away from subject specialist roles to general information specialists and stopped recruiting staff with a library-school education and/or relevant subject degree to research librarian positions. This point is vindicated by a study carried out by Corral, Kennan and Afzal (2013:667) which provides unambiguous evidence that in many cases development of the types of specialised research support services investigated are constrained by knowledge and skills gaps among library staff and a lack of confidence surrounding their expected roles in both RDM and bibliometrics. Jager, Nassimbeni and Crowster (2014:2) note that many South African librarians are not equipped with either the skills or the confidence required for positions where active involvement in the research process is expected. They further note that many of these competencies, such as understanding scholarly communication, the importance of data curation and digital preservation, and domain knowledge, were not previously expected of librarians.

One of the things to happen in recent years is that a variety of other campus players are developing service agendas around digital information management that may overlap with library interests (Dempsey 2014). Dempsey adds that this has happened with IT, learning and teaching support. This coincides with another trend, the growing interest in tracking, managing and disclosing the research and learning outputs of the institution: research data, learning materials, expertise profiles, research reports and papers, and so on. Dempsey (2014) concluded that the convergence of these two trends means that the library now has shared interests with the Office of Research, as well as with other campus partners. The UK report as

cited by CIBER (2010) suggests that research offices have been reasonably successful in meeting at least some of the 'before' and 'after' needs of researchers, while libraries have been much less successful; and that libraries have been unable in particular, to colonise any territory in the core phase when researchers are actually doing research.

The literature abounds with reflections and discourses of librarians on the involvement of libraries in upstream research support. There is notable discord and contradictions in the language of LIS professionals as they respond to changes in their environment (Bourg, Colman and Erway 2009; Raju and Schoombee 2013; ACRL 2007; CIBER 2010; Kroll and Forsman 2010; Anderson 2011). Bourg, Colman and Erway (2009:1) observed that while some would argue, on the one hand, that academic libraries are said to be playing an increasingly key role in scholarly research, on the other hand, some fear that they are on the brink of extinction and must change radically to survive. Bourg, Colman and Erway (2009:1) make the point that many academic libraries are providing vital and innovative services and resources in support of emerging forms of research, publishing, and information management. Raju and Schoombee (2013:28) bring the aspect of dynamism of the academic library, in the second decade of the 21st century, as illustrated by the continuous adoption of new philosophies to ensure relevance, effectiveness and efficiency. The library has moved from the 'pull philosophy', that is, drawing the users into the physical entity and rendering a service to those that are in the library to the 'push philosophy' that is, taking the library to the users.

However, ACRL (2007) argues that in pursuing new conceptions of the roles the academic library might play, it runs the risk of alienating what has traditionally been its most important constituency- lecturers. CIBER (2010:15); Kroll and Forsman (2010:5) studies reveal that this new area of mission for libraries seems at best orthogonal, and at worst irrelevant, to the support needs of researchers. This support an earlier assertion that the metric of a library's utility is simply its ability to provide access to books and journals in their field, regardless of cost (ACRL 2007). This is contradicted by MacColl and Jubb (2011:6) who noted that services more traditionally offered by libraries, such as information skills training or copyright awareness are generally not highly regarded. Similarly, Anderson (2011: 299) believe that the academic research libraries, as currently configured, are designed and organised to solve a problem that its patrons no longer perceive: the problem of information scarcity. The author further quipped:

“Students continue to use our libraries in droves, but primarily because libraries often provide the most spacious, comfortable, and well-equipped study space on campus. Offering a better and more academically serious version of the student union is not a bad thing - but by continuing to invest very large portions of our time, energy, and budget in services that are of decreasing value to our clientele at the same time that our sponsoring institutions are coming under increasingly desperate financial pressure, we run the serious risk of having our missions pulled out from under us.”

This is contrary to an ACRL (2006: Changing Roles of Academic and Research Libraries) round table report which notes

“today on the campus of virtually every higher education institution the library occupies a central position. In its placement and prominence, the academic library conveys its integral role in supporting higher education’s core missions of research and education.”

In response to this claim, Vice President of ACRL- Todaro (2007) berated “How I would love this to be the case, but it’s not.”

Most crucially, Bent, Gannon-Leary and Webb (2007: 82) observed that there is a polarisation between what researchers think research is about and what they believe the library can offer them. Many, if not most, researchers prefer to conduct their research in their own way, with as little institutional advice and support – or interference – as possible (RIN 2010:17). Findings reported by MacColl and Jubb (2011:3) noted institutionally-provided research support services are not appreciated by researchers in universities, who consider them marginal at best and burdensome at worst. The two authors further note that researchers are often resistant to services which they feel belong more naturally to their disciplines rather than their institutions, especially where these duplicate existing disciplinary services. Academic staff and researchers are time-poor. They begrudge any time spent on activity which seems to them to serve an administrative need, seeing their job as to perform research, not administration (MacColl and Jubb 2011:3). The researchers want to concentrate on their research with the minimum disruption. They will comply to a limited degree with what they perceive to be bureaucratic intervention in their working lives, because they realise that some of it is necessary.

Researchers have little interest in the support services libraries have built for them in recent years, yet they are aware of support needs that are not being met (MacColl and Jubb (2011:9).

To researchers, services such as institutional repositories serve an administrative need, as far as researchers are concerned, since they lack any essential motivation to deposit their research outputs in them (MacColl and Jubb 2011:3). The fact that this results in a disorganised mess of uncategorised and unsecured research outputs worries librarians but is not a major concern for researchers (MacColl and Jubb 2011:3). Librarians believe that many researchers flounder in a disorganised and rising accumulation of useful findings that may be lost or unavailable when conducting future research (Kroll and Forsman 2010:5). Royal Holloway, University of London found out that researchers are preferred Current Research Information System (CRIS) such as Pure which enables academic staff to easily manage and present their research outputs (Dempsey 2014). Academics are expected to use the Pure system themselves than they had been in the IR, 'because it does more for them'. Pure generates the researcher and departmental research pages of the new website (Dempsey 2014).

Research libraries hold a weak hand when they seek to populate their institutional repositories with the help of researchers as depositors or metadata creators (CIBER 2010:15). Discussions with researchers in a CIBER (2010) study revealed little enthusiasm or awareness of the benefits claimed for institutional repositories. Rather, they tend to be perceived as another burden creating additional work, even in areas where there are well-established and effective subject-based repositories. RIN (2010:18) reports that many researchers are concerned about issues such as the proliferation of versions and copyright infringement, and many are especially worried about the implications of any requirement to make their data freely accessible over the web. Although librarians argue about open access and its role in fighting journal price rises are too abstruse or irrelevant for many researchers. Arguments based upon archival responsibility may be more powerful, but academics see no reason why that is suddenly their problem, when it never has been before (MacColl and Jubb 2011:3).

Researchers have no perception of the huge internal transformation most libraries have undergone in the conversion to digital access (Kroll and Forsman 2010). A study by Online Computer Library Centre (OCLC) (2014:51) found that the library brand remains firmly grounded as the 'book' brand. It went further and pointed out that from 2005 to 2014, the perception of the book brand has cemented. Sixty-nine percent (69%) of online users indicated that their first thought of a library was 'books' in 2005, 75% in both 2010 and 2014. Even as most consumers have moved online for much of their information needs, they continue to strongly associate libraries with the physical, books and buildings. In support of this desperate situations, a discussion with library colleagues about their perceptions of the place of libraries

in a researcher's life Bent, Gannon-Leary and Webb (2007:82) led to, among many, 'hypotheses' that libraries are decreasing in importance to researchers and are more geared to supporting teaching and learning activities. Schönfeld and Housewright (2010) surveyed faculty at several postsecondary institutions concerning their attitudes toward the transition to a digital research environment. Their findings suggest that the availability of today's online collections and tools is making academic libraries increasingly "disintermediated from the discovery process, risking irrelevance in one of its core functional areas" (Schönfeld and Housewright 2010:2).

3.2 Library mission statements and strategic documents as espoused theories

This study explored mission statements, strategic documents and other policy statements of academic libraries in Zimbabwean universities as conveyors of espoused theories.

3.2.1 Mission statements

According to (Aldrich 2007) one means of examining complex organisations such as university libraries is to analyse their mission statements. Du Mont and Du Mont (1981:10) observed that an examination of goals can serve as a starting point in any study of library effectiveness. The authors added that without satisfactory value judgments about the library's mission, time consuming attempts to assess the library's effectiveness are exercises in futility. "... whatever conventional wisdom is related to the library; it is an understanding of libraries as goal-attaining entities that constitutes the unifying conceptualisation" (Du Mont and Du Mont 1981:10). As noted by Kerr (2010:59) a seeming contending voice on the use of missions was that of Hartzell (2002), who stated that mission statements are potentially dangerous since they are taken seriously and used to evaluate libraries, and librarians do not have the power to do what they claim they will do in these statements. Mission statements are forms of organisational discourse or ways of talking about and representing the organisation to its constituencies (Aldrich 2007:9). The mission statement is an institution's formal, public declaration of its purposes and its vision of excellence (Meacham and Gaff 2006; Kerr 2010:53). Grabowski (1981 in Woodrow 2006:313) asserts that a mission statement is a "commitment to a concrete, specific plan with clearly stated priorities". Several terms such as mission, purpose and goals are used interchangeably to mean the same thing. For example, Du Mont and Du Mont (1981:11), discovered that organisation theorists define an organisation goal as "a desired state of affairs which the organization attempts to realise". Here goals are statements of intent which is basically what a mission statement is.

Woodrow (2006) notes that among other reasons mission statements are effective means for an institution to be held accountable to the criteria of its mission as they provide a privileged window for understanding organisations on at least three levels. First, they are usually produced in a top-down process and thus reflect the thinking of organisational leaders. Second, these statements identify activities the organisation considers important. These activities are constitutive of what it means to be such as organisation. Third, future organisational trajectories are suggested by what libraries articulate as their mission. Lewis (2005) distinguishes vision statements from mission by stating that vision statements describe the future while the statement of mission 'is about the here and now'. Meacham and Gaff (2006) believe that an institution must put into practice its prescribed mission.

Mission statements can be divided into three distinct types; macro level, micro level, and meso level mission statements (Aldrich 2007:310). Macro level mission statements are characterised by the use of semantically broad terms and the least number of diverse types of statements. An advantage in using broad and inclusive language is that groups which should receive service are not passed over or ignored (Aldrich 2007:312). Another advantage of broad terms is their strategic ambiguity. Institutions that commit for example to serve the 'university community' can interpret the referent at any point in time as needed (Aldrich 2007:312). Micro level mission statements possess the greatest degree of specificity, using specific and multiple terms to identify aspects of the library's mission (Aldrich 2007:310). Micro level mission statements also feature the greatest number of different statement types. The level of detail featured in micro level mission statements can assist in making claims against the university administration for additional support based upon library and parent institution's stated goals, help in making purchasing decisions, and in shaping future library initiatives (Aldrich 2007:312). Libraries using the micro level approach gain the clarity of purpose with the concomitant danger of becoming overly determinate in identifying purposes (Aldrich 2007:313). Meso level mission statements are positioned between macro and micro levels in the amount of both their semantic and numerical specificity (Aldrich 2007:310).

Mohr (1973 in Du Mont and Du Mont (1981:13) preferred to use the term goals as opposed to mission statements and classifies organisational goals as being of two types: (1) a "transitive, externally oriented, or functional goal; and (2) a reflexive, internally oriented or institutional goal". Transitive goals are developed and are often presented as mission statements (Du Mont and Du Mont 1981:19). Additionally, the authors note reflective and transitive goals reflect the distinction between goals for motivating and directing participants and goals for evaluating

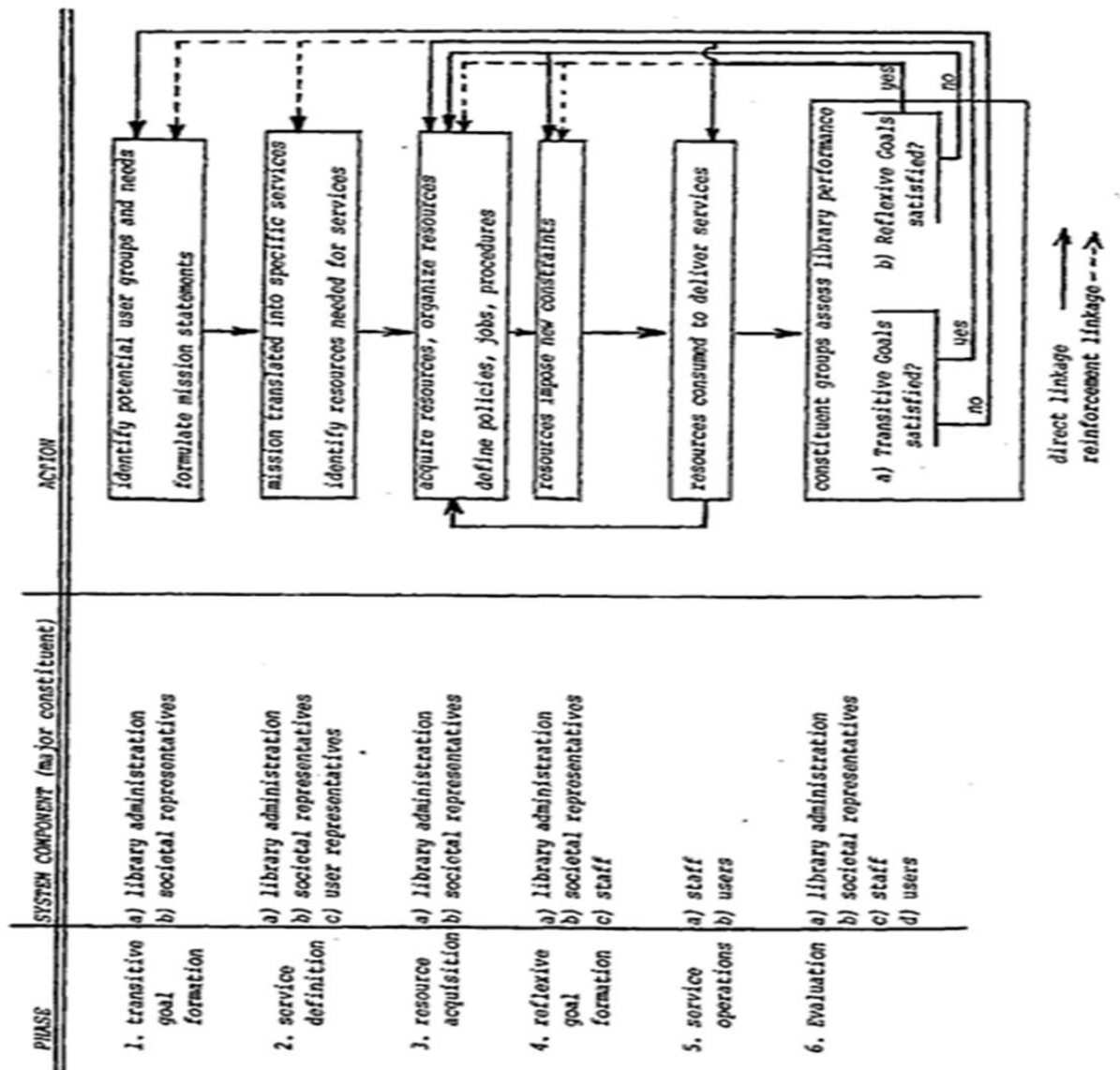
organisational output. Goals of those who attempt to control the organisation (that is, reflexive goals) are very different from the goals of those who attempt to assess its output (that is, transitive goals). Transitive and reflexive goals can be further subdivided for more detailed study. One useful second-level subdivision of organisational goals adapts five main headings: output goals, adaptation goals, management goals, motivation goals, and positional goals.

Output and adaptation goals are primarily transitive in nature (Du Mont and Du Mont 1981:14). The authors went on to explain that output goals are those goals of the library which are reflected in some service intended to affect society and adaptation goals reflect the need for the library to come to terms with its environment. The authors note that both output and adaptation goals reflect the need to attract patrons, to acquire monetary support, secure needed resources, and convince the parent organisation of its contribution. Management, motivational and positional goals are reflexive in nature, primarily established as concessions made to major constituencies. Management goals reflect decisions on who should run the library, the need to handle conflict, and the establishment of priorities for action (Du Mont and Du Mont 1981:14). They further note that motivation goals seek to ensure a high level of satisfaction on the part of staff and patrons, encouraging loyalty to the library (Du Mont and Du Mont 1981:14). Positional goals help to maintain the position of the library in terms of the kind of organisation it is (in comparison with other competing organisations and in the face of trends which could change its character) (Du Mont and Du Mont 1981:14). The authors believe that if a library has little or no transitive goals, output and adaptation are not of major concern. Such a library would be a reflexive organisation, i.e., basically concerned with managerial, motivational and positional factors affecting its staff. In this case, self-interest of internal constituent groups would dominate decision-making evaluation procedures.

There is substantial agreement among organisation theorists that a major component of organisational effectiveness is the idea of outcome (Du Mont and Du Mont 1981:12). An outcome is what an organisation produces or distributes to persons or systems outside of itself (Du Mont and Du Mont 1981:12).

In examining the factors related to library effectiveness the concept of goals is of vital importance (Du Mont and Du Mont 1981:10). To demonstrate the impact of mission/goal statements as espoused theories, Du Mont by Du Mont and Du Mont (1981) developed the System model of library effectiveness (Figure 3.3). The Model shows links of mission statements to library performance. From the model, once the basic missions (transitive goals)

have been established (phase one), services are identified (phase two) which will enable the library to fulfil its mission. The library accumulates funds materials (such as books, etcetera), facilities, equipment, and staff (phase three). Additionally, administrators organise the resources by departments to provide the myriad services previously decided upon according to the model. Phase four (reflexive goal formation) occurs concurrently with the resource acquisition phase. Once resource acquisition and organising have been completed, the library is in a position to provide services to its users (phase five). The library continuously has to replenish its resource base.



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Figure 3.3: System model of library effectiveness

Source: Du Mont and Du Mont (1981)

The model illustrates this feature as a circular process, with the library cycling endlessly through phases 3, 4, and 5. Library effectiveness assessment is the product of the last phase, evaluation. During this phase, the various constituents 'look back' and determine whether their goals have been met satisfactorily. When transitive goals are satisfied, the activities of the

‘resource acquisition’ and service operation phases receive, in effect, a ‘stamp of approval’. In addition, the decisions made during the transitive goal formation and service definition phases are also reinforced as correct. When transitive goals are not satisfied, the library must return to phase one and repeat the entire process (phases 1-6) to discover the cause(s) of failure to satisfy the goals.

Several research studies and discussion papers confirm that mission statements are primary conveyers of espoused values and beliefs (Aldrich 2007; Kerr 2010; Kuchi 2006; Salisbury and Griffis 2014). A study by Aldrich (2007) analysed mission statements produced by Association of Research Libraries (ARL) members located in the United States to discern how university libraries perceive themselves in today’s environment while exposing strategies used in the design of this organisational discourse. Aldrich (2007) found that of the 16 functional categories derived from the different statements, 5 categories were addressed by a majority of the libraries. Table 3.1 shows these top five categories addressed by the majority of the library. The majority of mission statements produced and used by university libraries identified who the primary audiences were to receive service from the library along with identification and specification of the library’s instructional role, research role, access to resources, and collections (Aldrich 2007:306). These categories represented traditional aspects of librarianship such as instruction and research, access to resources, and collection development. Table 3.1 shows part of the results from this study.

Table 3.1: Top 5 functional categories (N = 92)

Primary focus	76 libraries	82.6%
Instructional role	66 libraries	71.4%
Research role	64 libraries	69.5%
Access to resources	50 libraries	54.3%
Collections	47 libraries	51%

Of these libraries, 30 libraries named *faculty* and 29 of these libraries also named *students* as **primary service targets**. There were 14 libraries that identified *students, faculty and staff* as primary service targets. *Information literacy* was singled out by 18 libraries and *education* singled out by 26 libraries. An additional 14 libraries identified both *information literacy* and

education as **instructional roles**. **Research roles** were identified in 64 library mission statements. The term *research* was identified by 43 libraries, *discovery* identified by 29 libraries, and *scholarly communication* identified by 13 libraries. **Access to resources** was identified by 50 libraries. The term *access* or a phrasing implying access was mentioned by 21 libraries without any further elaboration. An additional 10 libraries identify *effective access* to resources. The remaining 19 libraries identified a combination of access including links to remote resources. Just over 51% or 47 university libraries in the study addressed **collections** as a functional role in their mission statements.

Aldrich (2007) went further and analysed the aggregated mission statements at macro, meso and micro levels. The author found out that 30 libraries had macro level mission statements, 34 libraries had meso level mission statements and 28 libraries had micro level mission statements. Analysis of these revealed that macro, meso, and micro level mission statements were similar in their inclusion of broad based nouns that identify their primary audiences. However, they differed considerably in the percentages of nouns used to identify specific audiences such as students, faculty, and staff with the greater specificity belonging to the micro level mission statements. This clear pattern of increased specificity occurred across 12 of the 16 functional categories.

Kuchi (2006) conducted exploratory content analysis of web sites of 111 members of the ARL to gain insights into practices of communicating library mission. The study examined available websites of the institutions and found that 78% of libraries had a mission statement on their website. Despite this growing number, the study found that most libraries did not communicate their mission effectively since links to mission statements were not visible on web pages. The author questioned the importance of the mission statement to stakeholders of the library and the overall culture of libraries in relation to the use of mission statements. Salisbury and Griffis (2014) repeated Kuchi's 2006 study and analysed the web sites of 113 ARL members. The authors were surprised at the relatively small increase in the availability of mission statements in the ten years from Kuchi's data collection to our data collection. They found that only 87 of 111 in Kuchi's study; 95 of 113 in their study. Deeper analysis by the authors revealed that while the overall availability of mission statements may not have increased substantially, libraries have taken steps to make such information more accessible to stakeholders. For instance, while in 2004 Kuchi found only one web site with a direct link to the mission statement, Salisbury and Griffis (2014) located 16 libraries which provided access to the mission statement in a single click. Further, they found that a small number of libraries made

use of a slogan on their main web page demonstrated another method of communicating their mission to stakeholders in a highly-accessible format.

Shires 2006 as cited by Aldrich (2007:305) identifying the relationship between academic libraries and service to the public in Florida and concluded that academic libraries focus their attention and resources mostly on direct or affiliated users who are students, faculty, or staff. Academic libraries at all levels identified technology as a key influence for the future, yet many libraries fail to identify technological roles in their mission statements. Technology is also linked to critical information skills identified by many libraries which strengthen this call for locating technology statements within academic library mission documents.

Mathieu 1993 in Aldrich (2007:305) examined mission statements of 83 private colleges located in the Midwestern United States, focusing on how these colleges incorporated location characteristics, that is, rural or urban, as part of their missions. Matthieu concluded these organisations were similar in ignoring distinctive characteristics of the environment. Brophy 1991 as reported by Aldrich (2007:305) analysed academic library mission statements in the UK, pointing out that the rhetorical process of designing these statements is as important as having them in previously unexamined goals and agendas were made visible and available for examination. Best-Nichols 1993 as cited by Aldrich (2007:305) studied 11 publicly supported academic libraries in North Carolina to see whether these libraries identified their local communities as audiences targeted to receive support.

3.2.2 Strategic plans

Strategic documents of libraries can also be conveyors of espoused theories. Strategic planning is a systematic process implemented by research-led universities because of its practical advantages such as increase in effective services, user satisfaction improvement, and organisational development (Corrall 2000). Matthews (2005) sees the plan, not as an end result, but as a moving vehicle to keep the library's mission, vision and strategic plans in sync and aligned to current realities. University libraries benefit from strategic planning by responding to the drastically changing circumstances that they face (Sriborisutsakul 2006). Plans tailored to a specific library are invaluable instruments that help a library to chart and navigate these turbulent times (Wayne 2011:12). As noted by Raju and Schoombee (2013:32) strategic actions of a library contribute significantly to the implementation of new services to support research. As universities begin to place more emphasis on research, academic libraries are also publishing their own research strategies and agendas. Raju and Schoombee (2013:32) found

out that Stellenbosch University Library and Information Service's strategic plan, Strategic Directions 2010-2015 (SULIS 2010) addressed specific aspects of research support such as scholarly publication and open access, research performance management and publication support. The creation, growth and development of the research commons form a significant component of the Strategic Directions 2010-2015 (SULIS 2010) of the Library. The two strategic goals of the Stellenbosch University Library and Information Service were to:

- Developing the Library as a vibrant and inviting physical and virtual space that promotes collaboration, social networking, as well as private study and reflection; and
- Supporting, developing and contributing to high-level scholarly publication output and sharing research data and results with the rest of the world, especially with researchers from the developing world via various open access initiatives (SULIS 2010 cited by Raju and Schoombee 2013:32).

The Victoria University Library's strategic plans had broad thematic goals, including support for Research (Library Research Support Strategy 2012-2015). The strategic goals were re-defined to reflect updated principles guiding how the Library delivers services and support to the University community. The principles informed the formulation of the strategic goals for the Library for the period 2012-2015:

1. Client-centred service delivery;
2. Promotion, marketing and communication;
3. Tailored and focused services, spaces and resources;
4. Developing Library staff;
5. Quality and evaluation;
6. Embracing of technology to deliver services, support and resources; and
7. Future focused and looking outwards (Library Research Support Strategy, 2012-2015).

A study by McNicol (2005) which investigated strategic planning in UK academic libraries using literature, documentation review, followed by interviews with academic library directors and senior institutional managers found out that some directors were deliberately choosing to structure their library plans around terms such as 'supporting teaching' and 'supporting research' rather than the more traditional way in which library plans have been structured, using headings such as 'collection development' and 'ICT'. In addition, the author revealed

that a number of directors mentioned particular areas of their institution's strategic plans which they felt the library had significant contribution to make. These included: teaching and learning (especially in relation to e-learning, ICT, accessibility and working with academic departments); research; effective use of ICT and e-learning; widening participation and improving the student experience; the regional agenda; staff development; knowledge transfer; resource planning; quality issues; and overseas links.

Sriborisutsakul (2006) sought to identify current trends in strategic planning of 9 UK leading academic libraries. A comparison of the strategic plans revealed that all libraries set a short span of just three to five years. Comparable results were found by Corral (2000: 148) who observed published documents and found that the libraries have tended to shorten time spans of their strategic implementation in recent years. Some core components of nine library plans vary evidently, depending on the objectives of their parent organisations and user needs. Key differences reveal that the libraries missions and goals of Cambridge University and Imperial College London intended to extend their services and collections towards world-class level. The University libraries of Sheffield, University College London and King's College London emphasise that their best practices include user instruction, organisation of information as well as technical services respectively. Newcastle University and Sussex University libraries were to develop systems of performance measurement and personnel assessment while the libraries of Oxford University and Edinburgh University were planning for income generation (Sriborisutsakul 2006:20).

3.3 Research support practice

Kerr (2010: 312) reiterated a point by Argyris and Schön 1974 that persons should not simply be asked about their theories-in-use since responses sometimes reflect espoused theories, what people and institutions would like to do. Theories-in-use must be inferred from behaviour or representations of action and practice. In this study service offered to researchers were considered representation of theories-in-use.

3.3.1 Research support service as representation of theories-in-use

Academic libraries support researchers and increasingly participate in the research process by providing a widening range of research data management, vices viz bibliometrics, institutional repositories, publishing (OCLC 2010). A study by Kennan, Corral and Afzal (2014:667) showed that researchers need research support services from libraries. The authors found out that the greatest area of demand was research data management (18), followed by data curation

(11), bibliometrics and related services such as citation analyses, altmetrics, and impact measures (10), systematic reviews and/or literature searching (7) and digitization of archives, records or data (4). Conversely, Richardson *et al.* (2012) observed that library support is strongest in areas in which libraries have already been involved for some time: research impact (particularly bibliometrics), bibliographic management, research collection development, and institutional repositories.

3.3.2 Research commons services

Research commons, are an innovation that has been mooted to cater for the 21st century research environment. It provides a flexible, technology-enabled space for postgraduate students and researchers and supports collaboration between students and academics, and between researchers and research communities (Raju and Schoombee 2013:33). Research commons are spaces with the technology and design that emphasise knowledge creation. It is a physical presence that integrates network, computer hardware facilities and information available in multiple formats; an open, free, beautiful, convenient, comfortable, flexible and functional place where users can self-study, group discuss, creatively work, interactively communicate, and socialise (Yao, Liu and Cai 2009). In a fully-fledged research common Schoombee (2013) found the following facilities and equipment:

- **Spaces** – desk space, discussion rooms, lounge, white boards;
- **Equipment** - laptops, video conferencing, iPads, recording devices;
- **Utilities** - wireless, lockers, printing, photocopying, scanning, coffee; and
- **Reference collection** - Research methodology, Scientific writing skills, Reference techniques, Dictionaries.

A study done by Mazhude (2015) in Zimbabwe reveals that since the University of Zimbabwe (UZ) research commons was established in 2013 the facility was characterised by low usage. The statistics from UZ Reader Services department 2013 annual report are recorded in Table 3.2 .

Table 3.2: Research commons usage statistics 2013

Month	Usage statistics
January	2
February	3
March	3
April	5
May	1
June	Vacation
July	Vacation
August	Vacation
September	14
October	21
November	35
December	14 Vacation

Source: Mazhude (2015)

Mazhude (2015) observed that the UZ library sometimes does not embark on marketing drives for its services. These statistics differ from Daniels; Darch; and De Jager (2010:15) who found out that research common at University of Cape Town in South Africa was well-used and well-liked by researchers. The Hong Kong University of Science and Technology acknowledged that the concept of research commons in the Library was rather fresh such that library staff knew little about how users would respond to it and what complexities and challenges lay ahead (Daniels, Darch and DeJager 2010).

3.3.3 Research data management services

Research data management is a demand originating from technical change, funder and institutional requirements and ethical considerations in the e-data era. It underpins current and future research, funder mandates, open access initiatives, researcher reputations and institutional ranking. Corral, Kennan and Afzal (2013:642) citing various authors noted that case studies of library engagement in research data management began to emerge in 2000 when Library Trends published a special issue on institutional repositories that described library efforts to include research datasets in their archiving at Johns Hopkins University, Purdue University, and the University of Minnesota. OCLC (2010) revealed that academic libraries are increasingly playing a key role of data curation for both university and their researchers. Curation of institutional research assets include digitalising special collections, research data, and researcher profiles (OCLC 2010). Tenopir, Birch and Allard (2012) uphold that academic research librarians are the most appropriately equipped to provide required research data services such as data management planning, digital curation (selection, preservation,

maintenance and archiving), and metadata creation and conversion. Corral, Kennan and Afzal (2013:654) expanded the list to include:

- ✓ Assistance to use available technology, infrastructure, and tools;
- ✓ Guidance on the handling and management of unpublished research;
- ✓ data, for example data literacy education and/or training;
- ✓ Support for data deposit in an institutional repository;
- ✓ Support for data deposit in external repositories or data archives;
- ✓ Finding relevant external data sets;
- ✓ Technical aspects of digital curation;
- ✓ Developing data management plans;
- ✓ Developing tools to assist researchers manage their data; and
- ✓ Development of institutional policy to manage data.

Keller (2015:78) discovered that Australian libraries were taking a leading role in the area of research data management. Keller further revealed that Australian National Data Service (ANDS) had given the movement a kickstart that was lacking in most other nations, taking a central approach from the start by promoting and enforcing standards, encouraging sharing of experience and expertise, and broadening participation and involvement.

A survey Tenopir, Birch and Allard (2012) of a cross section of academic library members of the Association of College and Research Libraries (ACRL) in the United States and Canada found out that only a small minority of academic libraries in the United States and Canada offer research data services (RDS). Creating web guides to help locate data was the most commonly offered service.

Comparable findings were obtained in other regions through a study by (Corral, Kennan and Afzal 2013:654). The authors used online multiple-choice questionnaire to 140 libraries in Australia, New Zealand, Ireland, and the United Kingdom (UK), and confirmed that fewer libraries currently offer RDM services. From the study, UK libraries featured more strongly with a higher proportion than other countries offering support in two areas: assistance with technology, infrastructure, and tools; and finding external datasets. The authors found that only a small proportion of libraries were offering guidance on the handling and management of unpublished research data (none in Ireland, only two [25%] in New Zealand, eleven [14.3%] in the UK, and nine [25.7%] in Australia); but many more libraries were planning to offer such support in the future (37.5% in Ireland, 50% in New Zealand, 42.9% in the United Kingdom,

and 60% in Australia). Most of the libraries surveyed identified individual academic and research staff (that is, faculty members and postdoctoral or contract researchers) as the primary current users of bibliometric and RDM services, followed by higher-degree research students (that is, postgraduate research students), except for libraries in New Zealand, which prioritised research students in the case of RDM.

A study by Raju and Schoombee (2013:35) at Stellenbosch University Library and Information Service revealed that data management and curation services were seriously lagging as compared to international practice. From the literature accessed no study was found that looked at research data management in Zimbabwean academic libraries.

3.3.4 Bibliometrics services

Library engagement in bibliometric activities can be traced back to the 1970s, when the focus was on using citation analysis and related techniques in collection building, management, and assessment, especially for journals (Corrall, Kennan and Afzal 2013:641). The focus has shifted from informing library decisions on selection and evaluation of printed materials and electronic resources to supporting the analysis and assessment of research output at individual, departmental, and institutional levels (Gumpenberger *et al.* 2012 in Corrall, Kennan and Afzal 2013:641). Bibliometrics is the statistical analysis of bibliographic data, commonly focusing on citation analysis of research outputs and publications, that is, how many times research outputs and publications are cited (University of Leeds 2014).

Raju and Schoombee (2013) make the point that bibliometrics provides evidence for assessing research quality. It provides the basis for understanding the impact of the research output and makes provision for the understanding of new trends in scholarly communication through articles and their references (Raju and Schoombee 2013:31). Drummond and Wartho (2009:79) maintain that bibliometric analysis has been identified as a new business area for librarians.

An online multiple-choice questionnaire was used by Corrall, Kennan and Afzal (2013) to survey bibliometric and data support activities of 140 libraries in Australia, New Zealand, Ireland, and the UK, including current and planned services, target audiences, service constraints, and staff training needs. They found out that majority of respondents offered or planned bibliometrics training, citation reports, and impact calculations but with significant differences between countries.

Rather than just explaining what an h-index is, Australian libraries take a more holistic approach and cover the relevance of all elements in the research cycle and their effect on the research impact (Keller 2015:77).

In South Africa, Raju and Schoombee (2013) found research impact measurement was supported in a very limited way at Stellenbosch University. The authors noted that researchers were assisted with using metrics to support decision-making about where to publish. They further stated that faculty librarians assisted with queries related to h-index, journal impact factor and journal citation reports. A study by Pasipamire (2015) in four state universities libraries found that at the measurement stage of research life cycle where librarians were expected to do citation analysis, publication counts and h-indexing, all 16 subject librarians did not report any activities being undertaken.

3.3.5 Open access- institutional repository services

Institutional repositories are digital collections of the outputs created within a university or research institution (Enabling Open Scholarship (EOS) n.d). According to Chan, (2004) the institutional repository (IR), a university-based digital-asset management system, is fast emerging as a key component of open access (OA). Some proponents of the open access movement see the IR or the open-access archive as the most cost-effective and immediate route to providing maximal access to the results of publicly funded research thereby maximising the potential research impact of these publications (Harnad 2001 in Chan 2004). Whilst the purposes of repositories may vary (for example, some universities have teaching/learning repositories for educational materials), in most cases they are established to provide Open Access to the institution's research output (EOS n.d). Lee-Hwa, Abrizah and Noorhidawati (2012) in Raju (2013:30) discovered that open access to research makes researchers more productive and research more effective.

The institutional repository is an exemplar of a (usually library-based) research support service. It suits the needs of both researchers – in providing a single place to manage all of their publications – and the university, as a comprehensive record of its research output (Parker 2012). To assist researchers with disseminating the results of their research through scholarly channels, libraries are increasingly offering the research community a publishing service (Raju and Schoombee 2013). A significant spin-off of open access is that it influences the h-index of the author (measuring author impact) and the ranking of institutions (Raju and Schoombee 2013:31). It is acknowledged that institutional repositories (IRs) have been a mixed success.

One reason for this is that they are to one side of researcher workflows, and not necessarily aligned with researcher incentives (Dempsey 2014). Basefsky (2009:1) argues that the concept of the institutional repository (IR) is too narrowly focused to develop the value that universities should be extracting from its existence. The concept of an IR needs to be expanded to include the integration of the processes that transform intellectual endeavour into a broadening array of academic and research support services which are fundamentally social (Basefsky 2009).

Lynch and Lippincott (2005) on behalf of the Coalition for Networked Information (CNI) surveyed its 124 academic member institutions to examine the state of institutional repositories (IRs) in the US. In addition, they sent the survey to a group of 81 liberal arts colleges that have a consortia membership in CNI. Of the 38 respondents to the question requesting information on the software the institutions were using for their repositories, 22 (58%) indicated that they were using DSpace. The next highest number was for Bepress, with 8 institutions (21%). Other software mentioned, used by less than five respondents each, included Content DM, the Virginia Tech-developed ETD software, DigiTool, and locally developed systems. The institutional repositories are home to e-prints and electronic theses and dissertations, but digitalised special collections materials, multimedia, course materials, datasets, Conference proceedings, conference presentations, for example PowerPoint (PPT) slides, Tech reports/working papers, e-books, journals newspapers (born digital).

Raju *et al.* (2012) carried out a case study focusing on the contribution of Stellenbosch University (SU) to the African research agenda through making its research output available via two different publishing models. The first model used was the hosting and preservation of its research output via an institutional repository (the green route to open access). The second model used was the hosting and publishing open access journals, following one of two 'streams' in the gold route. In 2007, SU via its Senate, had taken the bold step of making it mandatory for graduating students to submit (as of 2008) all theses and dissertations into the repository. The Stellenbosch library was reliant on the DSpace software which had localised preservation capabilities. The theses and dissertations repository grew into a much bigger repository now called SUNScholar. This repository (SUNScholar) was populated with a much wider range of materials which includes inaugural addresses, conference proceedings and published journal articles. To support researchers who prefer to publish with 'for profit' vendors, the Stellenbosch library created an 'open access publishing fund'. The Open Access Fund was used to support SU researchers publishing in open access journals. SU became the first academic institution in South Africa and on the continent to formally offer its academic

staff a comprehensive service to publish their research output using an open source publishing platform.

Australian institutional repositories present a unique case because the Australian government was pivotal in supporting the development of institutional repositories in Australia as reported by Kennan and Kingsley (2009). A survey of all 39 Australian universities conducted in 2008 by Kennan and Kingsley (2009) showed that 32 institutions had active repositories and estimated that by end of 2009, 37 would have repositories. The authors note that with few exceptions, the institutional repositories in Australia were the responsibility of the institution's library. In addition, it was discovered that in five universities the repositories fell under the umbrella of the division of information, which incorporated information technology and the Library. Three others indicated the repository was jointly shared by the library and research. In some institutions, responsibility for the repository was shared amongst several organisational units, for example, one stated that the library was responsible for metadata, the research support office for policy and ICTs for the server, and another indicated the library works in collaboration with research services and the information technology director. Only five universities mandated deposit of their research output in the form of author's versions of peer reviewed output, twenty mandated that research students deposit theses in the IR. And despite the Government's increasingly clear indications of support of open access and mandates, only nine institutions indicated they were planning a mandate, and only 20 institutions indicated that at the time of the survey they were not. Most repositories relied on individual approaches to researchers by repository staff and voluntary contributions to repositories. Table 3.3 shows the methods used by Australian institutional repositories for recruiting content.

Table 3.3 Methods of recruiting content for Australian institutional repositories

Recruitment method	Yes	No	Planned	Total responses
Voluntary contributions	26	3	8	37
Publicity about the institutional	21	2	12	35
Presentations by repository staff	26	1	9	36
Presentations by liaison librarians	15	6	13	34
Individual approaches by repository	28	2	7	37
Individual approaches by liaison	21	5	8	34
Mandate requiring deposit — theses	20	6	10	36
Mandate requiring deposit — other	5	21	8	34
Tied in with HERDC reporting	15	2	19	36
Ingesting content from pre-existing	19	10	6	35
Other	9		2	11

Source: Kennan and Kingsley (2009)

Machimbidza (2014b) carried out a study in Zimbabwe which addressed the attitudes of academics towards the institutional repository after observing a low deposition rate at the National University of Science and Technology (NUST). From the study, a total of 194 deposits had been done from a total of 281 academics. A cross sectional survey which was carried out revealed that academics were willing to deposit in the institutional repository. However, academics felt that lack of reward upon submitting their works was the major reason for not depositing. It was discovered that the attitude was generally positive. The type of material they were willing to be contribute was conference papers (67.4%). This corresponded to the type of material found in the institutional repository. The type of materials which were least contributed include audio materials and pre-print/post prints.

3.3.6 Partnerships/collaborations

Collaborative work is a growing trend in higher education (Ford and Zeigen 2013:3). The increasingly competitive research environment demands greater collaboration across disciplines, institutional, and national boundaries (Auckland 2012). University libraries are a natural point for connecting researchers across disciplines since library resources and services enable and support their work (Sadvari, Mandernach and Agnoli n.d). The very use of the term ‘liaison’ by librarians suggest of connection with academic departments, suggests collaboration and partnership with lecturers (Jaguszewski and Williams (2013). Sadvari, Mandernach and Agnoli (n.d) contend that building strong partnerships between library faculty/staff and

research development professionals (RDPs), both groups are better able to support their common goal of advancing research, fostering interdisciplinary collaboration, and introducing emerging tools (for example, funding databases) to the campus community.

The library forms partnerships with key stakeholders to ensure consistent and high-quality support for research (Corral 2014:19). Posner (2013 as cited by Corral 2014:19) argues that contemporary digital humanities projects “do not need supporters – they need collaborators”, explaining that libraries need to provide both infrastructure (tools, servers, etcetera) and ‘intellectual labour’ (knowledgeable librarians). Libraries enhance research support by developing customised support services and, where appropriate, embedding information specialists, with discipline-specific expertise, in departments and research centres/teams (Parker 2012).

Through interviews with administrators of five ARL libraries, Jaguszewski and Williams (2013) reported that librarians noted an increased focus on supporting interdisciplinary research, assisting lecturers and researchers who are branching out into new disciplines but were unfamiliar with key articles, core journals, and potential collaborators. It was further revealed that liaisons were playing a role in shortening their learning curve and connecting them directly with the information and resources they need. Liaisons can “see linkages and connect researchers across disciplines” (Jaguszewski and Williams 2013:9). For many libraries, offering support for interdisciplinary research was one of many responsibilities in a liaison’s repertoire. Campuses are also focused on implementing a variety of expertise databases, such as VIVO, Profiles and SciVal Experts, to facilitate the identification of discipline-specific researchers and enhance collaboration; and at a number of institutions libraries are supporting these initiatives with everything from funding to workshops to creating faculty profiles.

A network of strong partnerships was established at Ohio State University which included research support units in the University Libraries, the Office of Research and partners across campus (Sadvari, Mandernach and Agnoli n.d).

3.3.7 Digital collections

A digital collection is any set of documents or multimedia pieces (for example, images, audiofiles, videos, etcetera) gathered and presented online for the purposes of exchanging resources and ideas (Rockman, Puckett and Bass 2008). Increasingly, libraries and museums are digitalising their collections art, history, and music to allow broader and more diverse

public to enjoy and use them for research and learning (Rockman, Puckett and Bass 2008). Digital collections also offer new venues for research and teaching in schools; in the university context, these collections allow students and faculty to share academic scholarship across their campuses and beyond (Rockman, Puckett and Bass 2008). According to (RIN and CURL 2007:38) researchers recognise that utilising the content of journals is now much easier than it used to be, and there is a similar leap in utility with digital monographs and research texts.

The report by RIN and CURL (2007:38) stated that researchers would like to see grey literature and special collections delivered in digital form. Around 80% of librarians who responded to the RIN and CURL (2007) survey reported increases in the provision of journals in science, technology and medicine, as well as in the social sciences. The survey results indicate that the majority of libraries in the UK now offer electronic versions of textbooks and reference sources: 73% of respondents reported an increase in provision of electronic textbooks and 72% an increase for reference sources during the past three years. In contrast, just 44% said that provision of special collection material has increased during the same period. In the survey researchers were asked about their views and usage of digital archival or special collection material. Nearly 40% of researchers find digitalised archives to be 'very useful' (19%) or 'useful' (20%). The view from librarians, however, was that such archives were not particularly well used by researchers: the biggest group of librarians (33%) said the use of digitalised archives was 'moderate'; only a small minority said receives 'very heavy' (4%) or 'heavy' (10.5%) use. Digitalised special collections were used by nearly one third of researchers: 15% characterised them as being 'very useful' and an additional 15% say they were 'useful'.

Lecturers and students are creating their own digital collections rather than rely on the library. A study by Rockman, Puckett and Bass (2008) to better understanding why lecturers, graduate students, undergraduates do not choose to use and create digital collections and the factors influencing their decisions found out that lecturers appeared to be influenced by a vision of how to use digital collections in their teaching and research, and by the availability of materials that met their needs. One respondent had the support of the department and field to conduct innovative research using digital collections, while others' involvement is limited to generating content for university and teaching. It is this perception of their respective academic fields that influence which research sources are appropriate, that differentiates their use of digital collections.

One graduate student as reported in the study noted that digital collections helped her to bring together multiple pieces of information about artifacts to facilitate their interpretation and distribution. For example, the student was able to link images to field notes and to expert interviews about the interpretations of the artifacts. This in turn enabled her and other researchers to cross-reference information and guide analyses.

From the literature accessed, no study was found in Africa to have addressed digital collections.

3.3.8 Research skills training

According to Richardson *et al.* (2012) libraries provide individual consultations, workshops, and support materials to support research skills training. Topics covered include advanced information retrieval, assistance with writing literature reviews, using bibliographic management software, cited reference searching, current awareness services, creating publication strategies, monitoring research impact, research data management and tools to facilitate collaboration (Richardson *et al.* 2012).

A survey by Richardson *et al.* (2012) of member libraries of the Queensland University Libraries Office of Cooperation (QULOC) discovered that libraries provide one-on-one research training sessions (by request). Fifty four percent (54%) of the member libraries offered researcher training workshops involving more specific sessions such as measuring research impact; scholarly publishing; and research data management. Queensland University of Technology (QUT) library provided a compulsory 4 credit point unit for PhD students. Fifty four percent (54%) reported that they provide online researcher skills tutorials or guides.

From the literature accessed, no study was found in Africa addressing research skills training.

3.3.9 Web services for researchers

To address competitive threats, academic libraries are building robust websites personalised to learning and research tasks (Detlor and Lewis 2006:251). The authors added that embedding library resources and services directly in the scholarly work process, library websites give academic libraries the leverage and ammunition they need to outperform competitor websites and regain the loyalty of students, teachers, and researchers alike. Robust library websites can include broadcast search tools, electronic reference services (for example, Ask A Librarian), personalisation features (for example customised home pages, virtual bookshelves), and enriched content (for example, author biographies, book reviews, tables of content, book covers) (Detlor and Lewis 2006:251). The authors added that websites can also support virtual communities. As such, Detlor and Lewis (2006:252) pointed out that:

“robust library web sites can function as portals or gateways to an integrated and varied collection of information resources and as sophisticated guidance systems which support users across a wide spectrum of information seeking behaviours—from goal-directed search to wayward browsing.”

Auckland (2012:47) points that provision of information through webpages by librarians is ubiquitous. The author gave an example of the University of Leeds where an excellent gateway to information and resources for researcher called *researcher@Library* which provided information on research process, ethics, managing information and dissemination. At Melbourne, some library support material, including a suite of online tutorials was embedded in School of Graduate Research’s *Developing Effective Researchers’* pages and other materials such as guides to bibliometrics on the library pages.

Detlor and Lewis (2006:251) carried out a study to examine the state of websites in 107 academic and research libraries institutions granted membership in the Association of Research Libraries (ARL). Their findings illustrate that ARL member sites are already providing rich access to library resources and services. In addition, the study found out that a clear majority of sites provided the core functionality expected of an academic library website (for example, a direct link to the online catalogue, some level of access to subscribed electronic resources, some form of frequently asked question (FAQ) and e-mail-based help). Virtually all sites provided some access to e-resources separate from their online catalogue. In most cases, the sites provided discrete access to e-journals and e-article indexes, either through manually maintained Web pages or dynamically generated databases. Some sites presented very sophisticated and innovative features for example York’s site provided the ability to book group study rooms online. Case Western presented really simple syndication (RSS) feeds for new books, videos, and digital video discs (DVDs). Duke allowed patrons to add items to their personal ‘e-shelf’. However, the authors observed some general tendency to structure the websites around the libraries’ physical and management structure rather than the tasks users wish to do during their visit. The authors’ observation found support from Maloney (2004) who suggests that most library websites replicate the functional organisation of the library and merely function as thin veneers over technical infrastructures that were designed to support traditional library services. The authors also observed that academic libraries were offering many separate search options, but not the single ‘one-stop’ search interface users want nor the kind of user-centred spaces that guarantee loyalty.

Another survey by Richardson *et al.* (2012) of member libraries of the QULOC found out that most libraries (92%) reported maintaining web services for researchers, including LibGuides on research support, bibliographic management, research impact, scholarly publishing, and research data management. Web services also include access pages to institutional repositories, researcher profile pages, and online research support tutorials. University of Queensland Library has embedded a researched service into its institutional repository, in which the library can create and manage Thomson Reuters' ResearcherID accounts on behalf of its authors.

A nationwide content analysis of university library websites was done by Mantora and Haddow (2015) for the purpose of discovering how university libraries in Australia were supporting researchers with information and service relating to research impact measures especially bibliometrics and altmetrics tools with the aim of determining the extent and type of tools being promoted, the nature of supporting materials and the inclusion of research impact tools in institutional repositories found that a majority of the libraries had developed web pages that provided descriptive information about research impact measures and many offer research impact services. However, the extent of information about research impact varied across the country. Most of the libraries with dedicated research impact webpages provided background information and links to tools and further about bibliometrics indicators.

From the literature accessed, no study was found in Zimbabwe to have addressed websites as services to researchers.

3.4 Research support studies

Apart from studies that focused on individual research support services as reviewed above, a survey of the research and professional literature shows that various studies were carried out focusing on research support as a broad high-end concept (RIN 2009; RIN 2010; Corral, Kennan and Afzal 2013; RIN and CURL 2007; Raju and Schoombee 2013; Namuleme and Kanzira 2015; Pasipamire 2015; Tenopir, Birch and Allard 2012; Cheek and Bradigan 2009; Garner 2006; Richardson *et al.* 2012). Most of these studies were set out to document facilities and services of librarians around the research life cycle, usually did so by means of questionnaires and interviews. In Africa, studies by Pasipamire (2015); Raju and Schoombee (2013); Hart and Kleinveldt (2011); Namuleme and Kanzira (2015) were instructive as they revealed and addressed four different but interconnected areas of research support viz services offered, expectations of researchers; challenges and opportunities as well as knowledge and skills development.

Using a case study approach Raju and Schoombee (2013:27) examined academic libraries' attempts to establish the 'deeper meaning' of the librarian for the researcher and the research process at SU. The authors found out that librarians were providing a new and expanded set of services which includes, inter alia, research data management, curation and preservation, facilitation of open access and bibliometrics analyses. They further discovered that librarians were taking an active part in research by engaging in all the stages of the research cycle.

A study by Hart and Kleinveld (2011) at Cape Peninsula University of Technology (CPUT) Library focused on researchers' use of the library and what their expectations were. By means of a survey questionnaire of 102 full time academic staff at the CPUT the study found out that most researchers (over 65%) continue to rely on the library for access to print and electronic resources. In addition, the authors found a heavy emphasis on the traditional functions of an academic library, such as resource and information management. A few gaps emerge between the delivery of library services and researchers' desires (Hart and Kleinveldt 2011). For example, very few attended the library's scheduled database training workshops; yet most see database training as one of the library's key contributions to research. According to Hart and Kleinveldt (2011). The most pressing desire is to be kept informed of new research in their fields; yet only a minority experiences this level of service and less than half express confidence in the discipline knowledge of librarians.

Namuleme and Kanzira (2015) examined the challenges and opportunities associated with the provision of research support services among librarians of the Consortium of Uganda University Libraries (CUUL). The authors found out that:

- i. Inadequate bandwidth and power fluctuations were deterrents to accessing research collections with the majority (73%) of academic libraries. The slow connectivity frustrated researchers while accessing resources and hampered the training of researchers. This greatly compromised the libraries' capacity to provide research support services.
- ii. Library budgetary cuts, coupled with the inflationary cost of e-resource, had hindered research support services in academic libraries.
- iii. The majority of the respondents (87.9%) agreed and strongly agreed that inadequate infrastructure was a major challenge to providing research support services including: data storage, tools for data analysis and support for virtual communities.

iv. Inadequate ICT skills. The majority of the librarians' expertise was limited to mostly traditional materials. Research data services and bibliometrics services were relatively new skills that librarians needed and did not possess. Identifying and collecting data and data sets to be included in the repositories required IT skills.

A study by Pasipamire (2015) investigated how subject librarians gain the skills and knowledge required to support researchers in the new research landscape of higher learning institutions in Zimbabwe. An experience survey method was used, and results show that librarians gained skills through workshops, conferences, seminars, colloquia on research, personal development, partnerships, and through conducting research. It was discovered that subject librarians' support for researchers coalesces at the gathering and sharing stages of the research life cycle. Teaching information literacy, developing institutional repositories and mounting awareness campaigns were some of the activities undertaken by subject librarians in support of researchers. Librarians faced many challenges regarding the enormous size of the student bodies, lack of support from parent institutions and financial constraints.

In Europe, studies by RIN (2010); RIN and CURL (2007); Corral, Kennan and Afzal (2013) addressed research support from two different angles; tools and services, needs and perceptions of researchers towards library support. RIN (2010) used a desk research approach on librarians' research support in four UK universities. Focusing on the tools and services researchers use in the course of the research lifecycle, the study found out that the information-based research support services provided by the four universities tend to focus on the initial and the latter stages of the research process. The study also discovered that during initial stages librarians help researchers in identifying sources of funding and in the drafting of applications. At the latter stages librarians enhance the impact of their research, both through effective dissemination and knowledge transfer and by helping researchers to work in ways that maximise their ratings in the Research Assessment Exercise (RAE) and the Research Excellence Framework (REF).

A study by Kennan and Afzal (2013) is perhaps the most comprehensive of these studies as it involved different countries in different regions. The authors used online multiple-choice questionnaire to survey bibliometric and data support activities of 140 libraries in Australia, New Zealand, Ireland, and the United Kingdom, including current and planned services, target audiences, service constraints, and staff training needs. Majority of respondents offered or planned to offer bibliometrics training, citation reports, and impact calculations but with

significant differences between countries. Current levels of engagement in data management were lower than for bibliometrics, but a majority anticipated future involvement, especially in technology assistance, data deposit, and policy development. Gaps in knowledge, skills, and confidence were significant constraints, with near-universal support for including bibliometrics and particularly data management in professional education and continuing development programs. The study also found that librarians needed a multi-layered understanding of the research environment.

A survey by RIN and CURL (2007) in the UK discovered that the needs of researchers were not sufficiently recognised in the configuration of information resources and services provided to them. As a result, the authors encouraged librarians to balance their investments in information resources and services in a manner that reflects the sometimes-competing needs of teaching and research. Further the authors revealed that only a “small proportions of researchers think their library is too focused on providing resources and services for researchers” RIN and CURL (2007:11). At the same time, 61% of researchers either ‘disagree’ or ‘strongly disagree’ that their library was too focused on providing for the needs of researchers (RIN and CURL 2007:11). Taken together, the findings suggest significant levels of researchers’ dissatisfaction and a perceived imbalance between serving the needs of teaching and research.

Two studies In North America were carried by Tenopir, Birch and Allard (2012) and Cheek and Bradigan (2009). These studies focused on the current state of research support in academic libraries USA and Canada. Tenopir, Birch and Allard (2012) undertook a study to assess the current state of and future plans for research support services in academic libraries in the United States of America and Canada and found out that only a small minority of academic libraries offered research support services, but a quarter to a third of all academic libraries were planning to offer such services soon. An earlier study by Cheek and Bradigan (2009) of 136 academic health sciences libraries in the United States and Canada found out that majority of libraries provide research support for biomedical researchers, with the most common forms being the traditional services of individual consultations, licensed resources, expert searching, and print collections. These two studies demonstrated the lack of consensus, discussed earlier, on what is meant by research support. Tenopir, Birch and Allard (2012) seem to imply that research support is supposed to be seen as new and expanded services to researchers hence the conclusion that a minority offer research support service in America and Canada whereas

Cheek and Bradigan (2009) see traditional services such as expert searching as research support.

In the Pacific region, notable studies were conducted in Australia by Garner (2006) and Richardson *et al.* (2012). Garner (2006) conducted a survey of selected academic library websites to identify how university libraries in Australia achieve their mission to enhance the research of their university. The review of the thirteen websites led to the discovery that the most common services among Australian universities were the provision of multi-format scholarly resources, document delivery, online reference services for researchers, training, and support for grants as well as provision of physical space for researchers. Six years later, Richardson *et al.* (2012) carried a study in the same country and found out that modern services as opposed to traditional services were now in place. Richardson *et al.* (2012) surveyed member libraries of the QULOC, specifically focusing on support for researchers and the research agenda in the institutions. The authors found out that all responding libraries offered prominent level of research support; however, e-Research support in general, and research data management support in particular had the highest variance among the libraries.

In line with modern understanding of research support, Richardson *et al.* (2012) found that specialised teams or individuals include research support librarians, repository officers, and copyright members of staff were in place. These specialised services include the provision of support to research offices for ERA/HERD publications reporting. Libraries also collaborated with other research support stakeholders, including information and communication technologies (ICT) departments, student centres, and commercialisation offices as required. The survey found out that larger universities had dedicated research support roles, whereas at smaller and regional universities faculty librarians and other library staff provided research support more holistically.

3.5 Relationships between espoused theories and theories-in-use

Kerr (2010:54) observed that while several research studies and discussion papers confirm that mission statements are primary conveyers of espoused values and beliefs, there is little consensus among the studies on the relationships between mission statements and organisational practice and performance. However, there is a belief that there should be a positive relationship between espoused values in missions and the implementation of these values in practice. Hartzell's (2002:31) points out that your mission statement should describe only what your library has to offer. However, Du Mont and Du Mont (1981:12) contend that

there is not necessarily a correspondence [congruence] between the library's stated goals (intentions) and its actual outcomes (services). The authors argue that there may be a strong consensus that a primary library goal is the enrichment of people's lives through alternative media use [espoused theory]. However, an examination of major ways the library staff spends its time may show an emphasis on book processing and the reading of traditional books and magazines [theory-in-use]. Two kinds of divergences may result from the above situation as noted by (Du Mont and Du Mont 1981:12):

1. A goal may rank high as an intention but be only minimally evident in activities. Such a goal we call utopian. This condition indicates something that the members say are trying to attain but are doing little actually to achieve it (Gross 1969 in Du Mont and Du Mont 1981:12).
2. A goal may be ranked low as an intention but [may] be much in evidence in activities. Such a condition indicates the presence of an unstated goal. Persons unaware of this goal, may be ashamed of it, or be unable or unwilling to talk about it (Gross 1969 in Du Mont and Du Mont 1981:12).

Several studies have been conducted in order to establish the relationship between espoused theories and theories in use (Dermol 2012; Meacham and Gaff 2006; Kerr 2010; Willis 1993; Ganu 2013). Outside the field of information studies, a study was conducted by Dermol (2012) to provide an answer to the question of whether the existence of a mission statement is associated with company performance or not. Based on a sample of 394 Slovenian companies the study explored the links between the existences of a mission statement and its components on one side, and different measures of company performance on the other. They recognised value added per employee (VAE) as the only performance measure associated with existence or non-existence of mission statement.

Glaring incongruence was identified between stated espoused theories and theories-in-use in academic institutions in research by Meacham and Gaff (2006) as examined by Kerr (2010:56). According to Kerr (2010:56) the authors examined 312 mission statements of universities and colleges to identify the driving learning outcomes articulated by these institutions. Kerr further notes that since the mission statement is an institution's formal public declaration of its purpose and vision of excellence, the authors examined mission statements as espoused theories of the learning goals of educational institutions. The findings suggested a disconnect between what was expected of these institutions and the goals articulated in mission statements.

In a study by Kerr (2010) which investigated the relationships between conceptions and practice of information literacy in academic libraries using a constant comparison approach found major contradictions and incongruencies in the relationships between the espoused theories and theories-in-use as indicated by significant gaps in addressing goals and missions. In the study, espoused theories were examined by investigating understandings and beliefs of information literacy and learning as seen in a range of policy documents including mission and goal statements of eleven academic libraries as well as those of their parent universities. Theories-in-use were identified by analysing information literacy practice via online tutorials utilised by these libraries in instruction initiatives. Unambiguous and explicit espoused theories including knowledge creation goals for information literacy practice did not materialise in instruction initiatives.

Outside the library field, Kerr (2010) analysed the research of Smith, Heady, Carson and Carson (2001) which provides a comprehensive review of published empirical studies on mission statements and to explore the relationship between mission statement content and organisational longevity. Kerr (2010) noted that the research identified seven unique streams of mission statement research including those examining the relationship between performance of firms and mission statement content. The evidence was generally inconclusive and the authors could not confirm any positive link between espoused values in mission statements and theories-in-use as seen in organisational performance levels.

Willis' (1993) research on assessment practices of teachers corroborates with Kerr's finding as concluded that assessment methods used by teachers were technical in nature and were at variance with espoused theories of learning. Willis was very candid that references to lifelong learning and the rhetoric of curriculum reform in education become meaningless unless assessment practices of teachers reflect similar theoretical principles.

Ganu (2013) examined the mission statements of six accredited faith based tertiary institutions in Ghana and the perceived influence of institutional mission on institutional members using a descriptive research design. According to the results of the study, the institutional mission statements are normally displayed on the university website (82%), university entrance and notice boards (65%), meeting rooms (64%), printed programs (51%), diaries/calendars (37%), and office walls (32%). However, 40% of the respondents indicated that their institutional mission statement is not displayed anywhere. These findings indicate that a 56% of respondents attest that they are not familiar with their institutions mission statement and therefore cannot

recall the mission statement off-head. The results indicated that the organisational mission statement was communicated to organisational members through various means such as starting each meeting by reciting mission statement, the mission is pasted at various places on the university campus and the respondent universities also have the habit of incorporating the mission statement into email signature, memos, letters, among others for employees. The study also revealed that the mission statement influences employees as it 'guides behaviour at the workplace' (122), it is a 'bond between employees and the institutions' (116), and serves as 'shared values among organisational members'. More so, the mission statement had not significantly influenced employees' attitudes in terms of emotional commitment to duty and as a source of motivation/inspiration among others (Ganu 2013: 26).

3.6 Strategies for transition from supporter to research partner

As pointed out by Tenopir, Birch and Allard (2012); Tise, Raju and Adam (2015:3) skilled, knowledgeable and confident librarians would resolve the ambiguity surrounding the roles and specific responsibilities of libraries. To them, the concept of being a partner can be interpreted as not only helping researchers succeed in completing and disseminating their re-search, but also contributing to actual knowledge creation using the specialised knowledge and skills which librarians possess (Monroe-Gulick, O'Brien and White 2013:384).

In their paper, Frances, Fletcher and Harmer (2011) outlined the strategies and processes that were adopted by the Library at the University of New South Wales, a research-intensive university in Australia to provide eResearch support services for the University's academic community. The focus of the paper was on how structural, technical, staff and content-related components of the Library were reshaped to integrate eResearch services with the organisation's existing business. The academic services staff had developed expertise in research metadata, open access publishing, and eResearch infrastructure. The Library had strategically focused on data librarianship and positions had been created to develop data librarians, and strategies employed to develop data librarianship expertise within the Library's existing workforce. The authors reported that relationships between Library work units were reconfigured and new collaborations with researchers and external partners were developed. The authors concluded that organisational flexibility is a core requirement for academic libraries to be responsive to changing research practice and developments in scholarly communication (Frances, Fletcher and Harmer 2011).

After consultation with senior academic colleagues, a review of existing services and gaps, and reflection on what the future was likely to hold, the University of Manchester Library decided to abandon almost completely the traditional subject liaison modelling 2012 (Bains 2013). The staff of the library concluded that instead of following that model they would most effectively meet university needs by aligning our staff with strategic objectives, so they created teams responsible for research services and teaching and learning services. In addition, to ensure that the services these teams developed met the needs of a wide range of disciplines, and also to ensure that large customer population was aware of them, they created an academic engagement team. Bains (2013) further reported that in order for the new roles to be truly effective it was necessary to provide the development required for our staff to perform well in them. They identified a mixture of functional and ‘core skills’ training needs, and sourced providers with the necessary credentials. Training courses delivered as part of this programme were:

- Bibliometrics;
- copyright (basics, advanced and policy);
- e-learning;
- marketing;
- podcasting;
- relationship management;
- project management;
- statistics;
- team-building; and
- writing for the web.

A survey by Cheek and Bradigan (2009) of 136 academic health sciences libraries in the United States and Canada revealed that the education and training of librarians who provided services to assist researchers varied considerably. The majority (86.3%, 63 of 73) reported taking continuing education (CE) courses to prepare them to provide high-level support to researchers. Mentoring from other librarians was cited by 56.2% of the respondents (41 of 73). A number of librarians (30.1%, 22 of 73) had science degrees beyond undergraduate work as their preparation. In this survey, 20.5% of the respondents (15 of 73) reported ‘other’ methods of education or training, mentioning attending research department meetings, on-the-job training, and laboratory experience.

The study by Keller (2015) examined the ongoing changes within Australian university libraries to support research. The study revealed three measures or approaches that were taken by senior management to build up and sustain efficient and effective research support services:

- (1) Rationalisation of student services- development of online tutorials, increased collaboration with other university offices (for example, academic skills) and a more targeted, embedded approach within key academic units rather than stand-alone offerings. Examples given included the self-checkout and self-return, the extension of e-book collections, reference desks, downsizing, to mention but a few.
- (2) Focusing activities of liaison librarians on research support and creation of subject-specific teams to achieve better effective and efficiency gains. The new job profile of liaison librarians was said to be significantly but not radically different from the previous one. They would continue to be responsible for subject-specific or complex research queries, but are also required to be knowledgeable about research impact, to actively establish contacts with (new) researchers, to participate in research-focused working groups or committees and to promote the institutional repository.
- (3) Definition of new positions responsible for research support-organisational charts available on the websites of Australian libraries showed three kinds of positions or organisational units that were directly involved in research support besides liaison librarians: (1) institutional repository manager, (2) research data management and Scholarship specialists, and (3) research support coordinators.

Jager, Nassimbeni and Crowster (2014) report that University of Cape Town (UCT) and two other top ranked university libraries in South Africa, applied for and were granted funding by the Carnegie Corporation of New York for an extended project to enhance librarians' insight into the nature of research and their capacity to support research activities among both emerging and established researchers. The grant was renewed in 2009 and was expanded to include a further three research-intense universities (Darch and De Jager 2012:145). The project, which was intended to effect substantial changes in the way libraries conduct some of their activities, was based on the assumption that libraries can play a significant role in knowledge production rather than simply information provision in academic institutions and that in order to do this, librarians could be much more actively involved in the research enterprise than South African librarians usually are.

The project therefore proposed to effect meaningful changes in academic libraries in three dimensions: by improving and enhancing mid-career librarians' understanding of the research process and their skills in assisting researchers in different domains; by building, staffing and equipping sophisticated research spaces known as research commons, which would be

dedicated to masters and doctoral students engaged in knowledge production; and by introducing an integrated Web portal to facilitate resource organisation and discovery at each of the three participating institutions. Part of the intervention to improve librarians' ability to support and engage in knowledge production was to design a series of programmes exposing mid-career librarians to the research process, and to encourage them to become active partners in research activities, both through collaboration with researchers and to produce research of their own. This took place through a series of five Research Library Consortium (RLC) Academies that were held for two weeks at a time in a secluded venue, during the grant period.

3.7 Summary of the chapter

The literature confirmed the fogginess of the concepts research support and the lack of consensus regarding the roles and responsibilities librarians must play in the new research and educational landscape as seen by opposing views and competing definitions of the concepts. The research life cycle provided insight on the stages where service of the academic library is required. Services for research support were identified as bibliometrics, research commons, research data management, collaboration and partnership, digital collections, institutional repositories, research skills training among others. The literature identified the approaches used by librarians in supporting researchers viz traditional, modern and other alternative approaches and within these approaches there are multiple models that can be employed. Academic libraries compete with other units in institutions of higher learning such as copyright office and research office to support the needs of researchers. Reviewed literature validated the point that mission statements and strategic plans are conveyors of institutional values and beliefs and are useful for establishing espoused theories while research support services can act as theories-in-use. The review also shows that literature on research support is biased towards western and other developed countries. In the continent of Africa, South Africa has given more on research support compared to other countries including Zimbabwe. Literature reviewed also proved that librarians are still clinging to the traditional functions and services. No study was found addressing the research services being offered by librarians and their relationship with the mission statement of the academic library. Again, no study looked at whether there has been a mind shift from a supporter to a partner as suggested by the new understanding of what research support should be. The review also showed that there were no studies that looked at the relationship between espoused theories (mission statements; strategic documents) and theories-in-use (services) of research support. This is the gap this study exploited to ensure that there is a balance within the research support discourse.

CHAPTER 4

RESEARCH METHODOLOGY

4.0 Introduction

This chapter describes and discusses the methodological procedures and techniques employed to attain the aim of the study. It justifies the choice of research philosophy, research design, strategies and data collection techniques employed to achieve the research objectives and research questions of the study. Connaway and Powell (2010:32) pointed out that the methodological selection of certain methods in a study relies on various criteria. Wilson (2002) points out that the choice of an appropriate research methodology should be determined by a combination of philosophical positions of the research vis-à-vis the research objectives, nature of the problem to be explored, its novelty in research terms, and the time and resources available to carry out the work. Creswell (2009) added that the researcher's personal experience and the audiences for the study must be considered as well. The suggestions by both Wilson (2002) and Creswell (2009) were upheld in selecting the methodological techniques used in this current study.

The study investigated the nature of the relationship between conceptualisation and practice of research support by librarians in Zimbabwean universities. This was motivated after observing that the emerging dominance of research in institutions of higher learning has problematised a historical imbalance of library support which appeared and continues to be skewed in favour of teaching and learning support. With librarians' service for research needed more than ever today, it appeared librarians were struggling to make a positive impact on the scholarly work of researchers as they supported the needs of researchers through relatively traditional services revolving around information discovery, collection development and institutional repositories. To create a scaffold to investigate and understand this problem clearer, the study adopted Argyris and Schön's (1974) contrasting Theories of Action: espoused theories and theories-in-use. This Theory shaped the objectives and research questions that influenced the selection of methodological techniques employed in this study. The following research questions were asked:

- i. How is research support conceptually understood by librarians in Zimbabwean universities?
- ii. How is research support practised by librarians in Zimbabwean universities?

- iii. What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?
- iv. What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?
- v. What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support in Zimbabwean universities?

4.1 Research philosophy

Philosophical ideas remain largely hidden in research (Slife and Williams 1995 in Creswell 2009:5), however, Creswell (2009) notes that these influence the practice of research and suggests that researchers make explicit the larger philosophical ideas they espouse. The philosophical worldviews advanced in studying a subject include positivism, post-positivism, interpretivism, pragmatism and advocacy (Creswell 2009; Bryman 2001; Wisker 2001; Dudovskiy 2015; Chowdhury 2014). These paradigms can be chosen based on their ontological (nature of reality) and epistemological (relationship between the knower and the knowable) positions and methodological approaches (how to access the knowledge) as well as ethical standards (moral principles guiding the enquiry) (Haq 2014). The researcher settled for the interpretivist paradigm for the study of conceptualisation and practice of research support guided by Theory of Action- espoused theories and theories-in-use because “interpretivist approach to research has the intention of understanding the world of human experience.” (Cohen and Manion 1994:36). Qualitative approaches provide an emic perspective to the study of research objects (Blackwell Publishing n.d). They further explain that qualitative approaches provide insights from the perspective of participants enabling the researcher to see things as the informants do. This is achieved through examining the lived experiences, feelings and perceptions of the people under study. It is the goal of this study to gain an understanding of how research support is conceptualised and practised by librarians in university libraries in Zimbabwe by examining their lived experiences, feelings and perceptions. This is in tandem with Dudovskiy’s (2015) view that the goal of an interpretivist is to gain an understanding of events and activities.

Interpretivism is “associated with the philosophical position of idealism, and is used to group together diverse approaches, including social constructionism, phenomenology and hermeneutics; approaches that reject the objectivist view that meaning resides within the world independently of consciousness” (Collins 2010:38). The researcher’s position of interpretivism

in relationship to ontology and epistemology is that realities are apprehendable in the form of multiple, intangible mental constructions, socially and experientially based, local and specific in nature and that the investigator and the object of investigation are interlocked in an interactive process, each influencing the other so that the findings are literally created as the investigation proceeds (Creswell 2009; Guba and Lincoln 1994; Mertens 2010; Chowdhury 2014).

An interpretivism paradigm denotes the methods of research which adopt the position that people's knowledge of reality is a social construction by human actors (Whitley 1984 in Chowdhury 2014:433). Understanding social behaviour involves understanding how people define and interpret their particular social situation, that is, how they construct social realities. In other words, reality is created by individuals in groups and that knowledge is created by social and contextual understanding. Therefore, interpretivism helps to discover the underlying meaning of events and activities because the researcher tends to rely upon the "participants' views of the situation being studied" (Creswell 2003:8). Whitley (1984) explained that interpretivists look for meanings and motives behind people's actions such as: behaviour and interactions with others in the society and culture. This was important in this study as it attempted to understand motives behind the behaviours of librarians who provide research support services.

The way this study was influenced by the philosophical ideas of qualitative paradigm can be deduced from the questions that are critical of an interpretivist, which are: Why do people act the way they do? How do the subjects understand? What are the lived experiences? Answering these questions in the context of the current study helped to achieve the aim of the study which was to examine the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. In trying to answer these questions in the context of the research, the interpretivist paradigm allowed the use of multiple methods to reflect on different aspects of research support. According to Connaway and Powell (2010) qualitative methods and strategies such as narratives, interviews, observations, ethnography, case studies, and phenomenology can be used. This study used case study as the research strategy, interviews, document analysis and qualitative questionnaire were used as data collection tools. Constant comparison method was used in data analyses.

4.2 Research design

Research designs can be dichotomised as qualitative and quantitative (Creswell 1994:1; Leedy 1997:104; Powell 1999:96; Bryman 2001:20; Creswell 1994). Creswell (2009) and Bryman (2009) believe qualitative and quantitative methods can be combined to form a third research design called mixed methods. The quantitative research design is defined by Creswell (2003:18) as one in which the investigator primarily uses post-positivist claims for developing knowledge, that is, cause and effect thinking, reduction of specific variables and hypothesis and questions, use of measurement and observation and the test of theories. The quantitative research design is grounded in the positivist social sciences paradigm, which primarily reflects the scientific method of the natural sciences (Creswell 1994; Jennings 2001). This paradigm adopts a deductive approach to the research process (Creswell 1994).

The qualitative research design is grounded in the interpretive social sciences paradigm as it focuses on the way people interpret and make sense of their experiences and the world in which they live. Qualitative forms of investigation tend to be based on recognition of the importance of the subjective, experiential 'lifeworld' of human beings. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Denzin and Lincoln 1994: 2). Bryman (2001) stress that qualitative research emphasises words rather than quantification in the collection and analysis of data. A mixed methods study is one that includes a qualitative and a quantitative dimension (Doyle, Brady and Byrne 2009:175). The mixed methods design is also defined as “research in which the investigator collects, and analyses data integrates the findings and draws inferences using both qualitative and quantitative approaches and methods in a single study” (Tashakkori and Creswell 2007:4).

Given the possibility of using quantitative, qualitative or mixed methods in any given study as described above; “interpretivism by its nature promotes the value of qualitative design in pursuit of knowledge” (Chowdhury 2014:434). Kerr (2010:74) discovered that examining espoused theories and theories-in-use is best suited to qualitative design and methodologies. As such, this study used a qualitative design because it provided a chance of going into the subjects’ life and make sense of their experiences. It provided an opportunity to understand the meanings librarians ascribed to research support as a concept given that conceptualisation is rooted in espoused documents and definitions.

Trying to examine, understand and describe the nature of the relationship between conceptualisation and practice of research support was a complex task which needed the application of qualitative approach which is a “more holistic, natural approach to the resolution of a problem” (Connaway and Powell 2010:77). This study focused on the cognitive, affective, behavioural aspect of librarians practising research support and according to Connaway and Powell (2010: 210) qualitative research is suitable when information interactions concerns are so new, so complex or unexplored that researchers are working on understanding the cognitive, affective, behavioural aspect of the phenomenon. This explanation dovetailed well with the nature of this study in that research support as service gained currency despite having been practised for a long time in libraries, as such they are regarded as new and not much research and literature has been published. In this regard, the subjective aspects of human experience and behaviour of librarians practising research support were considered paramount. Qualitative approach advocates for qualitative methods such as interviews, observation and document reviews which are all in tandem with how theories of action namely espoused theories and theories-in-use have been used by previous researchers (Kerr 2010; Kane Sandretto and Heath 2002; Smith 2013; Houchens and Keedy 2009; Houchens 2008; de Vaujany *et al.* 2008; Stafsudd and Collin 1999; Nauratil 1982).

4.3 Strategies of inquiry

These are types of qualitative, quantitative or mixed methods designs or models that provide specific direction for procedures in a research design (Creswell 2009). These include case studies; surveys; experiments; ethnography; narrative and historical methods. Consistent with qualitative design, the study adopted the case studies strategy. The case study was used as a design in this study than as a method as some researchers use it. As design, the study adopted a multiple case study using different university libraries as cases.

4.3.1 Multiple case study strategy

Leedy and Ormrod (2005) define a case study research strategy as a type of qualitative research in which in-depth data are gathered relative to a single individual, programme or event, for the purpose of learning more about an unknown or poorly understood situation. A case study can also be defined as a method in which (a) one case (single case study) or a small number of cases (comparative case study) in their real-life context are selected; and (b) scores obtained from these cases are analysed in a qualitative manner (Dul and Hak 2007:4). The case is often useful as an exploratory technique and can be used for investigating organisational structure and functions or organisation performance (Connaway and Powell 2010: 80). The two authors

added that if several phenomena exist, a multiple case design is desirable. The current study has Zimbabwe university libraries as units of analyses of the study and this justified the use of a multi-case design as advised by (Connaway and Powell 2010).

In a multiple case study or collective case study, several cases are examined to understand the similarities and differences between the cases (Baxter and Jack 2008:550). Yin (2008) emphasises replication logic rather than sampling logic, for multiple case studies. The goal of multiple case studies in this study is to replicate findings across cases. In multiple case study research design (MCSR), evidence from more case studies is more compelling (Yin 2003). The author advised that each case must be carefully selected so that it either predicts similar results or predicts contrasting results. In this study, the units of analysis are Zimbabwean university libraries namely the National University of Science and Technology, the Bindura University of Science Education, Solusi University, Africa University, Lupane State University, Midlands State University, Women's University in Africa and Chinhoyi University of Technology. How these cases were selected is explained under sampling.

4.3.2 Justification for using a multi-case study

According to Morse (1991) a case study is needed on a new topic, or when little research has been done in an area. While research support has been practised for a long time in academic libraries, the sudden proliferation of research activities meant these services had gained currency but unfortunately not much research and literature had been published on this area, especially in Zimbabwe. Raju and Schoombee's (2013) made the same observation that research support librarianship was a relatively new and very much in its fledgling stage in developing countries. To this end, the case study approach was appropriate for the study of research support because of the need to generate new knowledge in research support area. The detailed knowledge that was generated by the case study strategy was an epiphany that changed the researcher's view of research support as a concept and professional practice.

The case study approach was also chosen because it "works best when researchers investigate an issue in-depth and provide an explanation for the issue" (Raju and Schoombee 2013:28). This was possible because qualitative case study afforded the researcher an opportunity to describe and explore research support in detail by collecting information using a variety of data sources. To this end, interviews, qualitative questionnaires and document analysis were selected to explore research support as a concept and as a professional practice. Baxter and Jack (2008) citing various authors noted that a hallmark of a case study research is the use of

multiple data sources to enhance data credibility. The use of case study ensured the nature of the relationship conceptualisation and practice was not explored through one lens, but rather a variety of lenses which allowed for multiple facets of the research support to be revealed and understood. As encouraged by Baxter and Jack (2008) data from these multiple sources were then converged in the analyses process rather than handled individually. This convergence added strength to the findings as the various strands of data were braided together.

The use of case study in this study was also consistent with the advice of Yin (2008) who noted that case study is appropriate when the research is concerned with descriptive or explorative questions. According to Yin (2003), a case study design should be considered when: (a) the focus of the study is to answer 'how' and 'why' questions; (b) you cannot manipulate the behaviour of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context. In this study, the main issue that was addressed focused on 'why' question - why were librarians struggling to have a positive impact in the lives of researchers? This broad question was further divided into many sub-questions which include 'how' research support was conceptualised and 'how' it was practised and the relationship between conceptualisation and practice. Also, it was not possible to separate research support practice from the context in which it was being practised.

Overall, the evidence created for research support from the multi-case study was considered robust and reliable. Baxter and Jack (2008: 550) make the point that a multiple or collective case study allows the researcher to analyse within each setting and across settings as the context differs for each case. It was not the intention of the study to manipulate respondents to achieve the aim of the study. Rather the researcher visited units of analyses and interacted with the respondents in their natural settings as they executed their duties. This arrangement gave a chance to understand the respondents' experiences and behaviours since these were shaped by contextual conditions which differed from one case to another. As a result, effectiveness or ineffectiveness of librarians in their support for researchers depended upon the facilitating conditions obtainable at each given setting. And the fact that reviewed literature proved that research support is a complex and an ambiguous concept makes a strong case for a case study. As noted by Yin (2009) a case study is suitable for context dependent, complex, unusual, ambiguous concepts or situations.

However, the use of multi-case approach was extremely time consuming and expensive to conduct as the researcher visited the units of analyses and camped for days to get a thorough familiarity with the cases. Although this arrangement was propitious to gain a thorough understanding of research support, the amount of data that was collected was overwhelming and required proper handling to facilitate analyses. To bring some order to the data collected and to facilitate analyses, ATLAS.ti 80 software was used to organise and manage the voluminous amount of data.

4.4 Population

According to Connaway and Powell (2010:116) a population is the total of all cases that conform to a pre-specified criterion or set of criteria. The same authors also defined population as the aggregation of units to which one wishes to generalise results of the study. Although, it is desirable to study the whole population (census), costs in terms of money and time make it impossible for large populations (Connaway and Powell 2010). For the study of research support as a professional practice, university libraries in Zimbabwe were identified as the population for the study. These subjects included both private and state-owned universities in Zimbabwe. The reason why these were chosen is explained under sampling. At the time of the study the total number of universities in Zimbabwe were 16 (Pindula 2015). These are listed below:

State owned universities

- i. Bindura University of Science Education;
- ii. Chinhoyi University of Technology;
- iii. Great Zimbabwe University;
- iv. Gwanda State University;
- v. Harare Institute of Technology;
- vi. Lupane State University;
- vii. Midlands State University;
- viii. National University of Science and Technology;
- ix. University of Zimbabwe; and
- x. Zimbabwe Open University.

Privately owned universities

- xi. Reformed Church University;

- xii. Solusi University;
- xiii. Women's University in Africa;
- xiv. Zimbabwe Ezekiel Guti University;
- xv. Africa University; and
- xvi. Catholic University in Zimbabwe.

The researcher selected eight university libraries from the list and these became the sample and cases of the study. Three academic libraries were private university while the other five were taken from state owned universities. The researcher settled for eight university libraries to increase credibility and to ensure that results were true for different settings.

4.4.1 Data sources

Babbie and Mouton (2001) make the point that one of the safeguards against getting unreliable information is ensuring that the respondents can supply the required information with some degree of accuracy. The identification of the data sources of the study was straight forward as this was guided by the Theory of Action which states that espoused theories are documents, policies and statements representing the organisation. Theories-in-use are mental models used in action by practitioners and can be found by examining representative of practice. To provide a holistic, thick and rich picture of research support, the researcher settled for the following data sources as capable of providing reliable information regarding espoused theories and theories-in-use:

- i. library mission statements;
- ii. library strategic plans;
- iii. library policies;
- iv. heads of libraries;
- v. client service/ reference librarians;
- vi. subject/faculty librarians; and
- vii. institutional repository staff.

4.4.2 Sampling

No single formula provides the correct sample size for qualitative study (Connaway and Powell 2010:214). As such the depth, complexity and richness of the data were critical. Identifying a representative sample was not even a consideration since the goal of this qualitative research was to understand not to generalise. As a result, the criteria for determining the right number of participants are sufficiency and saturation. Sufficiency refers to the effort to include all the

subpopulations involved (Connaway and Powell 2010:214). The contextual subgroups used to achieve sufficiency were mission statements, strategic plans, policies, heads of libraries, reference librarians, faculty librarians, institutional repository staff, research commons staff. Saturation refers “to the point at which the critical elements of the study have become exhausted, that is, further exemplars fail to add new nuance to or contradict what is understood” (Connaway and Powell 2010:214). Given that the population of librarians was a relatively homogeneous, saturation was achieved after working with eight universities since more cases would not bring new information from what was known.

However, the standard for saturation failed to meet all issues regarding the selection of a sample of the study. The question that remained was, to arrive at the saturation point which cases had to be chosen from the pool of universities? To answer this, the study employed the judgmental sampling method to draw subjects. The main goal of purposively sampling was to include in the study all those individual cases that could provide information that the researcher needed to answer the research questions. When integrated with the concept of saturation, the researcher was confident of the sample of the population. Purposive sampling was used in two stages, firstly, draw universities included in the study and secondly, to draw documents and librarians within libraries of the selected universities.

4.4.1.1 Stage 1: Sampling in respect of universities

In selecting the library universities, a constellation of factors was considered: firstly, the researcher used the information provided on the websites to determine the number of faculties in each of the 16 universities. These faculties spoke to the nature and extent of library responsibilities towards the parent institution. The bigger the faculties, the bigger the responsibilities for the library. Secondly, rankings of the universities were considered since research output is one of the criteria used to rank universities. Consent from gatekeepers was another factor which was considered. As such, gatekeepers’ permissions were sought early and apart from University of Zimbabwe which refused to participate in the study, all other universities identified by researchers agreed to be part of the study. University of Zimbabwe was replaced to ensure that the sample of the study was not compromised. In the end, the following universities became the sample of the university libraries hosting the documents and librarians who participated in the study:

- i. National University of Science and Technology (NUST);
- ii. Bindura University of Science Education (BUSE);

- iii. Solusi University (SU);
- iv. Midlands State University (MSU);
- v. Women's University in Africa (WUA);
- vi. Chinhoyi University of Technology (CUT);
- vii. Lupane State University (LSU); and
- viii. Africa University (AU).

4.4.1.2 Stage II: Sampling in respect of data sources

Mission statements, strategic documents, library policies, heads of libraries, client service/references librarians, subject/faculty librarians, and institutional repository staff from the eight listed universities were the sources of data or sampling elements for the study. As noted in the literature review chapter, mission statements, policies and strategic documents are regarded as espoused theories of organisations and they reflect the thinking of organisational leaders. These statements also identify activities organisations considers important. Moreover, they suggest future organisational trajectories. To this end, they helped in understanding how research support was conceptualised. Mission statements, policies and strategic documents of the selected university libraries were analysed. Heads of libraries were also interviewed as part of conceptualisation since mission documents emanate from them and were better placed to explain them in this regard.

Judgement sampling was used to select librarians in the eight selected institutions for inclusion in the study. Research support in libraries has been viewed as the realm of public services (Hoffman 2016). To this end, the study included librarians who were actively engaged with researchers viz faculty librarians, reference librarians, and institutional repository staff. These provided direct service to researchers and were used to establish practice of research support. The full reasons for their inclusion is explained below.

Faculty librarians

According to Machimbidza (2014a:108) the arrangement in Zimbabwean universities is such that Assistant Librarians who oversee different departments like Reference Services, Circulation, Periodicals, Acquisitions, Cataloguing and Classification also work as faculty librarians. This arrangement is reflective of the hybrid organisational model where senior staff have other responsibilities outside their centralised ones. These faculty librarians “embed themselves within faculties allowing them to understand faculty teaching, learning and research objectives so as to provide them with in-depth subject-specific information support” (Kvenild

2012). To this end, Faculty Librarians were regarded as purveyors of research support in libraries and sources of theories-in-use for the study as they work with researchers in their respective faculties.

Reference librarians

Client Service or Reference Service Librarians were important in this study because researchers seek help starting with them. They approach them for consultancy directly and indirectly. Traditionally references librarians have been viewed as the primary providers of research support (Hoffman 2016). They assist, advise, and instruct users in accessing all forms of recorded knowledge (Reference and User Services Association - RUSA 2003).

Institutional repository staff

Institutional repository staff assist researchers with disseminating the results of their research thereby increasingly offering the research community a publishing service. In most cases they facilitate Open Access to the institution's research output. Therefore, institutional repositories were important in the study since they provide support to researchers as they seek to capture intellectual creation of the university onto the institutional repository. Systems librarians were also considered to part of the institutional repository staff.

Heads of libraries

Heads of libraries were chosen to be part of the study because these managers are responsible for the formulation of policies and mission documents that provide direction and guidance in the library. As such, heads of the selected libraries were better placed to explain and clarify policies and mission documents to understand how research support was conceptualised.

4.5 Data collection techniques

Interpretive approaches rely heavily on naturalistic methods such as interviews and observation and analysis of existing texts (Robert Wood Johnson Foundation 2015). Kerr (2010:75) citing different authors indicated that most researchers who conducted meta-analysis of research, investigating relationships between espoused theories and practice of teachers used qualitative methods ranging from semi-structured interview, document analysis, observation, phenomenographic analysis and questionnaires. Kane, Sandretto, and Heath 2002 as cited by Kerr (2010) indicated that many researchers employed the use of interviews and document analysis to successfully gather data on espoused theories and theories-in-use. Kerr followed this pattern and used interviews and document analysis. The study did not break this pattern and used interviews (see Appendices A and B) and document review as data collection

techniques. However, the study added qualitative questionnaires (see Appendix C) into the mix to enable documentation of research support practice based on concepts derived from literature in order to get one consistent set of outcomes. Given that the study worked with eight bounded cases, the combination of several different data collection methods within each case proved fruitful. Combining the data from different sources within a case made it possible to get a full picture for each case before meta-analysis was done. These methods ensured an adequate dialog between the researchers and the subjects to collaboratively construct a meaningful reality of research support as a professional practice. The data collection techniques are detailed below.

4.5.1 Document analysis

O’Leary (2010:223) defined documentary analysis as “a collection of various forms of written text as a primary source of research data”. Researchers can turn to documents such as memos, reports and plans to get the necessary insights into the dynamics of everyday functioning of an organisation (Mertens 2010). The collection and examination of documents are often an integral part of qualitative research and as mechanisms are particularly important for checking validity of information derived from different sources (Mandava and Knowles 2004). According to Mertens (2010) the researcher cannot be in all places at all the times. Documented records give a researcher access to information that would otherwise be unavailable. Documents, as unobtrusive sources of information, allow access to data that are thoughtfully compiled by participants (Creswell 2003).

Document analysis is superior in that the collection of data is not filtered through the perceptions of individuals (Kerr 2010). The author further discovered that document analysis is an ideal methodology for identifying theories of action. The study used document analysis to collect data from mission statements, strategic documents and other library policies of the university librarians in Zimbabwe. This allowed the researcher to obtain the language and words of libraries which represent the concept of research support. According to Creswell (2012) documents represent data which are thoughtful in that participants have given attention in compiling them. They can be accessed at a time convenient to the researchers (Creswell 2012:180). Mission documents allowed the researcher to answer question 1 of the research questions which addressed conceptualisation of research support.

4.5.1.1 Conducting document analysis

A detailed description of how data document analysis was done is captured under section 4.8 (Data analysis) because it was not possible to separate data analysis from data collection as analysis occurred during data collection. However, it is noteworthy, in passing, that in conducting content analysis both conceptual and relational analysis were used. The conceptual analysis established the existence of research support concepts as represented by words and phrases in the text using both inductive and deductive approaches to content analysis. Interview scripts were analysed in an inductive way while mission documents were analysed in a deductive way. Relational analysis was done to establish relationship among concepts in text.

4.5.2 Interviews

Consistent with the interpretivist approach, qualitative research interviews attempt to understand the world from subjects' point of view to unfold the meaning of their experiences (Kvale and Brinkmann 2009:3). An interview is a conversation with structure and purpose that goes beyond the spontaneous exchange of views in everyday conversation and becomes a careful questioning and listening approach with the purpose of getting thoroughly tested knowledge (Kvale and Brinkmann 2009:3). Thus interviews emphasise the centrality of human interaction for knowledge production. Cohen, Manion and Morrison (2000:267) opine "the interview is not simply concerned with collecting data about life: it is part of life itself, its human embeddedness is inescapable." Connaway and Powell (2010:218) note that interviews are a valuable qualitative method for researchers who make effective choices along the continuum between structured and unstructured questions. This study used semi structured interviews with faculty/subject librarians, client service/references librarians, institutional repository staff. Heads of libraries were interviewed as part of conceptualisation. Semi-structured interviews were useful in that they allowed the researcher to frame appropriate questions and most importantly to rely on the respondents to provide information of what they knew about research support.

4.5.2.1 Justification for the interview method

Interviews were used to provide in-depth information about research support, both the way it was conceptualised and practised. Because interviews are good at "attaining highly personalised data" (Gray 2004:214), they were found to be suitable for collecting data to construct theories-in-use of librarians. Theories-in-use are mental models deployed by librarians in practice and therefore are personal in nature. Interviews presented the researcher

with the opportunity to include focused questions that fill in gaps, clear ambiguities, explore new lines of inquiry and make connections among statements as observed by (Connaway and Powell 2010:220). This brought out librarians' expressions of research support experiences in an engaged, responsive and attentive manner. According to Mertens (2010) interviews are important to conduct if one wants to fully understand someone's experience or learning more about answers to questionnaires. To this end, librarians' thoughts, motivations and feelings regarding research support in the changing higher education environment were easily obtained. It was important to conduct interviews with heads of libraries to get clarification on some of the library policies and mission documents.

4.5.2.2 Types of interview questions

Hoyle, Harris and Judd (2002:144) stated that questions have dual goals of motivating the respondent to give full and precise replies while avoiding biases stemming from social desirability, conformity, or other constructs of disinterest. To ensure that questions elicited valid responses from participants, the researcher used four questioning techniques as advanced by Connaway and Powell (2010). These are:

- i. comparisons questions focus on similarities;
- ii. Contrasting question focus on differences;
- iii. Narrative questions focus on stories, anecdotes and episodic focus on specific, concrete and limited experiences; and
- iv. Probe questions explore the unknown background of a question while clarifying questions elucidate details of statement in order to explicate it.

These questions were found to strengthen the depth of the resultant data from interviews.

Since this study was qualitative, semi-structured questions were used (see Appendices A and B). According to Kajornboon (2005) semi-structured interviews are non-standardised and are frequently used in qualitative analysis. The researcher had a list of key themes, issues, and questions which were covered in the interview. The order of the questions was changed depending on the direction of the interview. Additional questions which arose during interviews were also asked. Corbetta (2003:270) explained:

“the interviewer is free to conduct the conversation as he thinks fit, to ask the questions he deems appropriate in the words he considers best, to give explanation and ask for clarification if the answer is not clear, to prompt the

respondent to elucidate further if necessary, and to establish his own style of conversation.”

4.5.2.3 Conducting the interviews

Interviews can be characterised into four categories, namely personal interviews, telephone interviews; focus group interviews and email interviews (Connaway and Powell 2010; Burns 2000; Bryman 2001; Creswell 2010). In this study, focus groups were not used based on the advice of Cohen, Manion and Morrison (2000) who found them to be problematic to organise and the responses difficult to code. Online interviews were equally overlooked due to the difficulties in developing rapport and interpersonal relationships. Telephone interview were also let out because of their potential to give the respondents an easier way of terminating the interview prematurely. It is the role of the researcher to ask questions (Kajornboon 2005:2). As a result, the researcher interviewed respondents in person - in a face-to-face fashion. Personal contact with the interviewees helped to stimulate and put more pressure on them to respond fully.

Machimbidza (2014a) citing various authors noted that personal or researcher interviews ensure uniformity and that in-depth probing can be achieved as the researcher is well knowledgeable about the issue under investigation. Connaway and Powell (2010) add that personal interviews also provide greater capacity for correction of misunderstandings by participants. Again, interviews require interviewer to have good listening skills, good memory and the ability to think on their feet (Kajornboon 2005); all these qualities favour researcher interviews as opposed to hiring interviewers.

According to Kajornboon (2005) the interview starts before the interview actually begins because the researcher needs to communicate with the interviewee ahead of time to establish preferences in terms of place of the interview, consent in recording the interview and also to furnish the interviewee with the purpose of the interview, as well as a succinct description of the project. This was done usefully by the researcher as reminders were sent via emails and to some extent phone calls.

4.5.3 Self-administered qualitative questionnaire

A self-administered questionnaire refers to a questionnaire that has been designed specifically to be completed by a respondent without intervention of the researchers (for example, an interviewer) collecting the data (Lavrakas 2008). The fact that the self-administered questionnaire was completed in the absence of the researcher, special care was taken in wording

the questions as well as in formatting the questionnaire to avoid measurement error. The questionnaire was also pre-tested with a small number of targeted respondents during the pilot phase of the study (see section 4.7 Pilot study).

4.5.3.1 Justification for using qualitative questionnaire

In examining research support practices, documentation of research support practices was a crucial step that led the building of theories-in-use. Lin (1998:162) noted that qualitative work can borrow from positivistic approach in order to document practices that lead consistently to one set of outcomes. Since the study intended to document research support practices in order to build theories-in-use, the questionnaire as a positivistic instrument was found to be appropriate for documenting research support practices. However, the study broke the tradition of using it in a positivistic manner and used it in a qualitative manner without losing much of the benefits that this method offers. This is also captured by Eckerdal and Hagström (2017) who stated that the function and content of the qualitative questionnaires went under a change “from a fact positivistic collectivism toward an interpretive individualism”. To this end, the results from the qualitative questionnaire cannot form the basis for generalisation as “answers account for what people have experienced and practiced” (Eckerdal and Hagström 2017). This approach was important in documenting research support practices using the research life cycle which enabled the discovery of services, approaches and skills needed for research support and led to one consistent set of outcomes. Consistent with interpretivist approach, Eckerdal and Hagström (2017) noted that qualitative questionnaires are intended for documenting and collecting material about everyday life and a fruitful method for information studies. This kind of questionnaire stemmed from an ethnological research tradition and has been adopted by cultural historical archives and museums in the Nordic countries...” (Eckerdal and Hagström 2017). Qualitative questionnaires were used in studies by (Hagström 2006 2015; Eckerdal and Sundin 2015).

Just like the interview method, the strength of qualitative questionnaire used lied in the deep insights gained from the data generated due to the nature of questions asked which required interpretation and elaboration when responding. This was fruitful because with questionnaires informants had the possibility to express themselves over time and return to their answers, modify and enlarge them before they are sent back as noted by (Eckerdal and Hagström 2017). The findings from the questionnaire were summarised and not subjected to numerical patterns

and relationships since the study used bounded cases. In some bounded cases, the number of questionnaires were quite negligible to warrant any number crunching.

4.5.3.2 Questionnaire design

In designing the questionnaire, the study used simple tables that required participants to tick on a checklist of possible responses (see Appendix C). The study also used open-ended questions which required participants to elaborate on their responses to a question and where they can think through the responses before submitting. The questionnaire reflected the research support activities of librarians around the research life cycle. The questionnaire also recorded the skills and knowledge for research support obtained from literature thereby producing the data needed for identifying theories-in-use required to examine the relationship between conceptualisation and practice of research support. It also captured the governing variable and values from the theory of Action: espoused theories and theories-in-use. The questionnaire itself was divided into six main sections as follows:

- Section A: Background Information;
- Section B: Knowledge of Research Support;
- Section C: Research Support Services/Activities;
- Section D: Skills and Knowledge Gaps;
- Section E: Challenges and Disconfirming of Experience in Research Support; and
- Section F: Reflective Strategies.

4.5.3.3 Administration of the questionnaire

It has been empirically proven that for respondents to treat the questionnaire seriously and to respond to items diligently, a cover letter must accompany it (Cooper and Schindler 2003:73). The qualitative questionnaire (see Appendix C) developed was accompanied by an informed consent letter (see Appendix N). The letter explained the purpose of the study and stressed the importance of individual participation in the study. It also explained how the study was going to be useful to the respondents. Most importantly, the letter included a statement that informs the respondent that participation was voluntary and they were required to sign at the bottom of the letter as proof of consent. To lend some authority to the study, the informed consent letter had a letterhead of UKZN and contact details of the supervisor.

The questionnaires were delivered in-person to subject/faculty librarians, reference librarians, research commons staff, system librarians, research commons and institutional repository staff as the researcher personally visited and camped for some days on each university library that

was targeted. An in-person delivery method allowed the researcher to clear up any misunderstanding on the spot. The findings from qualitative questionnaires were also used to cross validate findings from interview method because some participants were seen to be comfortable with questionnaires. This meant credibility was increased as the findings were triangulated to establish if similar patterns to the findings of one method exists on the findings of another. Table 4.3 summarises the sources of data for each research question of the study.

Table 4.1: Sources of data

Research Questions	Methods	Sources of Data
How is research support conceptually understood by librarians in Zimbabwean universities?	Qualitative	-Document analysis: library mission statements, strategic documents and policies - -Interviews- heads of libraries
Which activities/ services are librarians in Zimbabwean universities undertaking for the purpose of research support?	Qualitative	-Document review: library mission statements, strategic documents, and policies -Interviews: librarians -Qualitative questionnaires: librarians
What is the relationship between conceptualisation and practice of research support by librarians in Zimbabwean universities?	Qualitative	-Constant comparison: Espoused theories and Theories in use
What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?	Qualitative	-Interviews: Librarians -Qualitative questionnaires: librarians
What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support in Zimbabwean universities?	Qualitative	-Document review: library mission statements, strategic documents and policies -Interviews: Librarians -Qualitative questionnaires: librarians

4.5.4 Researcher's experience with data collection instruments

The researcher learnt that interviews are good at obtaining highly personalised data from respondents. However, interviews emphasise fiduciary relationship between interviewer and interviewee otherwise the later will not volunteer to share personalised data. The researcher was fortunate in that some of the respondents were acquaintances in the profession and it was very easy to create rapport so that they share information spontaneously. The interview was found to be a flexible technique that allowed the investigator to probe, elucidate and create new questions based on what the interviewee responses were. Since the interviews were audio recorded, transcribing was a very slow and time-consuming process due to large amounts of contextually laden and richly detailed data which resulted in hundreds of pages of interview scripts. The analysis of interview data was, however, made easy using a qualitative data analysis software (ATLAS. ti 8.0).

The researcher also learnt that qualitative questionnaires are a rich source of data if carefully worded open-ended questions are used. With open-ended questions respondents could elaborate their answers for clarity purposes. However, it was discovered that open-ended questions are not appropriate with respondents who are not confident with their answers and who do not have time. In case UL05 more than half of the questionnaires were returned with either incomplete answers or not completed at all. The researcher also learnt that open-ended questions are not good for people who do not possess writing skills in the language used. In some instances, it was difficult to make sense of the garbled answers as respondents struggled with writing meaningful stuff. The researcher experienced that questionnaires delivered in-person have a high response rate because of the rapport created during delivery. The researcher managed to get a 100% response rate although as alluded earlier some were returned without attempting to answer or with incomplete answers. Data generated from questionnaires were comparatively easy to code and analyse as compared to data generated from interviews.

4.6 Credibility and dependability

Criteria for judging the quality of qualitative research that parallel the criteria for judging quantitative research are credibility for internal validity, transferability for external validity, dependability for reliability and conformity for objectivity (Mertens 2010:257). Credibility and dependability were requirements for both the design and measurement of constructs in the study of research support as a professional practice.

4.6.1 Credibility and dependability in design

Regarding the design, the researcher catered for credibility by using a multi-case study approach to ensure that the findings are true for different settings. The researcher also catered for credibility in design by clearly identifying and labelling the major concepts which were 'conceptualisation' and 'practice' of research support. This was achieved by rooting their construction within a wide variety of literature on the same issue which brought out the meaning of constructs as advised by Cohen, Manion and Morrison (2007). Dependability of the design was achieved through detail documentation of each step taken in the research process to ensure that the study is repeatable. Yin (1994:102) encouraged researchers to establish a clear chain of evidence to allow the reader to reconstruct how the researcher went from the initial research questions to final conclusions. A conformity audit was developed to ensure that data can be traced to its original sources as suggested by Mertens (2010:261). Credibility in design was also achieved through careful sampling. This study carried out a pilot

study which helped to establish the proper documents and respondents capable of providing information which was required for the study of research support.

4.6.2 Credibility and dependability in measurement

Credibility in measurement is when the instrument measures what it is designed to measure (Connaway and Powell 2010). To ensure credibility in measurement, methodological and data triangulation was done ensure that what the study intended to measure comes out through different methods. Data triangulation was done when document analysis method was applied on mission documents while interviews were done with heads of libraries to clarify issues in some of the documents in order to bring out conceptualisation of research support. Methodological triangulation was carried out when interviews with research support librarians were triangulated with qualitative questionnaire method on the same population to build theories-in-use. Further, the researcher verified with peers regarding the constructs that were developing because of data analyses of interviews transcripts and mission documents. Prolonged and persistent engagement with participants to ensure deep and close involvement was another way of ensuring dependability of measurement in the case studies. The questionnaire was pretested using sample of the population in the pilot study to check if the instruments were measuring what the researcher intended.

4.6.3 Transferability

Transferability or generalisability is grounded in the intuitive belief that theories must account for phenomena not only in the setting in which they are studied but also in other settings (Gubbart and Ruigrok 2010:5). Scholars seem to concur that case studies do not allow for statistical generalisation, which is, inferring conclusions about a population (Lee 2003:222; Numagami 1998:3; Yin 1994:31). Whereas statistical generalisation refers to the generalisation from observation to a population, analytical generalisation denotes a process that refers to the generalisation from empirical observations to theory, rather than a population (Gubbart and Ruigrok 2010:714). Eisenhardt (1989) argued that case studies can be a starting point for theory development and suggests a cross-case analysis involving four to ten case studies that may provide a sound basis for analytical generalisation. Hence the use of the multi-case study design with eight Zimbabwean university libraries in the current study.

4.7 Pilot study

A pilot study was carried out over a period of a month after the researcher settled for university libraries as the population of the study. The pilot study was carried to establish the suitability

of chosen methods as well as documents for inclusion in the main study. As Van Teijlingen and Hundley (2002) noted, one of the advantages of conducting a pilot study is that it gives warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated. To this end, two university libraries were selected based on their convenience to researcher as well as their willingness to participate in the study. To establish how research support was conceptualised the researcher requested for several library mission and policy documents to work with as espoused theories. Mission statements, visions, strategic plans, service charters, procedure manuals, institutional repository, information literacy policies, and core values were found to be relevant to the study of research support although their availability varied from one institution to the next. Service and facilities offered to researchers were regarded as representative of research support practice and to this end the researcher conducted interviews and distributed qualitative questionnaires to librarians to establish the services and facilities for research support. Faculty librarians, system librarians, client service/reference librarians were found to be relevant in the study of research support in the pilot as they were actively engaged with researchers. After documents and data were collected from the two university libraries, they were uploaded into ATLAS.ti 8.0 - qualitative data analysis software (QDAS) for analysis. The Constant comparison method was applied in the analysis of documents and interviews to identify and relate concepts to each other, to facilitate the development of categories and themes. Statements of claims for both conceptualisation and practice were made from the themes that were developed from the data. The analyses of documents and interview scripts passed the constant comparison method as suitable for the study of the relationship between espoused theories and theories-in-use of research support. Results from the two cases were analysed simultaneously to establish the suitability of meta-analysis of the findings. Meta-claims were developed from the claims of the two libraries and results proved the suitability of meta-analysis technique to the study of the relationship between conceptualisation and practice of research support.

4.8 Data analysis

Data analysis consists of examining, categorising, tabulating recombining the evidence to address the initial propositions of a study (Yin 2003). According to Connaway and Powell (2010: 222), there are two principles of qualitative data analysis; first, analysis is an ongoing process that feeds back into the research design right up to the last moment of data gathering. Secondly, whatever theory, model or working hypothesis eventually develops must grow

naturally from the data analysis rather than standing to the side as a prior statement. Integration of data collection and analysis is central to qualitative works (Creswell 2009; Connaway and Powell 2010).

4.8.1 The constant comparative method of content analysis

The constant comparison method is generally regarded as one of the most effective means of qualitative content analysis (Connaway and Powell 2010:225). This involves joint coding and analysis during the continual review of data to gradually form categories (Connaway and Powell 2010). Coding is the starting activity in qualitative analysis and the foundation for what comes out later. Coding plays a key role in category identification in qualitative data analysis (Williamson *et al.* 2013). Codes are tags, names or labels (Punch 2009: 176). Coding therefore is the process of putting tags, names, or labels against pieces of data. The piece may be individual words or small or large chunks of the data. Mission statements, strategic plans and policies of academic libraries were analysed and coded to develop concepts germane to research support as these documents were regarded as espoused theories of academic libraries. The researcher used both descriptive coding and inferential coding in analysing these documents. ATLAS. ti 8.0 was used in the analysis of data.

The constant comparative method was used by the researcher to develop concepts from the data by “coding and analysing at the same time” (Taylor and Bogdan 1998). The constant comparative method

“combines systematic data collection, coding, and analysis with theoretical sampling in order to generate theory that is integrated, close to the data, and expressed in a form clear enough for further testing” (Conrad *et al.* 1993:280).

The constant comparative analysis method is an iterative and inductive process of reducing the data through constant recoding (Glaser and Strauss 1967). Constant comparison assures that all data are systematically compared to all other data in the data set (O’Connor *et al.* 2008) in Fram 2013:2). This study used the constant comparative analysis method (CCA) outside of the Grounded Theory and followed a naturalistic inquiry. O’Connor *et al.* (2008:41) stated:

“It must be clear that constant comparison, the data analysis method, does not in and of itself constitute a grounded theory design. Nor does the process of constant comparison ensure the grounding of data whether “grounding” is used in a positivistic or interpretive sense. Simply put, constant comparison assures that all data are systematically compared to all other data in the data set. This assures that all data produced will be analysed rather than potentially disregarded on thematic grounds. It is the time and the process of this constant comparison

that determines whether the analysis is deductive and will produce a testable theory or whether the analysis is inductive and will build a theory for a particular context.”

As a result, the study followed a more fluid breakdown of the CCA steps developed by Strauss and Corbin (1990, 1998) followed by Fram (2013:3) which included open, axial, and selective coding. Open coding is the analytical process through which concepts are identified and their properties and dimensions discovered in the data (Strauss and Corbin 1998:101). Axial coding is the process of relating categories to their subcategories or theoretical model (Strauss and Corbin 1998; Creswell 2009). Important in axial coding is the answering of questions of ‘how’ and ‘why’ to understand latent qualities of categories and so develop subcategories. Selective coding is “the process of integrating...” (Strauss and Corbin 1998:143).

The use of constant comparison method in this study was threefold, firstly as described above and secondly it was used to establish the relationship between conceptualisation and practice by comparing concepts from the two variables and thirdly it was used to compare cases with each other to come up with an integrated description of conceptualisation and practice of research support in Zimbabwean university libraries for a holistic understanding.

4.8.2 Meta-analysis of cases

The basic idea of qualitative meta-analysis is to provide a concise and comprehensive picture of findings across qualitative studies that investigate the same general research topic (Timulak 2009:591). Schreiber, Crooks and Stern (1997:314) characterise qualitative meta-analysis as “the aggregating of a group of studies for the purposes of discovering the essential elements and translating the results into a product that transforms the original results into a new conceptualisation.” The study used meta-analysis on findings from each case investigated. Thus, the study treated the findings of primary case studies as data for meta-analysis. The focus was on comparisons among primary cases and abstract understandings of principles present in primary studies.

4.7.3 Steps taken in data analysis

ATLAS.ti 8.0 was used to analyse documents, qualitative questionnaires and interview transcripts. The researcher used ATLAS.ti software to assist in coding, reducing data, and making inferences. The Software helped in the narration aspect by providing visual representations and readily available quotes which were incorporated in the reporting. Each bounded case was treated as a standalone project in ATLAS.ti and a total of eight projects were created. Meta-analysis of cases was done as a separate project in ATLAS.ti. The results from

each single case were regarded as primary documents for the meta-analysis project. The following steps were crucial in the analysis phase:

1. Transcribing audio-recorded interviews and selecting the unit of analysis, that is relevant mission documents;
2. Uploading of relevant mission documents and interview transcripts into ATLAS.ti 8.0
3. Grouping of primary documents as espoused and theories-in-use;
4. Making sense of the data by reading the mission documents and interview scripts several times;
5. Creation of free quotations of relevant segments;
6. Creation of a list of research support indicators from literature to help in identification of relevant concepts and phrases in documents;
7. Identification of concepts and phrases that relate to research support from the relevant quotations;
8. Labelling the relevant text using open coding and code in Vivo (based on the terms used in the documents);
9. Examining the code list generated during coding exercise (see Appendix O);
10. Iterative process of comparing concepts (codes) to ascertain common categories of concepts;
11. Merging and splitting of codes as needed to reduce redundancy of codes and to improve exhaustivity of concepts;
12. Categorisation of concepts, for example research support approaches was a category under theories-in-use;
13. Development of a data network which synthesised various codes, quotations and their link to their original documents (see Appendix P);
14. Querying the data network to develop statement of claims for conceptualisation and practice in order to make inference – what do the data mean or cause e.g. What do libraries offer to their universities as conveyed in mission statements? What are the goals of the libraries as expressed in strategic documents and other related policies? How is research support defined by libraries?
15. Making narratives for the statement of claims;
16. Constant comparison of espoused claims and theories in used claims to establish the nature of the relationship;
17. Creation of a meta-analysis project to synthesise the results of individual cases;

18. Uploading of results from individual cases as separate documents to facilitate cross-case comparison;
19. Application of constant comparison method to various claims and their evidence from different cases;
20. Development of meta-claims to provide a holistic picture of research support as a professional practice; and
21. Making narratives for the claims using results obtained from individual cases.

4.9 Ethical issues

Connaway and Powell (2010:113) make the point that consequential and non-consequential ethics provide a framework for LIS decisions in the field. Consequential ethics argue that the results of an act determine its ethical value; that is, good consequences outweigh harmful consequences are the hallmark of an ethical act. The problem with qualitative researchers following this approach is that determining the consequences in advance is almost impossible. On non-consequential ethics argue that consequences are not the determinant of ethical actions but rather principles such as honesty. Qualitative researchers employing non-consequential ethics use abstracts as their guide while striving to fully balance those participants most immediately affected by their ethical stance. To this end, the study followed the non-consequential ethics and used principles as the guide since it was difficult to determine the consequences in advance. The following ethical issues were considered in the study.

Firstly, permission to undertake the study in eight institutions that formed part of this study was sought and granted. Appendices (D, E, F, G, H, I, J, K) show the letter of approval from the eight institutions. The study also received ethical clearance from the Ethical Clearance department of UKZN (see Appendix L) before embarking on data collection.

The informed consent letter made it clear the participation in the study was voluntary and as such respondents were free to refuse or withdraw from the study at any stage and for any reason without any form of disadvantage. Before the participants were involved in the study they were requested to sign consent forms (see appendices M and N) after carefully reading it.

Participant confidentiality, rather participant anonymity generally dominates in qualitative research. The face-to-face involvement of interviews, general observation, focus group and participant observation preclude any pretence of participants' anonymity (Connaway and Powell 2010: 211). The goal of confidentiality becomes crucial. Participants' confidentiality

was upheld by removing identity details, and carefully keeping documents to ensure that the participants will never be identified.

The consent form that participants signed also spelled out the mechanism by which confidentiality would be protected. The schedule for destruction of notes, tapes, computer files and other records was included and participants were told that all records will be maintained by UKZN for confidentiality and anonymity reasons. The informed consent letter also explained the purpose of the inquiry. The cover letter expressed what participants were to gain from the study.

4.10 Summary of the chapter

The chapter documented the methodological techniques employed in the study. It showed that the study adopted interpretivism as a research paradigm and a qualitative approach as the research design. The theoretical framework, problem and the research questions of the study informed the selection of a qualitative research design. Qualitative research design gives a chance of going into the subjects' life to make sense of their experiences. It provides an opportunity to understand the meaning librarians give to research support as one of their library services given that conceptual understanding is rooted in definitions and mental models ascribed to by librarians in support of research. A multi-case study design was preferred because of the existence of several similar phenomena under consideration, that is, university libraries in Zimbabwe. A case study gives the opportunity of using various sources such as interviews, questionnaires and document reviews. Interviews allowed the researcher to collect data for developing theories in use whilst document review allowed the researcher to determine espoused theories of research support from mission statements, strategic documents and policies. Many ethical issues were observed in the study and these were discussed.

CHAPTER 5

PRESENTATION OF RESULTS

5.0 Introduction

This chapter presents findings from the eight university libraries that were investigated as part of understanding the nature of the relationship between conceptualisation and practice of research support by librarians. Conceptualisation was investigated via espoused documents and practice was examined via research support services as representative of theories-in-use. The study also investigated the reflective strategies employed by librarians to deal with dilemmas and disconfirming experiences that challenge their sense of competence in the practice of research support. The Theory of Action: espoused theories and theories -in-use provided the fulcrum for the study and helped in providing the direction in questioning policy documents such as mission statements and strategic plans to establish how research support was conceptualised. According to the Theory of Action, theories-in-use can be determined by asking the practitioners themselves or representatives of practice. In this study, practitioners were asked about the services they offered to researchers to enable the development of theories-in-use. To this end, Faculty Librarians, Systems Librarians, Client Service and/or References Services Librarians, Institutional Repository staff were targeted.

ATLAS.ti 8.0 was used in the analyses of policy documents, questionnaires and interview scripts. This Software for qualitative data analysis allowed for easy coding, sorting and development of categories and themes and the ultimate comparison of conceptualisation and practice of research support. Statements of claims were developed using a questioning approach on categories and themes that emerged from the analysis of policy documents and interviews. These claims were supported by evidence from the data in accordance with dictates of qualitative research to remain grounded in the data. Statements of claims generated for the purposes of understanding conceptualisation and practice formed the foundation for the juxtaposition and comparative analysis to establish congruences or incongruences that existed between conceptualisation and practice. Disconfirming experiences and dilemmas encountered by practising librarians and the reflective strategies to deal with them gave further detail on the nature of the relationship between conceptualisation and practice of research support as a professional practice. Given the nature of the study, this chapter presents findings on a case by case basis and the findings are presented in different forms which include statements of claims and tables. A reflective analysis is provided in each bounded case. In adherence to ethical

principles of qualitative research, the study did not include identity details of the cases investigated in presenting the findings, rather a coding system was developed to represent these cases. For example, UL01 is the code representing university library one.

5.1 Case one: UL01

Mission Statement, Research Services and Training Policy, Institutional Repository (IR) Policy and the Circulation Policy were the espoused documents availed to the researcher by the Library to inform conceptualisation of research support. To establish research support practices, interviews were held with two Faculty Librarians, the Systems Librarian, Research Services Librarian, Institutional Repository Librarian and the Client Services Librarian. Qualitative questionnaires were distributed among the same librarians as part of triangulation.

5.1.1 Research support indicators derived from policy documents to inform conceptualisation

Access to information, information resources, research output, facilitate, access, management, collection, copyright, open access, content, archiving, information literacy training, e-resources training, photocopying, reference services, circulation, training, availing, providing, access, resources, materials, request books, journals, libraries, students, teaching staff, part-time lecturers, non-teaching staff, approved readers, alumni, researchers. Table 5.1 shows the predominant indicators and statement of claims developed.

Table 5.1: Predominant indicators and statement of claims - espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
Support, access to information	Mission Statement, Institutional repository Policy, Research Services and Training Services Policy	The Library supports the University's research mission by providing access to information
e-books, printed materials, e-journals	Institutional Repository Policy, Research Services and Training Services Policy	Availing information resources such as e-books, e-journals and printed materials is fundamental to meeting the needs of researchers
Research output	Institutional repository Policy, research services Policy	The Library has a responsibility to manage research output of the University
Services	Institutional repository Policy, Research Services Policy, Circulation Policy	Services for researchers are offered by different departments within the Library
Training, access	Faculty Librarian s, Systems Librarian, Client Services librarian, Research Services Librarian	Research support is understood as training and providing access to library materials
Collaboration; information resources	Circulation Policy	The Library recognises the need to collaborate with other libraries in providing information resources to meet the needs of researchers
Categories of users	Circulation Policy	Researchers are regarded as a distinct constituency of the Library

Source: field data (2017)

5.1.1.1 Validation of claims

a) The Library supports the University's research mission by providing access to information

The Library through its Mission Statement espouses support for the University's three-tier role of research, teaching, and learning and social responsibility by providing "... access to appropriate information resources that support quality research, teaching and learning experiences of the University community."

b) Availing information resources such as e-books, e-journals and printed materials is fundamental to meeting the needs of researchers

Through its strategic goals, the Library seeks "To build and enhance research collections that are responsive to current and future teaching and research needs of the University." It is upon this that the Library seeks "To facilitate increased use, access and management of library resources and collections through efficient and effective utilisation of Information

Communication Technologies.” As articulated in the IR Policy, the Library, through the IR department “provides access to the resources in the IR at no cost to the University community and all other persons...” and to provide access to the University’s “research output from a central source.” To complement these efforts, the Library’s Research Services and Training Policy states that the Library manages “...electronic resources subscribed by the University library and ensures seamless access to all university’s stakeholders both on campus and off campus.” The same Department “select and manage electronic resources such as e-books and e-journals” as part of their support for researchers at the University. Another goal of the Library in its efforts to provide resources, is “To establish and maintain linkages and partnerships for resource sharing.”

c) The Library has a responsibility to manage research output of the University

The Library’s Institutional Repository Policy mandates the IR department to manage content by uploading “journal articles produced by university authors and published in peer-reviewed journals”, “all university’s journals”, “books and book chapters by university authors”, “thesis and dissertations produced by the University students”, “conference papers and workshop papers presented by the University authors” and “published and unpublished research papers.” The Policy mandates the IR department to help researchers adhere to “copyright, intellectual property and licensing issues” from publishers before archiving in the IR. The Policy also mandates the department to ensure that research output of the University is “disseminated to other scholars” through open access with the effect of “increased global visibility” of the researchers and their research output.

d) Services for researchers are offered by different departments in the Library

The Library is made up of various departments which offer eclectic services to researchers. The Research Services and Training department is responsible for “the management of electronic resources,” “ensure seamless access,” “identifying training needs... especially in the use of the Library and its resources,” “designing and teaching of Information Literacy skills module,” “select and manage electronic resources such as e-Books and e-Journals” and “organizing internal training workshops and programs.” The Institutional Repository department “provides access to the resources,” “provides availability of local content,” “provides increased visibility of ...research output,” preserves “intellectual heritage”, “facilitates exchange of expertise and experience.” In addition to these, the circulation department is also another crucial department in the Library which is responsible for, among

other things, “managing and providing circulation activities of the Library,” “photocopying services,” “reference services,” “library orientation programmes” as well as offering “detailed Information Literacy Skills (ILS) Training programmes on the use of electronic information resources as well as physical resources.”

e) Research support is understood as training and providing access to library materials

Research support is characterised as training, providing materials and facilitating access to these materials for researchers. In an interview, the Research Services Librarian noted that research support is, “providing information to enable people to make informed decisions, that is research.” Responding to the same question in a separate interview, the librarian remarked, “What I think is research support is providing access to information when needed by researchers and I think, though we are not doing it here ... it should also include a concept of actually assisting researchers on how to conduct their research probably in terms of methodology.” One senior librarian defined research support as, “availing of research materials that are needed by the clients, also the training that we give them on the use so that they maximise on the information that is available.” In addition, the Library website, through the research support link only conceptualises research support as, “information searching assistance.”

f) The Library recognises the need to collaborate with other players in meeting the needs of researchers

Collaboration for the purposes of increasing information resources is one of the goals stipulated by the Library. The Library endeavours “To establish and maintain linkages and partnerships for resource sharing.” This is also articulated in the Library Circulation Policy which states, “... it is the Library’s policy to request from other libraries books or journals not available ... that are needed for the purposes of study, instruction and research.” This points to the Library’s collaborative efforts in support of researchers. The Research Services and Training Policy recognises the need for collaboration among relevant university players in providing information literacy skills training which is deemed the basis for researcher support. The Policy states that the research service department will collaborate with the “department of Computer Science and Information Systems in the smooth running of the programme.”

g) Researchers are regarded as a distinct constituency of the Library

The Circulation Policy categorises users of the Library as “students, teaching staff, part-time lecturers, non-teaching staff, approved readers, alumni, students and staff from Zimbabwe university library consortium, students, staff from colleges and researchers ...”

5.1.2 Research support indicators derived from interviews and questionnaires to inform practice

Institutional repository, research services and training services, circulation reference, resources, research, information literacy, research board, computer science department, ZULC, liaison, collaboration, marketing, research services and training services, resources, information literacy, reference, attitudes, funding and time. Table 5.2 presents the predominant indicators and statement of claims for UL01 theories-in-use.

Table 5.2: Predominant indicators and statement of claims - theories-in-use

Predominant Categories	Evidence	Claims generated from research support indicators
Responsibility	Interviews and Questionnaires	Services for researchers come from various departments within the Library
Assumptions and beliefs	Interviews and Questionnaires	Research support librarians make no distinction between scientific research and other scholarly activities
Collaboration	Interviews and Questionnaires	Collaboration with other units is regarded as essential in meeting the needs of the researchers
Approach	Interviews and Questionnaires	Librarians use both traditional and modern approaches in supporting researchers
Challenges	Interviews and Questionnaires	Attitudes, funding and time hinders librarians in offering effective research support services
Research process	Interviews and Questionnaires	The services offered by the Library are distributed throughout the research process

Source: field data (2017)

5.1.2.1 Validation of claims

a) Services for researchers come from various departments within the Library

From the interviews and questionnaires that were used to collect data from librarians it emerged that the services for researchers are a collective effort of different units within the Library. However, it is the primary responsibility of the Research Services department to directly engage with researchers. In an interview, the Research Services Librarian explained that the Department has a range of responsibilities which include “... advise on research topic,

literature searchers, literature reviews, data analysis right up to the end, and management of electronic resources also.” The Systems Librarian also indicated that the Systems unit assists in data analysis software issues to researchers and said, “Researchers usually come to me and say can you assist me with SPSS, I do that but in terms of Turn-it-in software, this one it is the role of the Library and I am required by the Library to do that.” The librarian added that they also “have at least two workshops on training resources for each faculty.” In the same interview, the librarian indicated that his office was also responsible for “training anti-plagiarism software”, “data analysis using software,” “introducing new technologies” to research. The Systems Librarian also noted that his unit was chiefly responsible for offering assistance in terms of “plagiarism - if their researches have been correctly cited.” The librarian further indicated that his department assisted other colleagues in libraries in “coordinating trainings for information literacy”, “e-resources training”, “holding workshops”, “literature reviews”, “literature searches”, “data analysis” and introducing “new technologies to research.”

Asked about the responsibilities of the IR department, the IR librarian listed, “capturing research products,” “copyright, intellectual property and licensing issues,” “dissemination through open access” and “citation analysis”. The librarian also said the Department “offer subject guides electronically” which is yet another critical research support initiative of the Library. Librarians also noted in separate interviews that the marketing department is responsible for “current awareness” of e-resources and other library materials to researchers so that they use quality information. On e-resources, one Faculty Librarian said as part of supporting researchers they hold “... training sessions on how to use them with the lecturers and then with the students”.

From the interviews, it appeared that training of researchers on information literacy skills and e-resources usage is a concerted effort from various departments. One Faculty Librarian said, “we are responsible for ILS training which is part of a module called Introduction to Technology.” On the same issue, the Systems Librarian noted, “we have at least two workshops on training resources for every faculty, these are refresher courses where we just approach each faculty ...”. In addition, the Research Services Librarian indicated that their unit emphasised “trainings in new electronic resources, trainings in anti-plagiarism software, for example the turn-it-in anti-plagiarism software.” From another end, the Client Services Librarian noted that part of her responsibilities was to “offer information literacy skills training to the education faculty.”

b) Research support librarians make no distinction between scientific research and other scholarly activities

Practicing librarians assume that there is no distinction between research done for teaching and learning and research done for generating knowledge. One who is involved in, for example, writing assignments is viewed the same way as one embarking on a scientific study of generating knowledge. This was revealed in a questionnaire where librarians were asked if they separated services for teaching and learning and that for research. In an interview, the Research Services Librarian noted:

“Naturally, what libraries do, they always follow the Mission Statement of the University which is to support teaching and learning, however, teaching and learning entails the discovery of new information or new knowledge, that is research.”

Responding to a question on the questionnaire, the institutional repository librarian noted, “I think it’s the same because research is the same for researchers and for teaching and learning.” In this regard, librarians were focusing on availing materials with the assumption that they would cater for both teaching and learning activities as well as research activities. The Systems Librarian said, “... we offer materials only, research materials in terms of gathering and probably designing of their topics that one we were not currently doing.”

c) Collaboration with other units is regarded as essential in meeting the needs of the researchers

The Library works in collaboration with the research board. In an interview the Research Services Librarian detailed”

We work hand in hand with the research board... If the research board decides to fund the researcher, they profile that researcher, but the Library now will support the research needs of that researcher and the research output whether it’s a paper or a video or what it is hosted by the Library on the Institutional Repository, Open Access Institutional Repository.”

In another interview, one Faculty Librarian noted that the Library had some privileges of accessing certain databases that they do “subscribe through the consortiums” which is done to ensure that researchers access quality resources. He added that they also collaborated as library departments because library departments “cannot be distinct, they will always be complimenting each other to make the researcher happy.” In another interview, another Faculty Librarian also said, “we combine with the guys from IT who teach the other part which is

information technology and we teach ILS which is examinable at the end of the semester as one module with two parts.”

d) Librarians use both traditional and modern approaches in supporting researchers

The Library uses the Liaison and Resources models which orbit around information discovery, collection development and liaison with faculty frequently in terms of providing resources. One Faculty Librarian said, “We do have electronic resources for the researchers, students, academic staff and for librarians.” In confirmation, the research services librarian noted, “the University has also invested heavily in electronic resources, because with electronic resources you can actually access resources around the clock.” Through a questionnaire response, the IR Librarian stated, “the Library supports research by acquiring electronic resources on behalf of researchers.” Presented in Table 5.3 are the research support models used by librarians.

Table 5.3: Research support models used by librarians in practice (n=5)

Approaches	Model	Frequency
Traditional	Resources	4 (80%)
	Liaison	4 (80%)
Modern	Engagement Model	0 (0%)
	Hybrid	3 (60%)
Alternative	Shared Services	2 (40%)
	Outsourcing	0 (0%)

Source: field data (2017)

Evidence from interviews confirmed the use of the Liaison Model by librarians. As part of their responsibility to support research done at the University, one Faculty Librarian revealed, “we liaise with the faculty so that we get the material that the researchers need not just subscribing as in what we feel is relevant to them we can feel that this is relevant to them then approach them.” In addition, librarians undertook “training sessions in information literacy especially for the students.”

It was noted that the Library uses the Shared Services Model to support researchers. In this model, libraries combine efforts to gain the benefits of economies of scale and the Library is part of the ZULC initiative. One librarian noted that “the databases that we are getting are those that we subscribe to through the consortium, they are providing more than enough information for our researchers.”

Librarians indicated that they were using the Hybrid Model which entails the Library seeking to support researchers by creating new library posts. The Library also created a research

services office and a library marketing department. This was confirmed in an interview with the Systems Librarian who revealed that:

“The Library has a research services librarian and is manned by a research services librarian, so this is where all the requests for research go to. So, in terms of structures, we have departmental structures that are aligned to that. Then, of course, there is supporting equipment which is IT and we also have that and software that assists our researchers in carrying out their studies.”

In an interview with the Research Services Librarian, he noted that librarians had different responsibilities and roles in supporting researchers and said, “there is somebody responsible for marketing library services, library products, activities all those things...”. Because of this new post, the Library is “... starting to see a difference such that at times when we call for a workshop, we get some good attendance.”

e) Attitudes, funding and time hinders librarians in offering effective research support services

Evidence from interviews and questionnaires shows that attitude of researchers towards the services of the Library is negative. Researchers look down upon librarians as people are not capable of doing anything. One librarian demonstrated:

“A very good example I can give you is education, those guys from that faculty have not be willing to come for training and they are the most notorious when it comes to failure to deliver services in terms of either helping their students to use Turn-it-in, they are not capable but at the same time they don’t want to come for training. And there are guys from IT, they think they know it but they face challenges in terms of, if they are to submit a dissertation to turn-it-in from the students.”

Another challenge mentioned is that of “low budget for research material.” Space was also seen as a hindrance in providing support, one Faculty Librarian noted, “what is happening is we have a situation where we have two intakes, but the space is not increasing, so the space and the resources are not matching with the students - so those are some of the challenges, during the exam time they actually scramble for space in the Library.” Time and scheduling was considered a major challenge by the Systems Librarian. He stated:

“When the Library is free to offer training, the faculty will be busy with either marking or lecturing, if we say we want to train them during the vacation, sometimes the staff is not available, or they will be on vacation or the students obviously, they won’t be there. So, the major challenge is the issue of the time we request for training, it never matches the schedule that they will be having in their faculties.”

f) **The services offered by the Library are distributed throughout the research process**

From the qualitative questionnaire distributed, it was discovered that services for researchers are scattered throughout the research process. It was, however noted that at creation level the Library played a very limited role of providing backups for data. Table 5.4 illustrates the services offered and their frequency from different librarians.

Table 5.4: Services offered by the Library (n=5)

Stage	Service/Activities	Frequency
Preparation	Drafting applications	1 (20%)
	looking for ideas	4 (80%)
	deciding on a topic	2 (40%)
	formulating a research question	1 (20%)
	Identifying sources of funding	2 (40%)
Gathering	Creation of guides	4 (80%)
	Tutorials to help researchers	5 (100%)
	Information literacy sessions	4 (80%)
	Developing effective search	5 (100%)
	Literature Searches	5 (100%)
	Document delivery	5 (100%)
	Strategies	4 (80%)
	Provision of physical space for researchers e.g. research commons	4 (80%)
	Online reference services	3 (60%)
Creation	Compiling data management plan	2 (40%)
	Creating and organising strategies for documentation	1 (20%)
	Collection and making available data sets for reuse	1 (20%)
	Research data curating and management	1 (20%)
	Backups	2 (40%)
Sharing	Dissemination of research output	5 (100%)
	Scholarly communication and open access	5 (100%)
	Advice and support for open access publishing	5 (100%)
	Advising on utilising new dissemination means	4 (80%)
	Institutional repositories as a facility to showcase research output	5 (100%)
Measurement	Citation analysis	4 (80%)
	Publication counts	4 (80%)
	H--index	4 (80%)
Commercialisation	Library sites as tools for research marketing	4 (80%)
	Copyright and property rights	4 (80%)
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	5 (100%)

Source: field data (2017)

The services identified in the questionnaire were confirmed through the interviews that were conducted by the same respondents as a way of triangulating sources. At preparation stage, the Client Services Librarian noted, “We advise on topic formulation.” The same librarian added, “right, normally people will come with a hazy idea for research, ... then it’s a matter of looking at their area of interest and then give them information so that they can have an idea of the research topic.” At gathering stage librarians assist in “literature review,” “literature search,” “information literacy skills (ILS)” services to researchers. At creation, librarians help researchers with data analysis using software like SPSS. One interview with the research services librarian confirmed, “others will not have even an idea of how to draw up a chart, a pie chart or graph on data presentation, we actually help them, they bring the data and then we help them.” At sharing stage, as noted by the IR librarian, the Library does a “collection of research papers from researchers, institutional staff, academic staff, ... and upload to (the) information repository”, distribution of research output by uploading student dissertations whereby “the distinctions are put to the open access” as a way of showcasing research output. Under measurement, the Library provides impact analysis where the IR librarian is “currently checking staff thesis to establish how frequent they have been downloaded.”

At emerging technology stage of the research process, the Systems Librarian indicated through the questionnaire that through the Library website “researchers have access to research tools such as Turn-it-in an anti-plagiarism software, Mendeley and Zotero for reference management.” The research knowledge and skills held by librarians are captured in Table 5.5.

Table 5.5: Research knowledge and skills (n=5)

Knowledge and skills for research	Frequency
Knowledge of data curatorship and preservation skills	3 (60%)
Knowledge of publishing	4 (80%)
Knowledge of research process	5 (100%)
Teaching skills for designing information literacy training	4 (80%)
Knowledge of research methods	4 (80%)
Knowledge of bibliographic and searching tools in the subject	5 (100%)
Information literacy skills	5 (100%)
Literature searching skills	5 (100%)
Knowledge of citation and referencing)	5 (100%)
Knowledge of subject content	4 (80%)
Knowledge of bibliometrics	2 (40%)
Finance and budget skills	2 (40%)
Technical and IT skills	4 (80%)
Marketing skills	5 (100%)
Collaborating skills	3 (60%)
Knowledge of the research landscape	4 (80%)

Source: field data (2017)

5.1.3 Relationship between espoused theories and theories-in-use

A comparative analysis of the claims generated from policy documents that represented conceptualisation and those that represented practice revealed several congruences and incongruences. A Juxtaposition of claims which emerged from espoused theories and theories-in-use is presented in Table 5.6.

Table 5.6: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none"> 1. The Library supports the University's research mission by providing access to information 2. Availing information resources such as e-books, e-journals and printed materials is fundamental to meeting the needs of researchers 3. Services for researchers are offered by different departments in the Library 4. The Library has a responsibility to manage research output of the University 5. Research support is understood as training and providing access to library materials. 6. The Library recognises the need to collaborate with other libraries in providing information resources to meet the needs of researchers. 7. Researchers are regarded as a distinct constituency of the Library 	<ol style="list-style-type: none"> 1. Services for researchers come from various departments within the Library 2. Academic support librarians make no distinction between scientific research and other scholarly activities 3. Collaboration with other units is regarded as essential in meeting the needs of the researchers 4. he library uses both traditional and modern approaches in supporting researchers 5. Attitudes, funding and time hinders the Library in offering effective research support services 6. The services offered by the Library are distributed throughout research process

Source: field data (2017)

▪ Congruence

The Library espouses providing access to information resources as key in support of researchers was realised in practice where librarians were using the Resources and Liaison models which involves acquiring resources in form of books, journals and e-resources to facilitate access. To facilitate access, practicing librarians also assist researchers in literature searches, impart information literacy skills, hold e-resources workshops to assist researchers utilise library resources. In addition, the marketing department is responsible for ensuring maximum utilisation of resources by making sure that the researchers are aware of the resources and services that the Library offers.

There is congruence on collaboration as a vehicle to support the needs of researchers. The espoused documents state the need to engage other players in providing information resources and this is reflected in practice where the Library is part of (Zimbabwe University Library Consortium (ZULC) for purposes of gaining economies of scale in subscribing to e-resources. Within the University, the Library expresses the need to work with other departments and this

is seen in practice where the Library works with IT department in the delivery of information literacy and the research board in capturing the end products of scholarship.

There is congruence on how policy documents espouse training as a critical aspect of support for researchers and this is in synch with practice where the Library through the Research Service and Training department holds information literacy skills training sessions, e-resources training, workshops on the research process, anti-plagiarism and intellectual property rights.

▪ **Incongruence**

There seems to be a gap between the espoused categories of users and the nature of services offered in the Library. Policy documents seem to identify researchers as a distinct constituency yet in practice librarians make no distinction on services of researchers and those for other scholarly activities such as teaching and learning.

5.1.4 Disconfirming experiences and dilemmas in practice

Practicing librarians indicated that they experience several confutations while discharging research support duties. One disconfirming experience raised by librarians is poor turnout in trainings by researchers. The Research Services Librarian revealed, “At times you call for a training seminar or a workshop, you get low attendance.” Other disconfirming experiences which seem to reverberate among librarians include feeling of “... overlapping in other fields and required to do more than is needed.” The Systems Librarian explicated, “Sometimes the researcher comes to you with a topic and the researcher would actually want you to actually do, probably read the whole article and give them a summary of the article, we have incidences where the researcher would say, retrieve an article for me, read it and give me a summary of the article.” This was also rebounded by one Faculty Librarian who said, “When you try to teach a user on how to find the desired information, but the user insists on wanting me to find the information for them.”

Another disconfirming experience faced by librarians was the failure by researchers to grasp taught skills in various training initiatives. One Faculty Librarian in an interview exclaimed:

“We have some challenges with researchers here, I am not sure if its correct to say they don’t want to use e-resources or they need more training or the training that they have is not enough. Even after training they still come to say, ‘I am not sure how to go about this, how do I access this’ even though we would have trained them.”

Also, the Research Services Librarian noted “scepticism about the abilities of the librarians in carrying out research” is yet another disconfirming encounter that they experience in discharging research support.

5.1.5 Reflective strategies to deal with disconfirming experiences and dilemmas

Faced with disconfirming experiences and dilemmas in practice, it was found that librarians dealt with these through both the single and double loop reflective strategies expressed in the Theory of action. In the single loop strategy, achieving goals and purpose as stated (n=5) were the most frequent governing variables and in Model 2 learning strategy, sharing power with anyone who has competence and who is relevant (n=5) was most frequent. This is illustrated in the following table (Table 5.7).

Table 5.7: Governing variables in practice n=5)

Reflective Strategies	Model	Governing Values/Variables	Frequency
Single Loop	Model 1	I achieve my goals and purpose as stated	5 (100%)
		Win do not lose	2 (40%)
		Suppress negative feelings	4 (80%)
		Emphasise rationality	3 (60%)
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	5 (100%)
		Definition of task control over the environment is shared with the relevant others	1 (20%)
		Maximise valid information	2 (40%)
		Have high internal commitment to the choice and constant monitoring of its implementation	2 (40%)

Source: field data (2017)

5.1.6 Reflective analysis

Despite having introduced modern approaches of delivering research support services in the Library by way of new structures and posts to meet the demands of the new research landscape, it was discovered that the Library even now conceptualises research support as providing access to information to researchers. It appears the new structures and posts put in place were meant to buttress the same old services offered without necessarily providing new and expanded services in line with the new research landscape. This makes the Library ineffective in an environment where research support is conceptualised as partnering the researchers in

research. The failure to introduce the Engagement Model which emphasises partnering and collaboration was attributed to lack of knowledge on the part of librarians. It was discovered in literature that it is a prerequisite for librarians to have knowledge in the areas they support if they are to offer upstream research support. It is no wonder that the collaboration that librarians were involved in entails working with institutions and departments within the University and not collaboration with researchers in their research. Notwithstanding the lack of subject knowledge to partner with researchers, it was discovered that the library's services for researchers are well distributed throughout the research process because the support for researchers comes from various units with different expertise within the Library.

The use of both single loop and double loop reflective learning strategies by librarians could explain why there is congruence between conceptualisation and practice. For example, it was discovered that the goals of the Library are realised in practice because the predominant variable is to achieve goals and purpose as defined. The introduction of new structures, posts and the enactment of a library research policy should be seen as the corollary effect of Double Loop Learning Strategy employed by the Library to deal with disconfirming experiences. Establishment of a dedicated Research Services and Training department as well as the Marketing department in the Library is a response to new demands placed on the Library. It was also discovered that the Library was better placed to meet the demands of researchers because they valued "sharing power with anyone who has competence and who is relevant" as seen by collaborative initiatives with other departments within the institution, for example, Computer Science department.

5.2 Case two: UL02

In this university library, Strategic Plan (2013-), 2016 Annual Report and Library Service Charter were availed to understand conceptualisation of research support. An interview was conducted with head of the Library to clarify on policy documents. To establish how research support was being practised, one Assistant Librarian who also doubled as the Systems Librarian, was the only qualified person to participate. One questionnaire was given to the Assistant Librarian for completion and an interview was also conducted.

5.2.1 Research support indicators derived from policy documents to inform conceptualisation

Intellectual commons, university, providing access, increased collection, provide high quality resources, ZULC, ZIMLA, IFLA, NLDS, ACBF, Parliament of Zimbabwe, use of each other's libraries, finances, lack of physical space, shortage of staff, ILS training, integrated library

system, computer access, research and information management, training, e-resources, provide access, qualifications, collaboration. Predominant indicators and statement of claims for UL02 espoused theories are presented in Table 5.8.

Table 5.8: Predominant indicators and statement of claims - espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
Intellectual commons	Strategic Plan, Mission Statement	The Library serves the University as the intellectual commons
Provision of resources	Strategic Plan	The Library regards provision of resources as an indicator of research support
Collaboration	Strategic Plan, Annual report	Collaboration is considered a way to enhance services for researchers
Challenges	Strategic document	The Library faces a slew of challenges in supporting researchers
Services	Library Services Charter	The Library espouses various services for researchers
research support	Interview	Research support viewed as training and provision of access to resources

Source: field data (2017)

5.2.1.1 Validation of claims

a) The Library serves the University as the intellectual commons

The Library presents an information resource focused Mission Statement in support of research. The Library exists “To serve as the intellectual commons of the University, providing high-quality resources, services, and gateways to information to meet the needs of the University's diverse instructional, research, and outreach programs.”

b) The Library regards provision of resources as an indicator of research support

According to the Library Annual Report, resources are considered critical in supporting researchers hence the Library aims “to provide high quality resources, services and gateways to information to meet its diverse instructional, research and outreach programmes.” The Library seeks “... to enhance service delivery through increased collection as well as putting security measures in place such as magnetic tape detection security system as well as a library management system.” It is in this regard that the Library makes continuous efforts “To enrich students` lives by fostering lifelong learning and providing access to recorded knowledge and

information consistent with present and anticipated documented and electronic information needs ...”

c) Collaboration is considered a way to enhance services for researchers

Collaboration is heralded as “critical to the Libraries’ future”. The Strategic Plan states that “Working collaboratively enables bold and innovative action, leverages limited resources, and inspires new working model”. To ensure effective research support, the libraries “coordinate resources, share expertise and broaden knowledge through partnership with other campus stakeholders to ensure a uniform...quality experience”. A case in point is the Library’s efforts to make information resources and other enabling facilities available to researchers by partnering with the Zimbabwe University Libraries Consortia (ZULC); ACBF (African Capacity Building Foundation); IFLA (International Federation of Library Associations); NLDS (National Library and Documentation Services); SCECSAL (Standing Committee on Eastern, Central and Southern African Association of Libraries); ZIMLA (Zimbabwe Library Association); and the Parliament of Zimbabwe. The Strategic Plan notes that with the Parliament of Zimbabwe “the areas of collaboration will include the use of each other’s library facilities.” The Annual Report indicated that collaboration with ACBF had seen the installation of “Burglar bars and mesh on the first-floor windows ...” and a “Closed Circuit Television System (CCTV)” in the Library.

d) The Library faces a slew of challenges in supporting researchers

The Library faces a slew of challenges in support of researchers. It is noted in the Strategic Plan that the Library is “not purpose built for a University Library hence it lacks adequate space particularly for work.” In addition, “Shortage of staff in the Library which is compromising quality and quantity of work,” “limited bandwidth” and “inadequate financial base” are the other challenges that hinder the Library in offering sound support for researchers.

e) The Library espouses various services for researchers

Information literacy skills training is espoused as a key service in support of researchers. The Library Service Charter advocates for “Individual Based Assistance (IBA) as per request,” “Orientation sessions” and “...ILS sessions during semester breaks.” In this regard, the Library through its Strategic Plan, claims to have a dedicated room which “will be used by librarians for training students on information skills literacy and other library related trainings” and “... will be fitted with computers, a projector and a projector screen.” To meet the information needs of the researchers, the Library’s Strategic Plan espouses “Research and Information

Management Services (such as data mining)” in support of researchers. This is facilitated by “help-guides on how to search the University catalogue and library databases.” The strategic document articulates that a library management system that provides “... web interfaces customized for the user with visualised exploitation of databases, meta data, multi-media resources, and ‘on call’ knowledge management tools” as a key service offered by the Library. For this reason, the Library endeavours to “keep abreast with technological tools like automated photocopiers, automated printing, self-circulation system, digital billboards.”

Through its Service Charter, the Library claims to be offering “public workstations ... in the Library to provide access to the Internet and electronic resources ... to facilitate research.” This is achieved through “Walk-in to online public access catalogue (OPAC) PCs” and “Print-on demand services for electronic resources” available in the Library. In addition, the Library, as captured in the strategic document seeks to “invest more in Internet connectivity, bandwidth size and network facilities.” The strategic document of the Library recognises its responsibility to provide “quiet areas and group study areas” as well as “Adaptable space for work and study, with easily reconfigured physical and virtual spaces / hot spots.” However, the same document goes on to say, “The Library is not purpose built for a University Library hence it lacks adequate space particularly for work.”

According to the Library’s Strategic Plan, the Library takes an active part in “Collecting, preserving and making available for use books, manuscripts, journals, extensive e-resources, on-line databases and related materials to augment students’ knowledge, enrich teacher instruction and enable research workers pursue their investigations.” The Library therefore espouses in the strategic document to be providing “Multi-media ‘smart-boards’ facilitate ‘conferencing’ with contemporary and global scholars. Portable devices and media delivery systems that allow the Library to reach out to classrooms and other locales.”

f) Research support viewed as collaboration, training and provision of access to resources

Evidence gathered through an interview with the head of the Library revealed that research support was conceptualised as “collaboration with researchers as well as training them.” It also emerged from the same interview that research support is viewed as “trying to bridge the information gap between the researchers and resources” and efforts to “narrow the gap, to provide the guidance to the researcher.” Research support was also understood as to “train researchers based on resources that they require.”

5.2.2 Research support indicators derived from interviews and questionnaires to inform practice

Lack of skills and qualified personnel, funding, time, support from management, research board, faculty, partners, resources, books, e-resources, training, e-resources training, advice on publishing, orientation, research skills training and reference services. Table 5.9 present the predominant categories and statement of claims emerging from UL02 theories-in-use.

Table 5.9: Predominant indicators and statement of claims - theories-in-use

Predominant categories	Evidence	Claims generated from research support indicators in policy documents
Challenges	Interviews and Questionnaire	Financial constraints and lack of time hinder the discharge of research support
Collaboration	Interviews and Questionnaire	Collaboration is the basis for effective support for researchers
Approaches	Interviews and Questionnaire	Availing of resources seen as an indicator of research support
Skills and Knowledge	Interviews and Questionnaire	Librarians lack skills that are necessary for supporting researchers
Services	Interviews and Questionnaire	Libraries provide a mixture of services to researchers across the research lifecycle

Source: field data (2017)

5.2.2.1 Validation of claims

a) Collaboration is the basis for effective support for researchers

An interview with the Systems Librarian revealed that working together with other campus units is the basis for offering sound research support. He explained:

“... I have been talking to the Chairman of the Research Board and he has been forth coming to work with the Library to say maybe the amount of the research output done by the University should be deposited into the Library and then we provide open access of resources, so it’s a question of collaborating with each other working together to achieve the objective of the whole institution.”

The Library is also involved in collaboration with other institutions. The Library head explains, “We have partners like United Nations International Children's Emergency Fund (UNICEF), PLAN International just came into the play for research like the CSP program there is a lot of research that is going on ... you will find out that reliance is on the donor.”

b) Availing of resources seen as an indicator of research support

The Library uses mostly resources approach in supporting researchers. In an interview, the Systems Librarian stated that, “I always emphasise more on e-resources, so what I do is I look for the resources that they need and try to upload all the research on the digital library ... I always train researchers on the basis of resources they require.” In a separate interview, the head librarian stated that, “the physical books will always remain important in my view” which is equally and an indication of how the Library values its role of providing information. As part of supporting researchers, the Systems Librarian stated that, “we must know what are they researching on and provide the right information.”

c) Librarians lack skills that are necessary for supporting researchers

It was noted that the environment in which librarians were operating was constantly changing “because of the advancement in technology” and to cover this gap librarians needed to be acquainted with the right skills and with current trends. The Systems Librarian explains “... we have people who are capable ... they don’t have maybe what we call proper training... we need to train them before they train others.” He added, “... there is a need for further training, you see some come to the Library as para-professionals and they don’t have qualifications. They have never been to a library school, so they need further training to equip them with the right skills.”

d) Libraries provide a mixture of service to researchers across the research lifecycle

From the interviews, librarians indicated that they offer “e-resources training,” “advice on publishing,” “orientation,” “research skills training” and reference services to researchers. The Systems Librarian stated that as part of supporting research they were involved in acquiring relevant resources and “upload all the research on the digital library” and “... also do the training if need be in conjunction with the Reference department.” Training services for researchers on different issues pertaining to their research needs were also confirmed through the qualitative questionnaire that was issued. Librarians “... also provide researchers with information regarding publishing their works ... provide them with relevant authentic publishers where they can publish their work, how best they can handle their work ...” Table 5.10 show the services offered by the Library around the research life cycle as indicated on the questionnaire.

Table 5.10: Services offered by the Library around the research cycle (n=1)

Stage	Service/Activities	Yes (✓) / No (✗)
Preparation	Drafting Applications	✗
	looking for ideas	✗
	deciding on a topic	✗
	formulating a research question	✗
	Identifying sources of funding	✗
Gathering	Creation of Guides	✓
	Tutorials to help researchers	✓
	Information literacy sessions	✓
	Developing effective search	✓
	Literature Searches	✓
	Document delivery	✓
	Strategies	✓
	Provision of physical space for researchers e.g. research commons	✗
	Online reference services	✓
Creation	Compiling data management plan	✗
	Creating and organising strategies for Documentation	✗
	Collection and making available data sets for reuse	✓
	Research data curating and management	✗
	Backups	✗
Sharing	Dissemination of research output	✓
	Scholarly communication and open access	✓
	Advice and support for open access publishing	✓
	Advising on utilising new dissemination means	✓
	Institutional repositories as a facility to showcase research output	✓
Measurement	Citation analysis	✗
	Publication counts	✗
	H--index	✗
Commercialisation	Library sites as tools for research marketing	✓
	Copyright and property rights	✓
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	✓

Source: field data (2017)

e) Financial constraints and lack of time hinder the discharge of research support

“Financial constraints” was noted as the key challenge and the Library lacked “support from the management itself.” This was revealed in an interview with the Systems Librarian who also doubles as Faculty Librarian:

“When it comes to budget constraints, the Library is the most affected department in the University. You will see that because of financial pressures within the University and all those things, a lot of people claiming the funds from a small portion, ... because of that the Library will always remain affected ... For example; in order to hold training with researchers you need to give them something to eat or whatever for them to be motivated to come - so financial resources are not available.”

Limited time was indicated to be another challenge practising librarians grapple with, “...the time that we engage with the researchers especially the undergraduate and postgraduates and even the lecturers; the time that we have is very minimum because orientation alone of taking students through the procedures is not enough”. The librarian felt that there need for “buy in from the management whereby they allocate time for the Library to engage with the researchers in terms of training.”

As a result, the Library was affected by “limited human capital” to discharge research support roles. It was also stated in an interview with the librarian that “it’s difficult for them (researchers) to come together because we have day, evening and weekend classes...”

5.2.3 Relationship between espoused theories and theories-in-use

A comparative analysis of the statement of claims made revealed that there are congruences and incongruences in the way research support is conceptualised and how it is practised at the Institution. Table 5.11 presents a juxtaposition of claims. It was from these claims that congruences and incongruences were discovered.

Table 5.11: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none"> 1. The Library serves the University as the intellectual commons 2. The Library regards provision of resources as an indicator of research support 3. Collaboration is espoused as a way to enhance services for researchers 4. The Library faces a slew of challenges in supporting researchers 5. The Library espouses various services for researchers 6. Research support viewed as training and provision of access to resources 	<ol style="list-style-type: none"> 1. Financial constraints and lack of time hinder the discharge of research support 2. Collaboration is the basis for effective support for researchers 3. Availing of resources seen as an indicator of research support 4. Librarians lack skills that are necessary for supporting researchers 5. Libraries provide a mixture of service to researchers across the research lifecycle

Source: field data (2017)

▪ **Congruence**

Training and provision of resources are conceptualised as critical aspects and indicators of research support. This is seen by the emphasis placed on them by the Strategic Plan, Mission and Vision statements of the Library. This is congruent with services and approaches employed by librarians in discharging their research support duties. Librarians were found to be offering training on various aspects across the research cycle, providing resources and facilitating access to resources through such means as subscription to e-journals, interlibrary loans and acquisitions of new books.

The Library espouses collaboration as a way to enhance services for researchers and has partnerships with various institutions and organisations to increase the quality and quantity of resources for researchers. This is realised in practice where librarians were collaborating with other institutions to improve service delivery to researchers. For example, the Library devoted a section equipped with computers from UNICEF meant to be used by researchers. In addition, the Library had partnership with ACBF to improve library security and with the Parliament of Zimbabwe library to have joined access to resources provided by both libraries.

Mission documents accessed captured many a challenge that the Library faces in supporting researchers. Such challenges include poor funding, lack of state of the art library facility, shortage of staff and limited bandwidth. These experiences were in tandem to the challenges that practising librarians face in their efforts to support researchers. Librarians were also worried about lack of sufficient funds to provide the necessary tools for supporting researchers, limited time as well as limited bandwidth.

▪ **Incongruence**

Management regard their staff as competent enough to deal with needs of researchers. For example, management felt that because the librarians were holders of degrees, they were fully capable of discharging research support. However, this contradicts what practising librarians experience as they felt that they did not have the requisite skills needed to support researchers.

In as much as there are congruences with regards to the espoused services and the services offered by practising librarians, instances of incongruences were also noted. The Library espoused offering individual based assistance as per researcher's request and research and information management services such as data mining. There was a discord when it comes to practice where librarians were short staffed and could not offer personalised services to

researchers and were continually making efforts to offer support to researchers in groups rather than individually.

There is a mismatch between the challenges noted in the strategic documents which were more to do with the administration of the Library and ignored the challenges that were encountered by librarians in practice. The Library espoused challenges like shortage of staff and unreliable funds yet practising librarians were more worried about lack of policies that speak to research support and lack of skills that enable them to discharge related duties. Part of the understanding of research support that emerged from the interviews held was that it entails embedding, partnering, collaborating and working with researchers in the research process. This however is not realised in practice where strict concentration and emphasis was placed on the provision of resources and facilitation of access to these resources for researchers.

5.2.4 Disconfirming experiences and dilemmas in practice

In an interview with the Systems Librarian, it emerged that the Library considered Open Access (OA) through the Institutional Repository (IR) as a vehicle to support researchers and research at the institution. In making such efforts, the Library was facing resistance and very limited support from researchers who expect financial gain from depositing their research output into the IR and as a result the Library is failing to be effective. The Systems Librarian stated that “third world researchers want money for their research and would not accept offering it as a service to the community.”

5.2.5 Reflective strategies to deal with disconfirming experiences and dilemmas

From the qualitative questionnaire that was given to the Systems Librarian, Model 1 variable; suppressing negative feelings and one Model 2 variables; maximising valid information were the governing values commonly followed in the Library. The Systems Librarian's responses are indicated in the following table. Table 5.12 represents the governing variables used by librarians at the Library in practice.

Table 5.12: Governing variables in practice (n=1)

Reflective Strategies	Model	Governing Values/Variables	Count
Single Loop	Model 1	I achieve my goals and purpose as stated	0
		Win do not lose	0
		Suppress negative feelings	1
		Emphasise rationality	0
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	0
		Definition of task control over the environment is shared with the relevant others	0
		Maximise valid information	1
		Have high internal commitment to the choice and constant monitoring of its implementation	0

Source: field data (2017)

5.2.6 Reflective analysis

The incongruences that exist between how research support is conceptualised and how it is practised explain why the Library was failing to offer effective research support. The fact that management failed to see lack of skills and lack of relevant policies as hindering the delivery of support to researchers is an indication that research support was not highly regarded. Librarians felt that their incompetence was primarily due to lack of skills needed to support researchers. In this regard, personal efforts were being made by librarians to gain necessary skills needed in offering support to researchers. Collaboration in its form was not adequate to deal with researchers. There was a call for librarians to collaborate with researchers so that they become effective in their duties. Further, although there was congruence between the goal of the Library of providing resources to researchers and the services provided by librarians, it is axiomatic that the Library was also ineffective as evidence by lack of interest from researchers in library services and initiatives which are by and large resource based. Collections alone are not adequate to support researchers in the new research environment.

It appears that the library was not clear of the roles and services specific to researchers as there was a discordance between the services that emerged from the documents and the services that were indicated on the questionnaire by the librarian which, on the questionnaire, appeared to be cutting across the entire research process. For example, the strategic plan talks of service

such as data mining. The incongruence that exists between conceptualisation and practice can also be attributed to the governing variables and values that are used by librarians in practice. Librarians were using constructs from Model 1 and Model 2. However, it was discovered that in all instances, no effort or initiative was made to double loop and question the policies of the Library to see if they are still relevant in the present research environment.

5.3 Case three: UL03

The documents that informed conceptualisation of research support were the Mission Statement, Strategic Plan (2013), Information Literacy Policy and Services Charter. To aid understanding of the policy documents, the Deputy Librarian was interviewed and assisted with interpretation of policy document. Four interviews were conducted with Faculty Librarians to discover how research support was being practised. Questionnaires were also distributed to the same to supplementary data from interviews.

5.3.1 Research support indicators derived from policy documents to inform conceptualisation

Provide resources, provide current and relevant information, build research collection, timely access, core provider of resources, build research collections, current and relevant information resources, provide sufficient multiple copies, trained and skilled people, professional qualifications, training, searching for information, referencing, assistance in accessing information, making information available, poor appreciation, space and limited computers. Table 5.13 shows the predominant indicators and statement of claims emerging from the Library's espoused theories.

Table 5.13: Predominant indicators and statement of claims - espoused theories

Predominant Concepts	Evidence	Claims generated from research support indicators in policy documents
Research; provide current and relevant information	Library Strategic Plan, Mission Statement	The Library supports the University's research mission through provision of current and relevant information
Electronic resources; Provide resources	Library Strategic Plan, Library Service Charter	Maintenance of a well-balanced print and electronic resources is regarded as essential in support of researchers
Competent staff, trained and skilled people; professional qualifications	Library Strategic Plan 2009	Highly qualified and competent staff is seen as important in supporting research
Training, assistance; electronic resources; Availing of information; facilitating literature	Interviews	Research support is defined as training and provision of information resources
Infrastructure, underutilisation of resources	Library Strategic Plan	Underutilisation of library resources by researchers and poor infrastructure considered major challenges of the Library

Source: field data (2017)

5.3.1.1 Validation of claims

a) The Library supports the University's research mission through provision of current and relevant information

As outlined in the Library's Mission Statement, the Library aims to provide current and relevant information in support of the University's research, "The libraries will provide current and relevant information resources and services in accordance with international library standards in fulfilment of its role to facilitate teaching, learning, research and community service activities."

b) Maintenance of a well-balanced print and electronic resources is regarded as essential in support of researchers

As enunciated in the Strategic Plan, the Library supports researchers by "Build research collections in targeted areas of University research or where special opportunities exist, science education for example." The Library affirms its position as the "the core provider of resources that support the teaching, learning, research and community service activities undertaken ...". This is confirmed by the Library Service Charter which notes that the Library will "endeavour

to provide sufficient multiple copies of core texts, and will manage these collections to maximize fair and equal access.” This is echoed in the strategic document which notes that the Library will continually make efforts to “Provide as well as facilitate timely access to both electronic and print information resources.” This will be realised through the development of “a complete, functional and integrated online public access catalogue.”

c) Highly qualified and competent staff is seen as important in supporting research

The Library through the strategic document claims that librarians offering research support should hold “professional qualifications and possess skills that are relevant to the execution of their duties.” In this regard, “library staff will display a high level of those qualities that are characteristic of trained and skilled people in the execution of their duties.”

d) Research support is defined as training and provision of information resources

From the interviews held, the definitions of research support given by librarians show that there is varied understanding of the concept. The Deputy Librarian understood research support in the context of training given to researchers “... training staff and students how to access and use both print and electronic resources.” The Librarian explained, “training patrons on how to access library resources both print and electronic” to be what they conceptualised as research support. He also regards research support as “... making information sources available to someone who is into research as well as providing any support within the research process.” Research support is also understood in terms of facilitation, for example, one librarian defined it as, “research support is facilitating literature that researchers want.”

e) Underutilisation of library resources by researchers and poor infrastructure considered major challenges of the Library

The Library strategic document espouses poor appreciation of library resources which results in an underutilisation of library resources as the Library’s major challenge. It states:

“Poor appreciation of Library services by clients cause underutilisation of library resources. This also implies that a lot of resources (human and financial) will be wasted. There is a need to ensure that the Library and its resources are optimally utilised.”

It is further stated that resources in media other than print are poorly utilised. The Library strategic document also recognises infrastructural challenges where “Computer equipment is limited and as a result access to e-resources is constrained” and “Setting space is inadequate.”

5.3.2 Research support indicators derived from interviews and questionnaires to inform practice

Gathering stage, sharing stage, emerging technologies stages, resource model and Liaison model, perception, infrastructure, time, technology technical and I.T skills, knowledge of citation and referencing, literature searching skills, information literacy skills, knowledge of research methods, technical skills for designing information literacy training, e-resources, acquisitions, collection, development, institutional, repositories and books and service appreciation. Table 5.14 presents the predominant indicators and statement of claims- theories-in-use from UL03.

Table 5.14: Predominant indicators and statement of claims - theories-in-use

Predominant categories	Evidence	Claims generated from research support indicators in interviews and questionnaires
Continuum of Research Support	Interviews and Questionnaires	Services offered by librarians coalesce around gathering, sharing and emerging technologies
Approaches	Interviews and Questionnaires	Librarians use traditional approaches in support of researchers
Challenges	Interviews and Questionnaires	There are several challenges that hinder librarians to provide research support
Skills	Interviews and Questionnaires	Librarians possess mainly information skills
Services	Interviews and Questionnaires	Services for teaching and learning are considered the same as those for research support
Appreciation	Interviews and Questionnaires	Librarians claim that the services they offer to researchers are highly appreciated

Source: field data (2017)

5.3.2.1 Validation of claims

a) Services offered by librarians coalesce around gathering, sharing and emerging technologies

Librarians offer various services in supporting researchers which mainly focus on gathering, sharing and the use of emerging technologies of the research process. This was reflected by the services that were being offered in support of researchers. Librarians pointed out that they offered services in “accessing information resources”, ILS training”, “collection development”, “training on e-resources”, “facilitating online literature research to researchers”, “e-resources training”, “upload digital content, past exam papers, dissertation, research articles from lecturers”, “providing advice on publishing the research. One Faculty Librarian stated, “In

terms of the research output, we have the institutional repository where we house dissertations, research papers done in the faculty.” Exploring the responsibilities of the faculty librarians, one Faculty Librarian stated, “I also teach information literacy skills and we partner with Communication Skills department such that the first years we get them for ILS training” and another added “... in the ILS training module we point to the skills needed by researchers to be able to carry out research.” With regards to sharing of research output, the deputy librarian said, “... we also want their research output to be visible and used as well, so we have our institutional repository ... so that they bring their content for upload and make it available to students because we believe that what they are researching on is also relevant ...”.

A qualitative questionnaire which was also given to the same Faculty Librarians confirmed that the services and activities that are endemic coalesce around gathering (creation of guides, tutorials for researchers, information literacy sessions, literature searches and document delivery), sharing (dissemination of research output, scholarly communication and open access and institutional repositories as facilities to showcase research output) and emerging technologies (introduction of new technologies to research and web 3.0 technologies). All the Faculty Librarians claim that they offer all the services at gathering, sharing and emerging technologies. Table 5.15 presents the services and activities offered by the librarians to the researchers.

Table 5.15: Services offered by librarians around the research cycle (n=4)

Stage	Service/Activities	Frequency
Preparation	Drafting applications	0 (0%)
	Looking for ideas	2 (50%)
	Deciding on a topic	3 (75%)
	Formulating a research question	2 (50%)
	Identifying sources of funding	0 (0%)
Gathering	Creation of Guides	4 (100%)
	Tutorials to help researchers	4 (100%)
	Information literacy sessions	4 (100%)
	Developing effective search	4 (100%)
	Literature Searches	4 (100%)
	Document delivery	4 (100%)
	Strategies	4 (100%)
	Provision of physical space for researchers e.g. research	0 (0%)
	Online reference services	3 (75%)
Creation	Compiling data management plan	0 (0%)
	Creating and organising strategies for Documentation	0 (0%)
	Collection and making available data sets for reuse	0 (0%)
	Research data curating and management	0 (0%)
	Backups	0 (0%)
Sharing	Dissemination of research output	3 (75%)
	Scholarly communication and open access	2 (50%)
	Advice and support for open access publishing	2 (50%)
	Advising on utilising new dissemination means	3 (75%)
	Institutional repositories as a facility to showcase research	3 (75%)
Measurement	Citation analysis	0 (0%)
	Publication counts	2 (50%)
	H-index	0 (0%)
Commercialisation	Library sites as tools for research marketing	3 (75%)
	Copyright and property rights	1 (25%)
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	3 (75%)

Source: field data (2017)

b) Librarians use traditional approaches in support of researchers

Librarians at the University were found to be using traditional models of research support. One Faculty Librarian in an interview said, “Previously, patrons did not know that the Library offer literature search service, now they know, and the Library is being appreciated.” In a more related line of thought, another librarian confirmed the librarians’ emphasis on resources and remarked, “At times we help them to download the resources or we invite them for demonstrations and take them through.” Librarians’ use of the Liaison model was made evident by the emphasis that librarians put on working with the faculty in issues more related to resources like e-resources access and literature searching. One librarian noted “... we have

information literacy training and apart from that we have electronic resources training ...”. In a more elaborate remark, one Faculty Librarian detailed:

“As a library, we work with researchers one on one because they are saying that, for example when it comes to publishing the research, we can recommend that the researchers come to the Library and get assisted in terms of getting access to high rated journals so that they can publish their works.”

This was confirmed by the Library’s deputy head who elucidated:

“For members of staff what we have done is that for every new member of staff it is a requirement that before they are registered with the Library they go under training on what the Library has in stock. So, when they come in we don’t just register them, we refer them to their respective Faculty Librarian who then takes them through these resources.”

From the questionnaire which presented six research support models, librarians indicated that they were using; Resource model (n=4); Liaison model (n=4); Engagement model (n=0); Outsourcing Model (n=0); Hybrid model (n=0) and the Shared Services Model (n=1). The Liaison model emphasizes services such as ILS training, reference services and document delivery services while the resource model focuses on services like institutional repository, e-resources, books and journals. Table 5.16 presents the research support models used by librarians in practice.

Table 5.16: Research support models used by librarians in practice (n=4)

Approaches	Model	Frequency
Traditional	Resources	4 (100%)
	Liaison	4 (100%)
Modern	Engagement Model	0 (0%)
	Hybrid	0 (0%)
Alternative	Shared Services	1 (25%)
	Outsourcing	0 (0%)

Source: field data (2017)

c) There are several challenges that hinder librarians to provide research support.

Librarians indicated that they were facing several challenges in offering research support to researchers. The most predominant challenges noted included perception, infrastructure, time and technology. Librarians indicated that infrastructure was a big challenge in their attempts to offer sound research support. One Faculty Librarian stated, “at the moment, the biggest thing we don’t have is the research commons-space for postgraduates, we don’t have training rooms, we don’t have enough computers in the small labs that we have.” This was exacerbated by the large student body at the institution which resulted in large classes which are, “so huge, such

that (librarians) may need to break the numbers to fit in our infrastructure which is not adequate.” In support yet from another angle, another librarian lamented that, “again, the issue of changing technology, if you go to sage journal today, then if go again maybe after three months down the line, you find several changes on the navigation platform...” Another librarian was more concerned with the issue of computers:

“We also have challenge with infrastructure. Fine, we have good bandwidth but in terms of computers they are very few and few computer laboratories. So, getting enough time in the labs with students at times is a challenge. At times, we end up doing it during weekends or vacation when there is less pressure. But that also inconveniences the training that is necessary at any given time.”

Lack of adequate time was another inhibitor that affected librarians in their efforts to discharge research support. One librarian stated, “... may not get the adequate time that we need, for example, when we want to do ILS training. The curricula here is such that we are not on the timetable. We rely on the beneficence of the communication skills lecturers who provides us with time in their lessons.” Practising librarians also indicated lack of skills as another challenge affecting their discharge or research support. One Faculty Librarian indicated specific skills she was lacking and said, “I need to enhance some other skills like publishing, bibliometric and research data management” and another felt possession of subject knowledge was critical and stated, “I think someone who has a subject knowledge is better placed because of the in-depth knowledge of the subject...”

d) Librarians possess mainly information skills and lack research skills

From the evidence gathered through the qualitative questionnaire and the interviews, it emerged that librarians possessed only information skills. In this respect, librarians were lacking some critical research support skills. Librarians admitted that they lack some skills in research. One librarian said, “I need to enhance some other skills like publishing, bibliometrics and research data management.” On the same note, another librarian mentioned that they lacked expertise on the “research process and what constitutes research.” However, there was enough evidence to confirm the fact that librarians were possessing information skills like information literacy, searching and dissemination. Lack of research skills was confirmed from the qualitative questionnaire which shows that knowledge of research methods, research process, bibliometrics and knowledge of the research landscape was lacking on the part of the librarians. However, librarians believe that they are subject specialists who are experts in sourcing materials in a range of formats in support of researchers. The skills possessed by librarians are indicated in Table 5.17.

Table 5.17: Research skills possessed by librarians (n=4)

Knowledge and Skills for research	Frequency
Knowledge of data curatorship and preservation skills	3 (75%)
Knowledge of publishing	2 (50%)
Knowledge of research process	0 (0%)
Teaching skills for designing information literacy training	4 (100%)
Knowledge of research methods	1 (25%)
Knowledge of bibliographic and searching tools in the subject	3 (75%)
Information literacy skills	4 (100%)
Literature searching skills	4 (100%)
Knowledge of citation and referencing	4 (100%)
Knowledge of subject content	0 (0%)
Knowledge of bibliometrics	0 (0%)
Finance and budget skills	1 (25%)
Technical and IT skills	4 (100%)
Marketing skills	3 (75%)
Collaborating skills	1 (25%)
Knowledge of the research landscape	0 (0%)

Source: field data (2017)

e) Services for teaching and learning are considered the same as those for research support

Librarians discharge their roles with the belief that it is impossible to separate the services for teaching and learning and those strictly for research. This was indicated by one librarian who noted that “in this set-up, to separate the two is a bit problematic where you can say this is for teaching and this for research because we are saying these seem to be intertwined to the extent that the one doing teaching is also doing research ...”. One Faculty Librarian explained “that is why maybe the support is not evident because we believe that what we provide must cover teaching and learning and research.” As a result, librarians hold a general understanding that, “teaching and learning encompasses research” and that “research and teaching and learning activities are intertwined, research takes centre stage in issues to do with teaching and learning (therefore) libraries are gearing up for research support as a way of improving teaching and learning.”

f) Librarians claim that the services they offer to researchers are highly appreciated

Librarians at the University believed that the services that they offered were highly regarded by the researchers. One librarian noted that:

“They do appreciate to the extent that sometimes they even mention it in board meetings. Not only that they even cascade that information to students and researchers and students will in turn come and say my supervisor said if I haven’t

seen so and, so I have not yet started. That alone means that they appreciate the role we are playing.”

Another librarian noted a change of perception over time on the part of researchers and remarked, “previously patrons did not know that the Library offers literature search service, now they know, and the Library is being appreciated.” One of the librarians interviewed revealed that the level of appreciation corresponded to the academic level or level of research engagement on the part of the researcher and thus felt senior researchers had a higher appreciation of library services. He noted, “they are happy especially those who are senior researchers. They know why we are here, in fact, they give a lot of trouble, but the challenge is on those who are not into in-depth research - the juniors, the novice and the old one who have been tenured and don’t have much pressure with research.”

5.3.3 Relationship between espoused theories and theories-in-use

A laborious comparative analysis of the espoused theories and theories-in-use demonstrated several congruence and incongruence between conceptualisation and practise of research support. Table 5.18 represents the claims used in the rigorous comparative analysis.

Table 5.18: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none"> 1. Library supports University’s research mission through provision of current and relevant information 2. Maintenance of a well-balanced print and electronic resources is regarded as essential in support of researchers 3. Highly qualified and competent staff is seen as important in supporting research 4. Research support is defined differently by different librarians. 5. Underutilisation of library resources by researchers and poor infrastructure considered major challenges of the Library 	<ol style="list-style-type: none"> 1. Services offered by librarians coalesce around gathering, sharing and emerging technologies 2. Librarians use mostly the traditional approaches of supporting researchers 3. There are many challenges that hinder librarians to provide research support 4. Librarians possess mainly information skills 5. Services for teaching and learning are considered the same as services for research 6. Librarians claim that the services they offer to researchers are highly appreciated

Source: field data (2017)

▪ Congruence

A synergy exists between the espoused mission of the Library of providing current and relevant information and the goals of the Library of building research collections in targeted areas of

research in sufficient copies of core text. This actualised in practice by the various services and models employed by the Library. The Library uses the Resources Model as it is involved in collection development in the form of books, e-resources as means to provide current and relevant information to researchers. And these services coalesce mostly the gathering stage of the process. Additionally, librarians make use of the institutional repository which is meant to ensure both the availability of current and relevant information to researchers as well as the acquisitions of research projects of the University.

Lack of consensus among the librarians as to what entails research support is congruent to the services that librarians offer to researchers in practice. In practice different Faculty Librarians emphasised different services to researchers, for example, one librarian emphasised the provision of resources, another the training yet another was worried about publishing and dissemination of research output.

A negative congruence was observed when it comes to challenges. Space and infrastructure are espoused as the major stumbling blocks to the Library in offering upstream support for researchers. Practicing librarians echoed the same sentiments when they identified lack of computer labs, related tools for training and shortage of computer resources as a hindrance in practice.

▪ **Incongruence**

There seems to be inconsistency when it comes to how research support is received by researchers. The librarians believed that their services play an important role and are well appreciated by researchers but policy documents express a negative view that researchers look down upon librarians and there is underutilisation of resources of the Library.

There exists an incongruence on the Library's values that the Library shall recruit highly qualified staff who are able to discharge their duties effectively and offer sound research support. It was discovered that, in practice librarians who are discharging research support lack the competence and knowledge needed to address the needs of deep research support.

5.3.4 Disconfirming experiences and dilemmas in practice

Librarians expressed several disconfirming experiences that challenge their sense of competence in support of researchers. One of the Faculty Librarians noted, "there are those who think that librarians cannot teach academics, can we have professor so and so come so that we demonstrate, they don't come... so probably it is an issue of egos, that is the challenge we face." In support, another Faculty Librarian remarked:

“The attitude from our clientele is to look down upon the librarian. It is challenge that need to be dealt with at a higher level. You may not get the adequate time that we need for example when we want to do ILS training. The curricula here is such that we are not on the timetable. We rely on the beneficence of the communication skills lecturers who provides us with time in their lectures.”

Faculty Librarians also faced the quandary of researchers failing to grasp and internalise skills to do with information search and navigation of databases. In this regard, one Faculty Librarian stated, “... they will say of course we have been getting training but it’s not enough, can you come and you find that you will be orienting the same person repeatedly.”

5.3.5 Reflective strategies to deal with disconfirming experiences and dilemmas

Librarians mostly use Model 1 governing values when they encounter disconfirming experiences. It was established from the qualitative questionnaire that librarians achieved their goals and purpose as stated (n=4); Win do not lose (n=4); Suppress negative feelings (n=4) and they also emphasize rationality (n=3). In Model 2, only one librarian indicated that they share power with anyone who has competence and who is relevant (n=1); at least one librarian indicated that they have high internal commitment to the choice and constant monitoring of its implementation (n=1) and two stated that they maximise valid information (n=2). Table 5.19 shows the models and the respective variables in which the librarians operate in.

Table 5.19: Governing variables in practice (n=4)

Model	Governing Values/Variables	Count
Model 1	I achieve my goals and purpose as stated	4 (100%)
	Win do not lose	4 (100%)
	Suppress negative feelings	4 (100%)
	Emphasize rationality	3 (75%)
Model 2	Share power with anyone who has competence and who is relevant	1 (25%)
	Definition of task control over the environment is shared with others	0 (0%)
	Maximise valid information	2 (50%)
	Have high internal commitment to the choice and constant monitoring of its implementation	1 (25%)

Source: field data (2017)

5.3.6 Reflective analysis

Even though there were a number of instances of congruence between conceptualisation and practice of research support, this failed to translate to effectiveness because the Library held the old conceptualisation and practice of research support. The librarians conceptualised research support as providing informational support to researchers. This was further confirmed by the use of traditional models of research support. It was also discovered that governing values and variables used by librarians were in Model 1 of Argyris’ learning strategies which

did not promote reflection in and on action. Faced with challenges and disconfirming experiences, librarians would emphasise achieving their goals as defined and would suppress negative feelings. This approach prevents them from becoming aware and from learning beyond the confines of their theories-in-use. They were unlikely to ‘frame-break’ so that they question their impact on their effectiveness. Professionals who hold such values have little or no chance of being effective according to the Theory of Action and such professionals are likely to use the single loop learning strategy. In this regard, in the face of disconfirming experiences such as lack of cooperation from researchers and lack of scheduled time to meet with researchers, librarians were likely to suppress such negative feelings and emphasise rationality.

5.4 Case four: UL04

Relevant documents accessed from this case were the Library’s Service Charter as well as the Mission and Vision of the Library. Interviews were conducted with the deputy librarian and four (4) Faculty Librarians who were responsible for working with researchers in different schools at the University. In total, six (6) qualitative questionnaires were completed and returned by Faculty Librarians (4), the Reader Services Librarian (1) and the Systems Librarian (1).

5.4.1 Research support indicators derived from policy documents to inform conceptualisation

Provision, promotion, information resources, institute of Lifelong Learning, ZULC, school, reading space, Wi-Fi, power points, ILS training, e-resources training, reference services, photocopying, qualified professional staff, excellence, resources, access, provision and promotion. Predominant indicators and statement of claims from UL04 espoused theories are captured in Table 5.20.

Table 5.20: Predominant indicators and statement of claims - espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
Research needs, library, support	Service Charter; Mission Statement	The Library has a responsibility to support research needs of the University
Library resources, collection development	Annual Performance Report, Service Charter	Library resources are central to the University's mission of teaching, learning and research
Collaboration	Service Charter	Collaboration plays an important role in support of researchers
Infrastructure	Service Charter, Annual Performance Report	Provision of support infrastructure is considered a key aspect of research support
Services	Service Charter	The Library offers a variety of services in support of researchers
Skills and Competence	Service Charter	Research support is delivered by highly qualified staff
Definition research support	Interviews	Research support is understood to be provision of materials, training and reference services to researchers

Source: field data (2017)

5.4.1.1 Validation of claims

a) The Library has a responsibility to support research needs of the University

Within a “research-focused University”, the Mission Statement presents the Library as a strategic partner in research through provision of information services and highly qualified staff. The Library endeavours “to achieve excellence in the provision and promotion of information services to support teaching, learning and research needs of the University through well-chosen collection and highly qualified professional staff.”

b) Library resources are central to the University's mission of teaching, learning and research

The Annual Performance Report on key performance indicators stated, “Well-resourced libraries are essential to promote quality teaching, learning and research.” It also notes that library resources are “... an indicator of our commitment to build a strong library collection.”

In this regard, the Library views the collection as a determinant of research support and as key in realising its mission, “The size of the Library collection is one of the indicators of how well we are supporting our core functions.” In this regard, “The University is consistently building a strong library collection.” This is also confirmed in the Library Service Charter which claims that the Library will achieve its mission through “collection development, reference and information provision.”

c) Collaboration plays an important role in support of researchers

Collaboration with other campus players and institutions is considered critical in supporting researchers. Through its service charter, the Library espouses part of the responsibilities of the subject librarians as being to “teach practicals on how to access electronic resources and referencing ... This is done in conjunction with the institute of lifelong learning – Communication Skills department.” Further, the same document confirms that the Library “subscribes to 42 electronic databases through the Zimbabwe Universities Libraries Consortium (ZULC).”

d) Provision of support infrastructure is considered a key aspect of research support

Provision of “reading space” is espoused in the Service Charter as a key aspect of research support. The document states that the current sitting capacity of the Library is about 450 and the reading spaces are provided on the “ground floor of the main library,” “first floor of the main library” and the “library extension- Zimplats wing which provides only reading space for library users.” In these spaces, the Library provides “Wi-Fi connectivity,” “printing and photocopying facility” and “power points” for use by researchers and general library users. It is further espoused in the Service Charter that the Library provides “computer workstations,” “Wi-Fi connectivity” as well as “printing and photocopying facility” as facilities and support infrastructure for the convenience of researchers.

e) The Library offers a variety of services in support of researchers

The Library through its Service Charter espouses various services that are offered in support of research. The document promotes training of researchers as an important cog of research support where “the subject librarians teach practicals on how to access electronic resources and referencing.” Services such as provision of “print book collection,” “collection development, reference and information provision” are regarded as important in successful support for researchers. The Service Charter espouses that the Library, as part of supporting and catering for the needs of researchers, “conducts library orientation sessions ... describing the services

and facilities offered in the Library and their potential value in studies and research.” Through the same document, the Library also claims to be providing an IR service which provides the University’s “intellectual publications, past exam papers, dissertations and theses.”

f) Research support is delivered by highly qualified staff

Through the Library’s Mission Statement research support is reinforced by the recruitment of “highly qualified professional staff” is a way to “achieve excellence in the provision and promotion of information service” to support researchers.

g) Research support is understood to be provision of materials, training and reference services to researchers

In different and separate interviews that were conducted, librarians defined and conceptualised research support as “provision of required material” and “provision of access to resources.” One senior librarian mentioned that research support constituted “priorities done proactively for users by providing relevant resources, strengthening research process and promoting research output.” Another senior librarian understood it as the transformation from print to electronic resources and thus said, “we have moved from the traditional ways, that is hard copy material and we are supplementing it with the electronic e-resources” as part of the Library’s research support efforts.

5.4.2 Research support indicators derived from interviews and qualitative questionnaires to inform practice

Liaison, resources, materials, collection, book, e-resources, ILS training, poor funding, poor research support infrastructure, absence of policies, lack of facilities, deciding on a topic, formulating a research question, literature searches, dissemination of research output, scholarly communication and open access, advice and support for open access publishing, one package and facilitate access. Table 5.21 captures the main categories derived from these indicators and the statement of claims contrived from them.

Table 5.21: Predominant indicators and statement of claims - theories-in-use

Predominant indicators	Evidence	Claims generated from research support indicators interviews
Approach:	Interviews and Questionnaires	The librarians use mostly traditional models of research support
Challenges:	Interviews and Questionnaires	Librarians face several challenges in their efforts to support researchers
Services:	Interviews and Questionnaires	The services offered by the Library are concentrated around the preparation, gathering and sharing stages
		The services offered by librarians are skewed in favour of teaching and learning
		Services for teaching and learning are the same as to those for research
Skills and Competence:	Interviews and Questionnaires	Librarians lack subject knowledge in the areas they offer research support
Beliefs:	Interviews and Questionnaires	Librarians believe that they remain relevant to researchers despite the changing research environment

Source: field data (2017)

5.4.2.1 Validation of claims

a) The Library uses mostly traditional models of research support

The Resources and Liaison models of supporting researchers are the two traditional models of research support that are commonly used by the Library. In an interview, one Faculty Librarian stated that one of their research support responsibilities, "... is collection development, to identify research needs and to initiate the process of identifying the best resources that they need, identifying the gaps of information that they need." In support, another Faculty Librarian revealed that their annual budget focused mostly on meeting the acquisition of resources, "... this year we had a budget of almost two hundred and something, it looks like the budget was mostly for the print collection yet we need a higher budget for technology based resources, so we need to change a lot of things ..."

Evidence from interviews with Faculty Librarians presented a clear indication that librarians also use the Liaison Model as they interact with the faculties in designing and availing products and services for their specific requirements. One Faculty Librarian noted, "... in the selection process we go to the school then we ask for the needs then we search for the material ...". Librarians indicated that they were serving as Faculty Librarians or liaisons and this setup is

equally a testimony to the use of the Liaison Model in the Library. In this regard, the Deputy Librarian noted, "... we have Subject Librarians, we can assign a subject librarian to say, "you deal with this particular group' ...". Another task expressed by one Faculty Librarian was to:

"Establish a working relationship (with the school) so that even when I want to get to them to arrange training it's easier to work with the schools. If they want something, it's easier for them to come to me because we work together, and the other aspect course is the teaching and learning, that's the information literacy."

Yet another Faculty Librarian indicated that as part of the Library effort to offer sound research support, they "attend faculty board meetings and answer issues to do with the Library mostly and hear if they are new programmes coming up ... have constant communication, formal and informal with the school."

b) Librarians face several challenges in their efforts to support researchers

From the interviews that were conducted, librarians indicated that they encounter several challenges in supporting researchers at the institution. The Deputy Librarian notes, "... here we depend on the fees that we get from students, so the money is not enough, so even some of the databases which we thought are very essential to research we are now saying we cannot continue to subscribe to these databases. Even at the Bursar's office, they are saying the monies are too much." On the same note, one Faculty Librarian echoed, "monies are not enough, ... the release of money cannot come at the time when you need it so sometimes you don't meet the deadline because of the late release of funds to do something." Another librarian was more worried with the lack of facilities to use in supporting researchers. He stated, "the biggest challenge that we have in this library is we don't have training facilities, our training nowadays is very practical, so it's very difficult to schedule training and it's very difficult to run as many training sessions as you want..."

The absence of a specific policy was found to be another serious challenge that was affecting the practising librarians in discharging support for researchers. In an interview, one Faculty Librarian stated:

"The unfortunate circumstance is that it doesn't look like policy wise the Library is kind of responding to that, it's just pockets of people who are responding but policy wise or strategic wise the Library itself doesn't seem to be positioning itself well because it's not even talked about. But we do these things every day and we come across these things every day, but policy wise I think this is where we are lacking."

Librarians were also lacking support from administration and other related campus players like the IT department and this affected their capacity to deliver support for researchers. One Faculty Librarian said that the management and practicing librarians “don’t see the Library the same way because sometimes librarians propose things they see as worthwhile, but the management just leave it, they don’t support.”

c) The services offered by the librarians are skewed in favour of teaching and learning

In separate interviews, librarians responsible for discharging research support admitted that the services they were offering were more inclined towards supporting teaching and learning than research. One Faculty Librarian was asked on the depth of services for researchers said:

“To be quite honest, we have not yet been involved in that area, I think that’s the honest answer I can give there, we have not yet. I don’t remember anyone from the Library touching on these things except that when they are compiling their information with the referencing and citation that I was talking about, ...the little bit involved in that process and it comes anywhere near, it’s just something that we do ...but in terms of the research itself I don’t remember anyone doing that.”

d) Services for teaching and learning are the same as to those for research

Practicing librarians view the services for teaching and learning as the same to those for research. In an interview, on the way research support was delivered in the Library, one librarian noted, “we don’t separate, ... the material which is for researchers could even be used for teaching and learning so we cannot say don’t use this, ... this is specifically for research, this is specifically for teaching and learning, no we don’t separate.” Another librarian in support echoed the same sentiments and thus said, “teaching and learning goes hand in hand with research ... so I think these things work hand in hand you cannot separate them.” On the issue of training, one librarian indicated that the librarians have “not started workshops for specific groups of people” hence the services just come as “one package.” The same sentiments were also confirmed through the questionnaires where most librarians explicitly noted that the services for teaching and learning are the same as those for research support hence service delivery had no respect for client category.

e) The services offered by the librarians are concentrated around the preparation, gathering and sharing stages of the research process

Librarians who were interviewed indicated that they offered services like “ILS programs,” “organise workshops for the faculty,” “literature search” and “research assistance.” Most of these services were confirmed through the qualitative questionnaire that supplemented these

interviews where librarians indicated these services as dominant services they offer in support of research. The results showed that the services offered by the librarians are concentrated around the following stages of the research life cycle: Preparation (looking for ideas, deciding on a topic, formulating a research question); Gathering (creation of guides, Information Literacy sessions, developing effective search, literature searches, document delivery, strategies) and Sharing (dissemination of research output, Scholarly communication and open access, IR as a facility to showcase research output). Table 5.22 presents the services and activities being offered by the librarians to the researchers.

Table 5.22: Services offered by librarians around the research cycle (n=5)

Stage	Service/Activities	Frequency
Preparation	Drafting Applications	0 (0%)
	Looking for ideas	4 (80%)
	Deciding on a topic	4 (80%)
	Formulating a research question	4 (80%)
	Identifying sources of funding	1 (20%)
Gathering	Creation of Guides	4 (80%)
	Tutorials to help researchers	1 (20%)
	Information literacy sessions	4 (80%)
	Developing effective search	4 (80%)
	Literature Searches	4 (80%)
	Document delivery	4 (80%)
	Strategies	4 (80%)
	Provision of physical space for researchers e.g. research	0 (0%)
	Online reference services	3 (60%)
Creation	Compiling data management plan	0 (0%)
	Creating and organising strategies for Documentation	0 (0%)
	Collection and making available data sets for reuse	0 (0%)
	Research data curating and management	0 (0%)
	Backups	0 (0%)
	Dissemination of research output	5 (100%)
	Scholarly communication and open access	5 (100%)
	Advice and support for open access publishing	5 (100%)
	Advising on utilising new dissemination means	1 (20%)
	Institutional repositories as a facility to showcase research	5 (100%)
Measurement	Citation analysis	0 (0%)
	Publication counts	0 (0%)
	H--index	5 (100%)
Commercialisation	Library sites as tools for research marketing	0 (0%)
	Copyright and property rights	0 (0%)
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	3

Source: field data (2017)

f) Librarians lack subject knowledge in the areas they offer research support

Evidence gathered through the interviews show that librarians lack subject knowledge in the areas they support. It was further established that the appointment of librarians to be responsible for specific schools was not based on subject knowledge. One librarian said:

“... it was just an assignment, not basing on any qualifications because my first degree is in agriculture, so I think if they were considering qualifications, my best school would be the school of agriculture. But now because I was put in this school, I don’t think they considered anything.”

Another librarian explained the work of librarians in supporting research as “general” and noted:

“I am a general practitioner, I don’t have the background in sciences, but I have just interest in what happens generally with those schools and some of these things as you get into them you get an insight through interaction, through discussions you get to understand the basics ... you have an understanding which is basic and general ... There is nothing specific that they chose on me, but I think I have an interest, just a general interest in that area.”

Through the questionnaires, it was established that most of the librarians held master’s degree in library and information science as their highest qualification with no other qualification related to the discipline they were supporting.

g) Librarians believe they remain relevant to researchers despite the changing research environment

Librarians believe they remain relevant to researchers despite the changing research environment to perform the traditional roles and responsibilities. In an interview, one librarian stated that librarians remain relevant because “there is still a need to acquire, preserve, organize and provide access to information resources, libraries still provide the desired environment for study, learning and research.” In a separate interview, another librarian echoed similar sentiments noting that the prevailing research environment needed more services from librarians than before: “the more researchers we have, the more librarians and researching skills we need; hence librarians are required to assist researchers on their research.”

5.4.3 Relationship between espoused theories and theories-in-use

A studious comparison of the claims that emerged from conceptualisation and practice of research support revealed several congruences and incongruences. These claims are juxtaposed in Table 5.23.

Table 5.23: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none">1. Collaboration plays an important role in supporting researchers2. Provision of support infrastructure is considered a key aspect of research support3. The Library has a primary responsibility of supporting research through provision and promotion of information services to researchers4. The Library offers various services in support of researchers5. Research support is delivered by highly qualified staff6. Research support is understood to be provision of materials, training and reference services to researchers	<ol style="list-style-type: none">1. The librarians use mostly traditional models of research support2. Librarians face several challenges in their efforts to support researchers3. The services offered by the Library are skewed in favour of teaching and learning4. Services for teaching and learning are the same as to those for research5. The services offered by the Library are concentrated around the preparation, gathering and sharing6. Librarians lack subject knowledge in the areas they offer research support7. Librarians believe that they remain relevant to researchers despite the changing research environment

Source: field data (2017)

▪ **Congruence**

There seems to be congruence in the way the Library conceptualises the value of collaboration in coming up with effective research support. As stated in the Library Service Charter, collaboration is considered a vehicle for acquiring resources and increasing the impact of the Library in supporting researchers. Practising librarians also shared the same sentiments and testified that they were engaged in collaboration at different levels to offer sound research support to researchers at the University. However, in both cases, collaboration did not entail actual partnering with researchers in the research process.

Research support is conceptualised as provision of materials, training and reference services to researchers. In addition, the Library takes a primary responsibility of supporting research through provision and promotion of information services to researchers. This is reflected in practice where research support is discharged via the Resource Model and Liaison Model where librarians offer information literacy skills training sessions, e-resources training and provision of information resources in their varied forms were the most common research support modes.

The Mission Statement espouses the Library as offering services that are student centred. This is congruent to the services that are offered in practice by librarians which are skewed in favour

of teaching and learning. In addition, this was also confirmed in practice where librarians view services for teaching and learning are the same as those for research. There is congruence in the way technology is considered a critical enabler of research support. The mission presents the Library as striving to be technologically driven in service delivery to researchers. Likewise, in practice, librarians also appreciated the role played by technologies in supporting researchers and indicated their serious efforts to avail technological support to researchers.

▪ **Incongruence**

There is a discrepancy in the way the Library espouses the staff competencies and skills of research support through its Mission Statement. The Strategic Plan espouses that the Library will recruit highly qualified and skilled staff who in part will be responsible for research support. From the interviews that were held, practising librarians indicated that they were lacking some critical skills in supporting researchers and that they did not possess any subject knowledge and that possession of subject knowledge was not a prerequisite for subject librarians. Another incongruence exists in the way the Library espouses the provision of support infrastructure as a key aspect of research support. The Library Service Charter and the Vision present the Library as an entity that exists to meet the infrastructural needs of researchers at the institution yet in practice librarians lacked basic tools and needs like dedicated space strictly meant for researchers, reference management software and antiplagiarism software that would enable them to discharge upstream research support.

5.4.4 Disconfirming experiences and dilemmas in practice

Librarians encountered several disconfirming experiences and dilemmas in discharging research support to the academic community at the institution. “Negative perception from users,” “researchers looking down upon librarians,” “librarians overlapping in other fields” were found to be the most common disconfirming experiences for librarians in practice. In addition, researchers failing to grasp research skills was another disconfirming encounter where librarians would then question their sense of competence. One librarian stated that, “... I think there is still much to be done concerning the use of this thing, it’s you who is supposed to do the work for them, if you say go and do this they come back again, how can I do this? I can’t find it. I think I don’t know. Is it that they don’t know? I just don’t know!” Another dilemma relates to the services offered by librarians where “librarians overlap in other fields” or vice versa, hence a cause for confusion.

5.4.5 Reflective strategies to deal with disconfirming experiences and dilemmas

To deal with the dilemmas and disconfirming encounters, all the librarians (n=6) indicated that they achieve goals and purpose as stated which evident to their use of Model 1 learning strategy. Other predominant variables were that librarians emphasised rationality (n=4) which is also a Model 1 variable and that librarians share power with anyone who has competence and who is relevant (n=4) which is a Model 2 variable. However, in as much as librarians indicated their appreciation of some Model 2 governing variables, which should allow the Library to relook and criticise their governing policies and Mission Statement, they are still resorting to make solutions to get the work done without attempting a reconsideration of the espoused theories. Table 5.24 presents the data gathered on the governing variables used by librarians.

Table 5.24: Strategies to deal with dilemmas (n=6)

Reflective Strategies	Model	Governing Values/Variables	Frequency
Single Loop	Model 1	I achieve my goals and purpose as stated	6 (100%)
		Win do not lose	1 (16.6%)
		Suppress negative feelings	3 (50%)
		Emphasise rationality	4 (66.6%)
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	4 (66.6%)
		Definition of task control over the environment is shared with the relevant others	2 (33.3%)
		Maximise valid information	1 (16.6%)
		Have high internal commitment to the choice and constant monitoring of its implementation	4 (66.6%)

Source: field data (2017)

5.4.6 Reflective analysis

The Library's primary responsibility of supporting research at the institution is articulated in practice through various services and facilities that are available in the Library. The Library was however being less effective to researchers as revealed by the perceptions of researchers on librarians and resistance to calls by librarians to deposit research output on the institutional repository and other related library initiatives. This has been primarily so because the services offered by the Library do not involve a serious engagement with researchers, instead, the Library is just playing an informational role. As a result, researchers feel that the Library is not

giving and providing adequate support to their needs. In addition, the Library was also being ineffective simply because it was lagging and failing to cope with current trends in research which requires more than an informational support role. The fact that librarians had a limited conceptualisation of research support which they considered to be provision of access to resources and training contributed to ineffectiveness as they lacked sufficient knowledge of the best practices. Furthermore, the absence of a research support policy which regulates practice made it hard for librarians to discharge research support duties.

5.5 Case five: UL05

Mission documents that were accessed from this case included the redacted Intellectual Property Rights Policy, the Institutional Repository Policy, Information Literacy Skills Policy, the Collection Development Policy and Library's Mission Statement. These documents were analysed to inform conceptualisation of research support. The Head of the Library was interviewed as part of understanding conceptualisation of research support. Faculty Librarians and Client Services Librarian were given questionnaires and interviews conducted thereafter to understand how research support was being practiced.

5.5.1 Research support indicators derived from policy documents to inform conceptualisation

Research, community service, teaching and learning, acquire, provide access, resources, physical collection, empower clients, information literacy skills, lifelong Learning, assistance, WebPAC service, research topic, literature, objectives, contextual, skills, policy, timely information delivery, virtual support, to asynchronous learners, deposit, access, research output and graduate research programmes. The following table, Table 5.25 represents the predominant indicators and statement of claims in espoused theories for UL01.

Table 5.25: Predominant indicators and statement of claims- espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
Acquisition, organisation	Library Mission Statement	The Library supports the University's research activities through acquiring and organising information resources
Access, training	Library Mission Statement	The goal of the Library is to provide access to information resources through acquiring, organising and training researchers
Information literacy	Information Literacy Policy	Information literacy presented as a key competence for lifelong learning of researchers
Information access and retrieval; dissemination of Information	Interview	Research support is defined as providing access to information and retrieval of documents as well dissemination of information
Institutional repository	Institutional repository Policy	The Institutional repository is a strategic tool for supporting researchers

Source: field data (2017)

5.5.1.1 Validation of claims

a) The Library supports the University's research activities through acquiring and organising information resources

The Library presents an information resources focused Mission Statement that "... seeks to support (the) University's teaching, learning and research programmes by acquiring and organising access to information resources in a variety of formats and by equipping the academic community with the skills necessary to exploit these resources."

b) The goal of the Library is to provide access to information resources through acquiring, organising and training researchers

The Library's Mission Statement articulates an information resource goal achieved by "acquiring and organising access to information resources in a variety of formats and by equipping the academic community with the skills necessary to exploit these resources." The IR Policy also markets the IR as a platform "to provide library clients with access to full text academic and research information." The Library's Collection Development Policy makes it

clear that the Library will “provide information resources in print and electronic media necessary to execute the University’s mandate in teaching and research.”

c) Information literacy is presented as a key competence for lifelong learning of researchers

Through its Information Literacy Skills Policy, the Library promotes information literacy as a “key competency for lifelong learning, fundamental to the teaching, learning and research focus of the University community.” The same Policy further promotes information literacy as a skill that “enables and empowers clients to be critical and independent users of information by embedding information literacy skills into the University experience.”

d) Research support is defined as providing access to information and retrieval of documents as well dissemination of information to researchers

From a policy perspective research support is regarded as providing access to “physical collection” by “organising” these materials using “Library of Congress Classification Scheme.” Access is also facilitated by “WebPAC service” which the Library provides, “to search for all information in the Library's collection.... by providing bibliographic details about an item including its access code (location), which are mostly call numbers or URLs.” Research support is also considered as selective dissemination of information (SDI) which “involves selecting from a flow of new documents” and “already in the collection that the Library might deem necessary to individuals at that time for study or research purposes.”

The centrality of disseminating information as a research support service was elaborated by the Librarian. He explained:

“The concept of research support is dynamic. The concept of research support has been dynamic in libraries and it keeps on changing with the context where you are ... So, we started to change in terms of information delivery, the media that we use to communicate that information and the way that we disseminate that information is now timely. It means also, if you disseminate that information very late, it won’t serve any purpose for our clients, it means we must disseminate our information very quickly and also accurately.”

e) The institutional repository (IR) is a strategic tool for supporting researchers

The Library champions the IR as a critical tool for research support both as a source of information and as a platform for researchers to showcase their research output. The University’s IR Policy states that the IR is:

“An electronic platform for collecting, preserving and disseminating information in digital form and the intellectual / research output of the Institution. The repository strengthens the capacity of the Library to support the increasing number of graduate and research programmes now on offer at (the) university. (The) University expects its academics, scholars and scientists ... to provide, through the Library, maximum online access, use and application of their findings freely without cost or legal sanctions.”

In addition, the same Policy states that the repository will provide “a maintained repository of research information in an accessible format, both on campus and off campus.”

5.5.2 Research support indicators derived from interviews and qualitative questionnaire to inform practice

Books, e-resources, e-journals, resources, funding, lack of technological tools, policies, heavy workloads, reference management, training, research assistance, methodology, advice on publishing, Lack in-depth knowledge, library and information science, post-graduate students, labelled lecturers, research office, ZULC, lecturers, collaboration and skills. Table 5.26 shows the predominant indicators and statement of claims - theories-in-use for UL05.

Table 5.26: Predominant indicators and statement of claims- theories-in-use

Predominant categories	Evidence	Claims generated from research support indicators in interviews and questionnaires
Approach	Interviews/ Questionnaires	Librarians practice research support mostly through the Resource Model and the Liaison Model
Challenges	Interviews/ Questionnaires	Librarians face a slew of challenges in support of researchers
Services	Interviews/ Questionnaires	Services for researchers are spread across the research cycle
Skills and knowledge	Interviews/ Questionnaires	Librarians lack subject knowledge in the areas of support
Researcher categories	Interviews/ Questionnaires	The Library recognises researchers as a distinct group of library users
Collaboration	Interviews/ Questionnaires	Collaboration is viewed as a vehicle in supporting researchers

Source: field data (2017)

5.5.2.1 Validation of claims

a) Librarians practice research support through the Resource and Liaison models

The librarians provide research support through the traditional models of research support. Several Faculty Librarians confirmed the use of the Resources Model. In an interview, one librarian expounded, "... in order to support the academic activities, we ensure that we buy current books, subscribe to current journals... I mean both physical and electronic ..., e-resources generally..." Here, provision of resources is a way of supporting researchers. This was confirmed by another Faculty Librarian who noted "I support research through provision of information, ... we offer e-resources ...so what I do is, I just go on the e-resources database, I just download the ream ..." Another librarian highlighted the efforts of the Library in trying to avail resources in support of researchers and stated, "we have databases that are open access. Open Access initiatives are growing in the country where we are trying to conscientise our researchers to utilise open access resources, because they are good resources."

Librarians also indicated that they used the Liaison Model in discharging research support duties which involved the design and delivery of information literacy training, liaison with departments; provision of information on the Library's web pages as well as provide support on one-to-one basis ranging from a pre-arranged consultation to an informal encounter, to discuss. The use of the Liaison Model was clarified by the Head of the Library:

"Research support in this library is practised through the effort of the Faculty Librarians. I will give you some examples, we encourage Faculty Librarians to keep the profile of academic researchers in their faculties. We encourage them to keep the profile of academic researchers so that when we have new information sources, they disseminate it to them selectively The same thing happens to books. If we have just bought a book in an area that we feel will be beneficial to a particular lecturer because we already have the profile, research profile (not ordinary profile), the research interests, the area of research of that lecturer. So, if you want actually to discharge your duty to a particular researcher you must know the profile. If you know the profile you should be able to give that person material that matches the research profile."

One Faculty Librarian explained how research support was delivered in the Library, "it's more of a decentralised system - mainly it lies on the Faculty Librarians." Initiatives taken to train faculty members on e-resources and other related issues is also a testimony to the use of the Liaison Model. This is explained "we also train faculty and also lecturers on how to utilise information, where we have ILS training programs, database training, referencing and also

many of the issues which help them to do research ... we actually assist students and also researchers to come up with the good research which is recognised, which is ethical.”

b) Librarians face a slew of challenges in support of researchers

Lack of funding and specialised equipment (infrastructure, hardware and software) have hamstrung librarians in their mission to support researchers at the University. Commenting on the financial challenges of the Library, the Head of the Library lamented:

“...especially the economic climate of Zimbabwe, the world over, everywhere in the world there is an economic recession; and this recession is affecting the way librarians play their roles. You will see there is a downturn in economic progression, this one affects seriously from time to time the budget of the University. When the budget is affected definitely the role that the librarians play will automatically be affected... the librarian has to come back at his office, sit down and see how he will stretch the little resources over increasing needs.”

On the ground one librarian expressed the extent of the effect, “...at one point we needed bibliographic tools, those for teaching ILS and so on but the University failed to purchase materials and software due to lack of funding.” In addition, lack of funds had reduced the opportunities for supporting librarians to acquire further skills so that they can offer upstream research support. The senior librarian noted, “...if there is training which is done maybe in South Africa or locally, we cannot send our people for that training especially with new things like RDA and, so we can’t do that, but we need those trainings ... our major challenge has been funding, that has been our major challenge in that area.”

Another challenge facing the Library was staff shortage which resulted in heavy workloads on the few librarians who were there. The Client Services Librarian explained, “... speaking from a client service point, we would require more staff so that we are able to assist students and staff in their faculties who do research.” Shortage of a workforce has affected the way and extent librarians can support researchers because, “staff are overwhelmed, apart from the research support aspect they have other professional responsibilities that they have to do, for example even circulation services, they have to process resources from the backroom they have to be duty librarians.” On the same note, a different librarian stated that, “... sometimes I may not be satisfying their needs because of time, we have other responsibilities other than research support.”

Limiting job scope and unaccommodating policies were part of the challenges which affected librarians who practised research support. In some cases, some fundamental aspects of

librarianship were stripped off their responsibilities to other campus players which left librarians hanging to the information provision role alone. One librarian noted that, “I think it depends also on the policies that we have as universities... We might want those structures as librarians, but the management decides where those things fit, they will decide that they should fit in this unit because of cost cutting.” In support, another librarian cited that they were limited by strict job specifications “the challenges that responsibility comes with, these job specifications you can’t change anything to give our results.”

Librarians indicated that they were lacking several skills that were critical for offering deep research support. In an interview, one Faculty Librarian stated that, “definitely I need to upgrade myself ...”. The same librarian added, “It can never be adequate because for example here we are dealing with various areas of specialisation, so you cannot be a master of all.” Another librarian in a separate interview also noted, “I think I need to learn more on offering research support ..., I think I will need to know that (Statistical Package for the Social Sciences) SPSS software so that I can help maybe a lecturer who is doing research who is using that because that’s what they are using now.”

c) Services for researchers are spread across the research cycle

Through both interviews and qualitative questionnaires, Faculty Librarians and the Client Services Librarian indicated that they offer various services to researchers. One Faculty Librarian said, “... I just offer resources and help with objectives, topic formulation, methodology, literature review but then when it comes to maybe what you were talking about in the other paper; bibliometrics, curatorship I don’t go that far.” On the same note, the Client Services Librarian stated, “... before their proposal, they send titles to me, the idea is verifying because we don’t want a situation whereby they go to their full defence and then maybe, they say no, this has been done before ...”

The library prides itself for being “one of the first university libraries to offer a credited course in information literacy skills.” Information literacy skills training to both undergraduate and graduate students:

“For postgraduate students ... we do information literacy skills for all graduate students, we take sessions we go take them when they do their research methodology course, so we teach them those information literacy skills to enable them to access and to use the resources ethically.”

It was also noted that librarians offer plagiarism and academic integrity detection services. In an interview, the client services librarian stated that, “if there is suspicion of plagiarism lecturers will just say ok fine we will just send the work to the Library and they will confirm if it is plagiarised.” The librarians indicated that they also offer reference and citation management services to researchers. One librarian stated, “we actually support them in teaching those and teach them citation, how to cite different things.” Table 5.27 present services offered by librarians around the research cycle.

Table 5.27: Services offered by librarians around the research cycle (n=5)

Stage	Service/Activities	Frequency
Preparation	Drafting applications	0 (0%)
	Looking for ideas	5 (100%)
	Deciding on a topic	5 (100%)
	Formulating a research question	5 (100%)
	Identifying sources of funding	1 (20%)
Gathering	Creation of guides	1 (20%)
	Tutorials to help researchers	5 (100%)
	Information literacy sessions	5 (100%)
	Developing effective search	5 (100%)
	Literature searches	5 (100%)
	Document delivery	5 (100%)
	Strategies	4 (80%)
	Provision of physical space for researchers	0 (0%)
Creation	Online reference services	5 (100%)
	Compiling data management plan	1 (20%)
	Creating and organising strategies for documentation	2 (40%)
	Collection and making available data sets for reuse	1 (20%)
	Research data curating and management	1 (20%)
Sharing	Backups	0 (0%)
	Dissemination of research output	5 (100%)
	Scholarly communication and open access	5 (100%)
	Advice and support for open access publishing	4 (80%)
	Advising on utilising new dissemination means	2 (40%)
Measurement	Institutional repositories as a facility to showcase research	5 (100%)
	Citation analysis	1 (20%)
	Publication counts	0 (0%)
Commercialisation	H--index	3 (60%)
	Library sites as tools for research marketing	1 (20%)
Emerging Technologies	Copyright and property rights	1 (20%)
	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	4 (80%)

Source: field data (2017)

d) Librarians lack subject knowledge in the areas of support

The librarians indicated that they lacked subject knowledge of the areas they were assigned to assist. The Head Librarian registered his concern over the need for librarians to have basic appreciation of the subject area they support to discharge effective research support. He said, “We encourage people to go for a degree majoring in a particular subject, then you now go for masters in library and information science.” The librarian who supports the Education faculty said, “The challenge now is with the issue of the subject area, not knowing in-depth information on education.” Another Faculty Librarian disagreed on the need to have subject knowledge and claimed that librarians could never acquire all the knowledge needed to support researchers, “... it can never be adequate because for example, here we are dealing with various areas of specialisation, so you cannot be a master of all.” To redress the issue of lack of subject knowledge librarians were trying to familiarise themselves with the subject areas by attending training “from faculties when they do training for students on specific research issues.”

e) The Library recognises researchers as a distinct group of library users

Researchers are recognised as a distinct group among the Library users. One senior librarian noted, “we now have that research and outreach program where we are actually assisting researchers, students and our graduate and undergraduate students to go through that process, to make sure our research output is actually authentic.” The Head Librarian indicated that the librarians had time which was specifically dedicated to meeting with researchers and students’ research needs. He noted, “We ask researchers to make appointments with the Faculty Librarians to discuss issues to do with their research. There is a deliberate effort maybe to show that the librarians know what areas of research students are taking ...”. The Head Librarian identified the specific groups the Library categorised as researchers, “When we talk about researchers, we are talking about labelled lecturers, postgraduate students and even undergraduate students when they are doing their research you have to take this into consideration, don’t limit those researchers to lecturers.”

f) Collaboration is viewed as a vehicle for effective delivery of research support

The librarians considered collaboration to be a critical tool for supporting researchers. In an interview, one Faculty Librarian explained, “we are a member of that ZULC initiative in terms of providing electronic information sources. We are receiving information from INASP and from other sources where we are subscribing as universities.” Librarians also indicated some collaboration with other campus units in supporting researchers. The Client Services Librarian

noted, “... so we are working together with the office of research and output ..., librarians are a member of that committee and I am also a member of that committee as well.” Another librarian stated that the Library and the research office are “... actually assisting researchers, students, graduate and undergraduate students go through that process to make sure our research output is actually authentic.”

5.5.3 Relationship between espoused theories and theories-in-use

A comparative analysis of the claims made from policy documents and professional practice reveal major congruences and incongruences between how research is conceptualised and practiced. Table 5.28 presents a juxtaposition of claims on espoused theories and theories-in-use.

Table 5.28: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none"> 1. The Library supports the University’s research activities through acquiring and organising information resources 2. The goal of the Library is to provide access to information resources through acquiring, organising and training researchers 3. Information literacy presented as a key competence for lifelong learning of researchers 4. Research support is defined as providing access to information and retrieval of documents as well dissemination of information to researchers 5. The Institutional repository is a strategic tool for supporting researchers 	<ol style="list-style-type: none"> 1. Librarians practice research support mostly through the resource model and the Liaison model 2. Librarians face a slew of challenges in support of researchers 3. Services for researchers are spread across the research cycle 4. Librarians lack subject knowledge in the areas of support 5. The librarians recognise researchers as a distinct group of library users 6. Collaboration is viewed as a vehicle in supporting researchers

Source: field data (2017)

▪ Congruence

The Library’s espoused Mission Statement which states that it exists to support researchers through acquisition and availing of information resources is in synch with the Resource and Liaison models of research support used by librarians in practice. Acquisition of materials was realised through the Resources Model where an institutional repository (IR) was in place to acquire research projects from researchers. Librarians in practice were also making continuous efforts to avail e-resources to researchers by partnering with other universities through the ZULC initiative. As articulated in the Library’s Information Literacy Policy, information

literacy (IL) is a key competence needed for lifelong learning of researchers. This aspect of conceptualisation of research support was reflected in practice through the Liaison model where Faculty Librarians revealed in different interviews that they were involved in training researchers to be independent and critical users of information through an information literacy skills training course.

Research support is understood as providing access to information and retrieval of documents as well as dissemination of information to researchers in policy documents. In practice, information literacy is practised variedly with Faculty Librarians emphasising different issues. One Faculty Librarian was more concerned with online reference services and others were more concerned with training of researchers and, dissemination of information in a timely manner as an indication of effective research support. A negative congruence was established where management viewed librarians who were practising research support not as researcher librarians fit enough to provide the service as they lacked subject knowledge and lack of research support skills. Similar sentiments were also echoed in practice when librarians indicated through interviews and questionnaire responses that they were lacking subject knowledge in the academic fields they were supporting and that they lacked research support skills that would enable them to partner with researchers throughout the research process as expected in the modern research landscape.

▪ **Incongruence**

The policy documents that were availed to the researcher are silent on any issues to do with collaboration. This however was not so in the interviews that were held with librarians who indicated with great emphasis how they regard collaboration as a facilitator and key driver to research support efforts. For example, librarians were working with the postgraduate research department to support researchers in topic formulation and proposal development and librarians indicated that their library affiliated to the ZULC initiative in terms of e-resources subscription. Incongruence was seen in the way research support is understood as a concept and how it is delivered. Policy documents emphasised access and retrieval as well as selective dissemination of information whereas, in practice librarians emphasised training of researchers as a service.

5.5.4 Disconfirming experiences and dilemmas in the practice of research support

Librarians encountered several disconfirming experiences and dilemmas as they discharge research support services. Firstly, “low turnout from both the students and staff for ILS training,” and “lack of interest from students.” This was aptly put by one Faculty Librarian, “I

have tried to organise some training before for the staff in the faculty because some of them will be saying we don't even know how to access those databases ... but you find out that the turnout is very low."

Irrelevant and overdue policies were also a source of confusion and dilemmas. One Faculty Librarian noted:

"We sometimes face challenges with clients where you will be challenged by clients to say no this is not practical, ... but we have to defend the policy, but you will know that you are defending something that is not defensible because it's now old. So sometimes you just justify things that are just unjustifiable because you have to support the policy."

Another dilemma was to do with research areas, where the University had areas of interest in research which do not always correspond to the areas of interest for postgraduate students. The client services librarian detailed:

"Like I pointed earlier on, we do have research priorities as an institution ... but of course some students may have research priorities in their own organisations because some of them are sponsored by their organisations ... so they come with their research because they want to meet their mandate as well."

In yet another interview, one Faculty Librarian indicated concerns over lack of support from management where "the management will say that information is adequate..."

5.5.5 Reflective strategies to deal with disconfirming experiences and dilemmas

Through the questionnaire that accompanied the interviews conducted with librarians, it was established that librarians were uncertain of the strategies that they used to deal with dilemmas. Of the five questionnaires that were returned, only three responded on the question that required the strategies used in practice to deal with dilemmas. The frequent response was that librarians would share power with anyone who has competence and who is relevant. This is shown in Table 5.29 which captures the governing variables used by librarians when they encountered disconfirming experiences and dilemmas in practice.

Table 5.29: Governing variables (n=5)

Reflective Strategies	Model	Governing Values/Variables	Frequency
Single Loop	Model 1	I achieve my goals and purpose as stated	1 (20%)
		Win do not lose	1 (20%)
		Suppress negative feelings	1 (20%)
		Emphasise rationality	1 (20%)
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	3 (60%)
		Definition of task control over the environment is shared with the relevant others	2 (40%)
		Maximise valid information	2 (40%)
		Have high internal commitment to the choice and constant monitoring of its implementation	0 (0%)

Source: field data (2017)

5.5.6 Reflective analysis

There is congruence on the goals of the Library and the practice of librarians in their efforts to meet the needs of the researchers. However, the Library has however been found to be ineffective due to their limited scope in terms of services which have been found to be informational hence more traditional than modern. The Library mainly focused on the provision of information, facilitation of access through training and other kindred sundries. Such efforts had long ceased to be sufficient in meeting the needs of the researchers given the modern research environment. In addition, lack of a standardised or a universal definition of research support has meant that every individual librarian discharges research support as they see fit. Hence, there is no consistent way of offering support to researchers and in that manner, it is highly impossible to realise effectiveness. Lack of skills to support researchers is equally another way to explain the ineffectiveness of the Library which in most cases has been evidenced by lack of interest and cooperation to any library initiatives. Evidence gathered from both the interviews and the questionnaires suggest that librarians were governed by variables from both Model 1 and Model 2. According to the Theory of Action, practitioners who use Model 2 are likely to question their practice and reflect on their policies. However, the Library was failing to breakthrough because their policies were said to be a source for confusion and

dilemma. Librarians lamented the policies that the Library had in place were no longer communicating to the current trends and demands of the prevailing research landscape.

5.6 Case six: UL06

Mission Statement and Strategic Plan were the two policy documents that were found to be relevant to the conceptualisation of research support. The researcher also managed to conduct an interview with the Head of the Library who was considered an important cog for policy interpretation. On the practice side, interviews were conducted with the Systems Librarian and Client Service Librarian and two questionnaires were handed to the same. The other members of the staff failed to meet the criteria for inclusion due to various reasons.

5.6.1 List of research support indicators derived from policy documents to inform conceptualisation

Instructional, research, spiritual programmes, provide resources, facilities and services, books and other materials, balanced collection, reference collection, general information resources, collection for spiritual growth, acquiring, maintaining, organisation and preservation, print and non-print resources, collection, acquisition, resources, e-resources, computers, wi-fi, space, reference room, faculty librarians, acquisition, organisation, preservation, online catalogue books, internet access, online resources and training. Table 5.30 captures the predominant indicators and statement of claims from the Library's espoused theories.

Table 5.30: Predominant indicators and statement of claims- espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
support	Mission Statement	The Library has a principal responsibility of supporting research of the University
Collections	Strategic Document	The Library seeks to provide a balanced collection of resources
Acquiring, maintaining, organising and preservation	Strategic document, Mission Statement	The role of the Library is to acquire, maintain, organise and preserve print and non-print resources
Assumptions and beliefs	Strategic document	Collections and infrastructure are regarded as essential in supporting researchers
Staff	Strategic document	Faculty Librarians presented as the vehicle through which the Library discharges its research support duties
Definition Research Support	Interviews	Research support is regarded as training and facilitating access to information for researchers

Source: field data (2017)

5.6.1.1 Validation of claims

a) The Library has a principal responsibility of supporting research of the University

As clearly stated in the Mission Statement of the Library, “Library has a primary responsibility to support instructional, research and spiritual programmes of the University-through the acquisition, organisation, maintenance and preservation/conservation of appropriate print and non-print electronic and archival information resources and the retrieval/ dissemination of those resources.”

b) The Library seeks to provide a balanced collection of resources to researchers

From the Strategic Plan, the Library endeavours “to provide books and other materials in accordance with the needs of the University.” The Library espouses a well “balanced collection” comprising “reference collection, standard works, general information resources” and other “facilities and services” “to meet the academic needs of the various departments” which in turn is regarded as important in supporting research in “in all fields... to meet the demands of today’s education and other information and recreation interests.”

c) The role of the Library is to acquire, maintain, organise and preserve print and non-print resources

From the Mission Statement, the Library supports the research of the University “through the acquisition, organisation, maintenance and preservation/conservation of appropriate print and non-print electronic and archival information resources and the retrieval/ dissemination of those resource.” The Strategic Plan promised that the Library will “Subscribe to more e-resources, databases and journals.” Again, the Strategic Plan that the Library “adopted the Koha system with features for cataloguing, classification, charging and discharging” for the purposes of organising and maintaining resources.

d) Collections and infrastructure are regarded as essential in supporting researchers

From the SWOT analysis presented in the Strategic Plan, the strength of the Library is seen in its provision of a “reading area” which is regarded as “enough for current enrolment.” Another strength is “a collection comprising of current editions of books and e-journals.” The Library plans to “ensure maximum utilisation of e-resources.” In addition, the Library boasts of a “Wireless-Fidelity (Wi-Fi) installed at the premises and it has increased the number of patrons visiting the Library.” “Shortage of equipment and furniture i.e. computers, bindery equipment, office furniture, students’ chairs and tables and a weak security system” are seen as the critical weaknesses of the Library. As part of its future plans, the Library intends to have in place a ‘Reading room for PhD students and Masters students,’ “discussion room,” “reference rooms,” “computers for research and internet use by students,” “another photocopier,” “second Phase of closed-circuit television (CCTV) to be completed,” “air conditioner” and “shelves” to cater for its research support endeavours.

e) Faculty Librarians presented as the vehicle through which the Library discharges its research support duties

The Library’s Strategic Plan points to the importance and need for subject librarians in supporting researchers as it was listed as one of the immediate needs of the Library “to have subject/Faculty Librarians (immediate).”

f) Research support is regarded as training and facilitating access to information for researchers

Research support is understood in terms of training services offered by the Library to researchers. In an interview, the Librarian noted that their research support is defined by “training especially on electronic resources” where they “encourage them to use e-resources

because most of the hard copies are outdated.” Such efforts have been approaching “individual lecturers training them how to use these resources.” It was noted that, “acquisition, organisation, maintenance and preservation of appropriate print or non-print” is part of the Library’s research support initiatives.

5.6.2 Research support indicators derived from interviews and questionnaires to inform practice

Gathering, sharing , books, collection, databases, e-resources, information resources, print and non-print, reference collection, consortium, research office, literature search, information literacy training, referencing management, refining ideas, technology support, dissemination, funding, infrastructure, no policies, resistance, old technology, time, skills and knowledge, lack of information technology skills, lack of data analysis skills, knowledge of bibliometrics, Systems Librarians, Faculty Librarian, statistics and citation analysis. Predominant indicators and statement of claims from theories-in-use are captured in Table 5.31.

Table 5.31: Predominant indicators and statement of claims: theories-in-use

Predominant Concepts	Evidence	Claims generated from research support indicators
Continuums of research support	Interviews and Questionnaires	Services of the Library are spread on the research scale coalescing at the gathering and sharing stage of the research process
Approach	Interviews and Questionnaires	Librarians use the Resources Model in support of researchers
Collaboration	Interviews	Collaboration with other units and institutions is seen as important in support of researchers
Services	Interviews, Questionnaires	The Library uses a variety of services to support researchers
Challenges	Interviews and Questionnaires	Lack of time, skills, knowledge, infrastructure and other auxiliary tools are seen as barriers to providing upstream research support
Skills	Interviews	Librarians do not have adequate skills to support researchers
Staff	Interviews	Research support is delivered via the Systems Librarian.
Service evaluation	Interviews and Questionnaires	Librarians believe that high use made of information resources is a measure of success

Source: field data (2017)

5.6.2.1 Validation of claims

a) Services of the Library are spread on the research scale coalescing at the gathering and sharing stage of the research process

One completed qualitative questionnaire from a possible four indicated that the services offered by the Library were mainly at gathering and sharing stages of the research cycle. Interviews conducted confirmed services around gathering and sharing stages. One librarians indicated that they helped researchers in areas such as “skills to use those resources- research skills, navigation skills,” “user guide, online resources.” The Head Librarian noted that the Library help researchers “sieve through voluminous information and teach them evaluation of information they get from the internet” to which the Reader Services librarian added “we just show them the basics: how to go to our website, how to access e-resources and how to evaluate them.” In addition to these, the Library also undertakes “tutorials to help researchers.” The Library provides “an IR (which) houses the research output of the institution and the content ... comprises of theses, documents and dissertations” and is important in the “dissemination of research output,” “scholarly communication and open access.” The following table (Table 5.32) presents the services and activities being offered by the librarians at the University to the researchers.

Table 5.32: Services and activities for researchers (n=1)

Stage	Service/Activities	Yes (✓) No (✗)
Preparation	Drafting Applications	✗
	looking for ideas	✓
	deciding on a topic	✓
	formulating a research question	✓
	Identifying sources of funding	✗
Gathering	Creation of Guides	✗
	Tutorials to help researchers	✓
	Information literacy sessions	✓
	Developing effective search	✓
	Literature Searches	✓
	Document delivery	✗
	Strategies	✗
	Provision of physical space for researchers e.g.	✗
	Online reference services	✓
Creation	Compiling data management plan	✗
	Creating and organising strategies for	✗
	Collection and making available data sets for	✗
	Research data curating and management	✗
	Backups	✓
Sharing	Dissemination of research output	✓
	Scholarly communication and open access	✓
	Advice and support for open access publishing	✓
	Advising on utilising new dissemination	✗
	Institutional repositories as a facility to	✓
Measurement	Citation analysis	✗
	Publication counts	✓
	H--index	✗
Commercialisation	Library sites as tools for research marketing	✗
	Copyright and property rights	✗
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	✓

Source: field data (2017)

b) Librarians use the Resources Model in support of researchers

The Resource Model of service provision was found to be the method used by librarians in providing service to researchers. The Resource Model focuses on services like ‘institutional repository’, ‘e-resources’, ‘books’ and ‘journals’ and these were found to be key on the focus of the librarians. Evidence from the questionnaire testify to the use of the Resources Model in the Library. Table 5.33 captures the results from the librarian.

Table 5.33: Research support models used by librarians in practice (n=1)

Approaches	Model	Yes (✓) No (✕)
Traditional	Resources	✓
	Liaison	✓
Modern	Engagement Model	✕
	Hybrid	✕
Alternative	Shared Services	✓
	Outsourcing	✕

Source: field data (2017)

An interview with the Library Head revealed that current and future plans of the Library focused on building collections for researchers. The Head clarified, “Our plans are to increase resources that we subscribe to so that at least we have current information.” The Systems Librarian revealed that office supports research by providing wide access to library resources and facilitating easy access and retrieval such that researchers “... can search for those books in the comfort of their homes or anywhere around campus”. The System Librarian added “...when they come to the Library they don’t spend much time going through the shelves not knowing where exactly to find the books ...”. Further the importance of electronic resources, “electronic resources help our researchers in that, these days researchers want current and up-to-date information.”

c) Collaboration with other units and institutions is seen as important in support of researchers

The Library partners with other academic libraries to subscribe to resources. The Head explained, “As universities in Zimbabwe we subscribe to databases as a consortium so that we enjoy economies of scale so that we provide our users with information they want.” The Library also collaborates with the research office as the Systems Librarian explained:

“The Research Office is responsible for helping students on how to formulate a research topic and how to apply for research funding. The research office also does recommendations for some of the research to get funded So, after the recommendations, the Research Office refers them to the Library so that they can scan the IR to see other researches that were carried out. After they complete, the Research Office committee grades the research to say this one is A grade, B, C and this one is fit to go to the IR or not.”

The librarians claim that the research office “helps researchers step by step and works closely with researchers” they feel that the research office is an “extension” of them. The head of the

Library noted that “I am also part of the committee members who make decisions when applying to do research. They make sure that they consult me on whatever decision they made about the institutions’ research.” As a result, this appears to be a shared services model used by librarians as there is collaboration with other campus units and other libraries in Zimbabwean institutions.

d) The Library uses a variety of services to support researchers

Librarians at the University use several services to support researchers that are mainly around collection development and training. Asked on the services that the Library was offering to researchers, the librarians intensified, “literature review,” “literature searches,” “online reference services” “publication counts.” The Reader Services Librarian indicated that they also assisted researchers on “how they structure their dissertations, bibliography section ... if there is a way of referencing that is being followed, it must be uniform, and it has to be trained by someone who is knowledgeable.” The Systems Librarian said, “We assist with data analysis software- SPSS, analysis of variance (ANOVA) etc.” The Library also trains researchers “in effective use of technologies used in the Library.” In addition, the Library is also responsible for “capturing and housing the research output of the institution comprising of theses, documents and dissertations” using the IR.

e) Lack of time, skills, knowledge, infrastructure and other auxiliary tools are seen as barriers to providing upstream research support

All librarians indicated that they were facing the challenge of time in discharging research support. This challenge was recognised by the Head Librarian as, “the challenge we face is that we don’t have enough time allocated to us and administrators don’t accept change.” As a result, the Reader Services Librarian lamented that the Library was in an “unfortunate” position to discharge their research services where “time is not enough to meet with researchers” especially given that the same researchers “are also part of teaching.” Librarians also indicated that they lacked sufficient skills and knowledge that was critical in giving support to researchers. The Head Librarian indicated that she was the only one who held a master’s degree in the whole library:

“We are not adequately staffed to deal with researchers. First, we have shortage of manpower, and then another issue is that of skills. Here at the Library I can say that I am the only person with a master’s degree. The other staff member with a master’s degree in LIS only come to the Library twice a week because she has another degree in a different area and most of the time she will be assisting her students from her department.”

This was also confirmed by the Systems Librarian who said, “I don’t think that the Library would be able to handle most of the things combined mostly because we are understaffed and also the aspect of skills and expertise necessary...”. The Reader Services Librarian noted that they lacked IT skills and said, “I.T issues, I think we have a lot to learn; for example, other libraries have got Subject PLUS (research guide tool) and here we don’t, we also need skills for analysing data using different software.”

Through the questionnaire that accompanied these interviews, it was established that librarians were lacking critical skills to support researchers in such areas as; bibliometrics, research data management, the research process and additionally, they lacked subject knowledge among other things. Practising librarians also indicated that they faced challenges in providing effective service to researchers at the institution due to “the challenge of WIFI,” “machines (which) are very slow” leading to “limited to speed of retrieval.”

f) Research support is delivered via the Systems Librarian

The Reader Services Librarian in an interview said:

“We divide ourselves, we have an I.T personnel, so those who want electronic resources I channel them there for assistance. Students who will be facing challenges in general I channel them to another. When it comes to research needs I give them to the I.T personnel because often they will be dealing with online resources.”

In confirmation, the Systems Librarian remarked, “I have seen most students coming to me. Unfortunately, here we don’t have Faculty Librarians, our titles are not the same as others in other institutions.”

g) Librarians believe that high use made of information resources is a measure of success

To buttress the Resources Model used by the Library, librarians believe that the high use of library resources was a measure of success for the Library. This was revealed by that “high use made of information resources” was a success indicator and an evaluation criterion for the Library. The Systems Librarian indicated that, “we use usage statistics, ... with statistics, you see how many times a book has been used as well as citation analysis of the IR resources.”

5.6.3 Relationship between espoused theories and theories-in-use

A rigorous comparative analysis of policy documents and practice of research revealed congruence and incongruences between how research support is conceptualised and how it is practiced. Statement of claims that facilitated the comparison are captured in Table 5.34.

Table 5.34: Juxtaposition of claims - espoused theories and theories-in-use

Espoused theories	Espoused theories
<ol style="list-style-type: none"> 1. The Library has a primary responsibility of supporting research of the University 2. The Library seeks to provide a balanced collection of resources 3. The role of the Library is to acquire, maintain, organise and preserve print and non-print resources 4. Collections and infrastructure are regarded as essential in supporting researchers. 5. Faculty Librarians are espoused as the vehicle through which the Library discharges its research support duties 6. Research support is regarded as facilitating access to information for researchers. 	<ol style="list-style-type: none"> 1. Services of the Library are spread on the research scale coalescing at the gathering and sharing stage of the research process 2. Librarians use the Resources model in support of researchers 3. The Library uses a variety of services to support researchers 4. Lack of time, skills, knowledge, infrastructure and other auxiliary tools are seen as barriers to providing upstream research support 5. Librarians do not have adequate skills to support researchers. 6. Research support is delivered via the Systems Librarian. 7. Collaboration with other units and institutions is seen important in supporting researchers

Source: field data (2017)

▪ Congruence

It espoused in the Mission Statement that the Library will support the research of the University through acquisition, maintenance, organisation and preservation of resources. This goal is evident in practice where librarians are seen to be collaborating and partnering with other universities (ZULC) for the purposes of making resources available to the researchers. There appears to be resemblance between espoused balanced collection for researchers and the kind of research support model employed by librarians. Librarians use the Resources Model which emphasises e-resources, e-journals and institutional repositories in support of researchers. In terms of conceptualisation of research support, there was congruence between how it was conceptualised and how it was realised in practice. The Library conceptualises research support as facilitating access to information resources and this is reflected in practice as librarians are involved in literature searches, references services and tutorials to help researchers navigate the Library website.

▪ **Incongruence**

There seems to be incongruences between espoused challenges and challenges expressed in practice. Policy documents deal with challenges to do with infrastructure such as reading rooms, shelves, equipment, computers etc. yet in practice, librarians face the challenges of skills and knowledge, time and resistance. Another incongruity was noted in that, faculty; librarians are espoused as very important people in support of researchers yet in practice research support is discharged via the Systems Librarian who does not possess librarianship skills.

5.6.4 Disconfirming experiences and dilemmas in practice

From the interviews, librarians expressed several disconfirming experiences that challenge their sense of competence as they support researchers in today's fast-changing research landscape. Highlighting many disconfirming that librarians at the Library face, the Systems Librarian explained, "researchers are now impatient, they now want to have fast access to information ...". Another dilemma was poor attendance by researchers in information literacy skills training sessions and e-resources training. Another unusual experience was that "researchers no longer come to the Library" and were "ever busy...". Those few who visited the library "want research done for them." Other issues that was noted include resistance to change on the part of researchers "we used to do this. Why is that you want us to do it differently' and it's not easy to convince researchers."

5.6.5 Reflective strategies to deal with disconfirming experiences and dilemmas

In the face of disconfirming experiences and dilemmas that librarians face, it was noted that they mostly use Model 1 governing variables to deal with such experiences. From the one questionnaire that was considered worthy analysing from those returned it revealed the library used all Model 1 governing variables and only one variable from Model 2 which is to maximise valid information. Table 5.35 presents the variables that govern the librarians as they discharge research support.

Table 5.35: Governing variables in practice (n=1)

Reflective Strategies	Model	Governing Values/Variables	Count
Single Loop	Model 1	I achieve my goals and purpose as stated	1
		Win do not lose	1
		Suppress negative feelings	1
		Emphasise rationality	1
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	0
		Definition of task control over the environment is shared with the relevant others	0
		Maximise valid information	1
		Have high internal commitment to the choice and constant monitoring of its implementation	0

Source: field data (2017)

5.6.6 Reflective analysis

Despite the congruences that exist between the espoused goals and practice, it was realised that the Library still conceptualised and practiced research support using the traditional mode. The Library emphasised resources as the vehicle to support researchers in the new research environment. This makes them in-effective in an environment where research support is conceptualised as partnering researchers in undertaking research itself, working outside the library and spending time in departments. Instances of incongruences worsened the situation because management was not prioritising skills and knowledge needed to support researchers. It appeared lack of a staff development policy was the main challenge. The librarians felt that their incompetence was partly due to lack of skills and educational qualifications. This has resulted in the Systems Analyst taking responsibility of discharging research support in a library environment where information and research skills are paramount.

It was discovered that librarians used single loop learning strategy which is in Model 1 of Argyris' Theory of Action where they emphasise rationality, achieving goals as stated and suppress negative feelings. As a result, librarians were not aware of the incongruences that exist between practice and conceptualisation. For example, policy documents were silent on the real issues affecting practising librarians because the practising librarians valued achieving

goals as stated. These values do not promote interrogation of espoused theories to see if the assumption and goals are still relevant in the environment they operate.

5.7 Case seven: UL07

Policy documents that were availed by the Library for the purposes of understanding conceptualisation of research support were the Library Strategic Plan (2016-2020), Library Workplan (2017) and the Mission Statement. To understand the practice of research support, the researcher conducted interviews with two Faculty Librarians. The two were also given questionnaires to triangulate the data collection instruments.

5.7.1 Research support indicators derived from policy documents to inform conceptualisation

Timeously provide information resources, support teaching, scholarly research, acquisition of books, creativity, information literacy, publishing of research findings, institutional repository, publishing, research findings, low numbers of PhD holders, inadequate academic and non-teaching staff, low research output, limited funding, training, information access and research process. Predominant indicators and statement of claims from espoused theories are presented in Table 5.36.

Table 5.36: Predominant indicators and statement of claims - espoused theories

Predominant indicators	Evidence	Claims generated from research support indicators in policy documents
scholarly research, creativity	Mission Statement	The Library has a primary responsibility to enhance scholarly research and creativity
Acquisition of books, information literacy skills training	Strategic Plan, Work Plan	Acquisition of books, information literacy training, and adoption of technology are presented as goals of the Library
Institutional repository	Work Plan	Institutional repository is the basis through which the Library directly supports research
Skills, staff, funds	Strategic Plan	Lack of skills, funds and inadequate staff are expressed as the major impediments to research support
Training, access to information, reference management	Interview	Research support is defined as training, facilitating access to information, reference management and data analysis

Source: field data (2017)

5.7.1.1 Validation of claims

a) The Library has a primary responsibility to enhance scholarly research and creativity

The Library articulates a mission “to timeously provide information resources that promote learning, support teaching, enhance scholarly research and creativity for the advancement of knowledge.”

b) Acquisition of books, infrastructure, information literacy training and adoption of technology are presented as goals of the Library

The Strategic Plan espouses several goals that relate to research support. The Library seeks to “acquire books and other reading material in order to improve library resources.” The library will achieve this through subscribing to electronic resources. One of the priority areas of the Library as captured in the Work Plan 2017 was the development of infrastructure in support of researchers at the Institution. The action plan was mobilising for funds to “construct and equip the library” as well as “purchase new library desks and chairs for students to ensure a sitting ratio of 1 chair: 5 students was reduced.” The Library also endeavours to “improve information literacy skills (ILS) training and foster lifelong learning” to members of staff, students and researchers. Constant adoption of technologies is espoused as being an effective way to improve research, information and service delivery. It is stated that the Library aims to “embrace technology and improve quality of content delivery.” In the same manner, for the purposes of enhancing collection management and service delivery, the Library shall “establish an integrated information management system.”

c) Institutional repository is basis through which the Library directly supports research

The Strategic Plan of the University listed research as one of its key result areas. The strategic direction is to “undertake research to yield knowledge and technologies required to improve development ...”. In direct response, the Library through its Work Plan 2017 articulates a goal of developing an institutional repository (IR) as a mechanism for “publishing and presenting research findings” as well as a platform to “display published works” of the University as support for research. To this end, the Library’s goal is to register the IR on international open access platforms.

d) Lack of skills, funds and inadequate staff are expressed as the major impediments to research support

The University’s Strategic Plan underlines lack of skills, inadequate funds and shortage of staff as major challenges to research at the Institution. Limited funding for core academic activities (for example library, research and staff development budgets)” was identified as one challenge

that affects research at the Institution which in turn results in “low research output and a poor research culture” among the academics. In addition, “inadequate academic (low numbers of PhD holders) and non-teaching staff” was also another challenge incapacitating the Library to offer sound research support services.

e) Research support is defined as training, facilitating access to information, reference management and data analysis

Research support is understood as “training, at times engage in research workshops, ... help researchers to identify information, searching for information ... to really know what users are working on ... Just having that relationship and bridging the gap of saying that we just support people.” It is also understood as to “give resources and maybe help identify reference manager ... assist them with data analysis software, referencing ...” It is also regarded as to “assist individual academics and visit them in their offices assisting them finding information they want for their research as well as introducing them to new applications such as Mendeley which helps organise their research material and referencing.”

5.7.2 Research support indicators from interviews and questionnaires to inform practice

E-resources, article searching, reference, ILS, embedded, faculty liaison, resistance, lack of funds, time, shortage of qualified staff, low attendance, not invited, not academics, ILS training, e-resources training, literature search, user education, research librarian and time. Table 5.37 presents the predominant categories and statement of claims from the Library’s theories-in-use.

Table 5.37: Predominant indicators and statement of claims - theories-in-use

Predominant categories	Evidence	Claims generated from research support indicators in interviews and questionnaires
Approach	Interviews and Questionnaires	Librarians support researchers using traditional approaches
Challenges	Interviews and Questionnaires	The Library faced a slew of challenges in supporting researchers
Disconfirming experiences and dilemmas	Interviews and Questionnaires	Librarians encounter experiences and dilemmas that challenge their sense of competence
Service	Interviews and Questionnaires	The research support services offered by the librarians are concentrated around gathering and sharing stages of the research process
Belief:	Interviews and Questionnaires	Librarians believe that specialisation is basis for upstream research support

Source: field data (2017)

5.7.2.1 Validation of claims

a) Librarians support researchers using traditional approaches

Interviews conducted with Faculty Librarians revealed that the Library is operating using the traditional forms of supporting researchers. Traditional approaches of research support include the Resources Model (electronic resources, books, IR) and the Liaison Model (selection of books, reference services, ILS training and documentation) were discovered. One Faculty Librarian in an interview explains, “... we do not give much support to our researchers as a library, we just give resources and maybe help identify reference manager and so on which can assist them.” In a different interview, another Faculty Librarian said, “At times researchers request us to do article searching, we also train them how to access electronic resources that are available through the Library website.” Faculty Librarians indicated that as part of their responsibilities they were *de facto* “faculty liaison” and were responsible for “liaising with the faculty in terms of providing training sessions to researchers.” Another one added “we have faculty visits, ... offer courtesy call to check progress ...”.

b) Librarians face a slew of challenges in supporting researchers

Practising librarians were facing several challenges as individual librarians and library as whole. The main challenges raised by individual librarians include heavy workloads, resistance, lack of support from management and digital illiteracy of students. It was noted that

overwhelming workloads and tight schedules were a challenge that made librarians fail to devote enough attention to researchers. One librarian noted:

“One has duties in the Library supervising and managing of IR and past exam papers, e-resources training and availability of resources online, attending meetings and the same time you have researchers needing your assistance, it really becomes a nightmare, duties and roles need to be separated.”

Another Faculty Librarian stated:

“Currently we are overburdened, I will not have much time to give attention to individuals as if I am dedicated to that. At one time, I will be having students and the next I am called by someone to their office. It’s a challenge because they are in various places. Sometimes working with phone is difficult because they will tell you that we are not following. So, I will be forced to go to their office, now again I am serving two offices.”

This challenge is an offshoot of staff shortage in the Library. In an interview, a Faculty Librarian stated, “... staff shortage is really affecting us...” and another added that “there is no one else to assist, ... so issue of staff shortage.”

Practising librarians also lamented the lack of a guiding research support policy. One Faculty Librarian explained “we don’t have enough time, I think it is because we don’t have a policy to say librarians should be involved in this or that.” Negative perception from researchers was another challenge, “they think we are not important but when everything is wrong that is when they say you can come.” He added “It is an attitude problem, for example when we started the information literacy programme, they would say, ‘are librarians supposed to teach?’ Meaning they just don’t recognise us.”

Lack of collaboration between the Library and the Research Unit at the Institution was also established as a challenge that was affecting research support by the Library. One librarian remarked, “I should think that there is lack of collaboration between the research office and the Library. The Library is willing to support research in the University but there is lack of collaboration, the Library does its own things and the research office its own thing.” Another librarian added that “the Library survives as an island (and the) research office as an island.”

Researchers lacked basic computer skills and the burden to take them through the computer basics fell on the librarians’ shoulders. Instead of teaching information literacy, e-resources databases navigation and similar skills, librarians had to teach basic computer skills to researchers. In the same vein, a Faculty Librarian stated, “generally, from our users, especially the block students most of them are teachers and they are used to books and so on, trying to

tell them about these modern technologies, electronic resources at times they find it difficult for them to take that.” Another explicitly remarked:

“There is lack of knowledge on how to use computers. I know you would say we are not in Binga, truthfully at times you do basic training on how to navigate the Library page during orientation and you should start from basics of computing, so it really becomes so much to do...”

c) The research support services offered by the librarians are concentrated around gathering and sharing stages of the research process

It was established that the Library offers a variety of services in support of researchers, but they are all concentrated around the gathering and sharing stages of the research cycle. Research support in the Library is mainly characterised by “information literacy training,” “e-resources workshops,” “user education sessions” as well as “literature searches.” Further details on the services offered by the Library were gathered through the qualitative questionnaire and the results are presented on Table 5.38.

Table 5.38: Research support services offered by the Library (n=2)

Stage	Service/Activities	Frequency
Preparation	Drafting applications	0 (0%)
	Looking for ideas	0 (0%)
	Deciding on a topic	0 (0%)
	Formulating a research question	0 (0%)
	Identifying sources of funding	2 (100%)
Gathering	Creation of guides	2 (100%)
	Tutorials to help researchers	2 (100%)
	Information literacy sessions	2 (100%)
	Developing effective search	2 (100%)
	Literature Searches	2 (100%)
	Document delivery	2 (100%)
	Strategies	2 (100%)
	Provision of physical space for researchers e.g. research	0 (0%)
	Online reference services	2 (100%)
Creation	Compiling data management plan	0 (0%)
	Creating and organising strategies for documentation	0 (0%)
	Collection and making available data sets for reuse	0 (0%)
	Research data curating and management	0 (0%)
	Backups	0 (0%)
	Dissemination of research output	1(50%)
	Scholarly communication and open access	1 (50%)
	Advice and support for open access publishing	2 (100%)
	Advising on utilising new dissemination means	2 (100%)
	Institutional repositories as a facility to showcase	2 (100%)
Measurement	Citation analysis	0 (0%)
	Publication counts	0 (0%)
	H--index	0 (0%)
Commercialisation	Library sites as tools for research marketing	0 (0%)
	Copyright and property rights	0 (0%)
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	0 (0%)

Source: field data (2017)

d) Librarians believe that specialisation is basis for upstream research support

Librarians consider specialisation and definition of tasks in the Library as key to the success of research support. One Faculty Librarian stated:

“If research support is really to be something feasible, tangible and renowned just like cataloguing where people boast to say I am a cataloguer, roles need to be defined and separated. Have people coming specifically with new sections to say we have a research librarian because if people multitask it does not work.”

In support, another librarian said:

“Research support services need to be separated from basic library duties, roles and responsibilities as it cannot be multitasked but requires designated personnel, working closely with faculty, embedded within the faculty and who remain their eyes and ears of the Library around research within the faculty.”

5.7.3 Relationship between espoused theories and theories-in-use

After a critical comparative examination of the claims that emerged from conceptualisation and practice of research support and their supporting evidence brought elements of congruence and incongruence. Table 5.39 shows the statements of claims which are juxtaposed.

Table 5.39: Juxtaposition of claims: espoused theories and theories-in-use

Espoused theories	Theories-in-use
<ol style="list-style-type: none"> 1. Research support defined in terms of training, facilitating access to information, reference management and data analysis 2. The Library has a primary responsibility to timeously provide information resources that promote learning, support teaching, enhance scholarly research and creativity 3. Institutional repository is basis through which the Library directly supports research 4. Acquisition of books, training, and adoption of technology are presented as goals of the Library 5. Lack of skills, funds and inadequate staff are conceptualised as the major impediments to research 	<ol style="list-style-type: none"> 1. The librarians use mostly traditional ways of research support 2. The librarians faced a slew of challenges in supporting researchers 3. Services of the Library are concentrated around gathering and sharing stages of the research life cycle 4. Librarians believe that specialisation is ideal in offering upstream research support

Source: field data (2017)

▪ Congruence

It was found that there is some resemblance between the Library’s information focused mission of timeously providing information resources and practice where practising librarians were involved in availing electronic resources, books and other information materials to researchers. It was also found that it is the goal of the Library to improve information literacy skills training for researchers and students, in practice it was found that the Library is involved in training of researchers. The traditional approaches employed in support of researchers such as Resources model and Liaison model were in harmony with the services and facilities espoused in policy documents. These traditional services are concentrated around gathering sharing stages of the research cycle.

The challenges espoused in policy documents were echoed in practice by practising librarians. The documents noted shortage of staff and skills as contributing to low research output in the University. In practice, librarians indicated that due to workloads they cannot provide enough time to researchers as there are a lot of other issues to be done by one person. The goals of the Library of acquiring books, providing information timeously and offering institutional repository are congruent with traditional approaches employed by practising librarians as they are involved in marketing the IR, subscribe to electronic resources and hold information literacy sessions for researchers.

▪ **Incongruence**

Comparative analysis demonstrated that there is discordance between the way research support is conceptualised and how it is discharged. In as much as librarians see research support as providing services such as data analysis and reference management, they indicated that such services were absent in their practice due to lack of skills and knowledge, resources and necessary tools as well as time to deliver such demanding services. For this reason, Faculty Librarians believe that specialisation is ideal for upstream research support in the Library.

5.7.4 Disconfirming experiences and dilemmas in practice

Librarians indicated that they encountered several experiences and dilemmas that challenge their sense of competence as they support researchers. Firstly, librarians were treated as people at the periphery of research. This was captured by one Faculty Librarian, “At times, they invite us for workshops that they organise for academics but at times they would indicate the issue of budget and say we only considered academics and no other groups.” This was summed by another librarian:

“...at times the research unit organise workshops that are into research and you would want to register yourself to attend the workshops realising that this makes sense ... But you are told ‘this workshop was meant for academics, we will see if there is space and we will slot you at the end’ ... You feel like you are begging to say I also want to be part of this, but you know your responsibilities and expectations, they will not understand that.”

Faculty Librarians also indicated “low attendance by researchers” as well as researchers who fail to acquire the skills that they are taught by librarians. It was stated that after mega trainings and workshops on the use of reference software, “still you have people who come after finishing the whole dissertation and say I need assistance with Mendeley where do I start

from?” Additionally, it was also noted that “researchers think they know everything and librarians cannot provide any help ...”.

5.7.5 Reflective strategies to deal with disconfirming experiences and dilemmas

To understand the reflective learning strategies used by librarians as they encounter disconfirming experiences in practice, a questionnaire was given to the librarians and the results show that librarians emphasised achieving goals as stated (n=2) as well as suppressing negative feelings (n=1) which are Model 1 governing values. Additionally, librarians also maximise valid information, which is a Model 2 variable as they encounter disconfirming experiences. These values are captured and presented in Table 5.40.

Table 5.40: Reflective strategies to deal with dilemmas (n=2)

Reflective Strategies	Model	Governing Values/Variables	Frequency
Single loop	Model 1	I achieve my goals and purpose as stated	2 (100%)
		Win do not lose	0 (0%)
		Suppress negative feelings	1 (50%)
		Emphasise rationality	0 (0%)
Double loop	Model 2	Share power with anyone who has competence and who is relevant	0 (0%)
		Definition of task control over the environment is shared with the relevant others	0 (0%)
		Maximise valid information	2 (100%)
		Have high internal commitment to the choice and constant monitoring of its implementation	0 (0%)

Source: field data (2017)

5.7.6 Reflective analysis

In as much as there is congruence between conceptualisation and practice of research support, it appears the understanding and approach to research support is in the traditional mode. As a result, the Library emphasises on resources as the most critical aspect of supporting researchers. This makes the Library ineffective in an environment where research support is more than information provision. Faculty Librarians were aware that the traditional models they use are making them ineffective. This was put across by Faculty Librarian, “I think maybe the models of embedding librarians that are being used affect the uptake of services that we offer because,

for instance, I am the librarian for commerce, but I am housed here in the Library ...”. Another librarian added that they “can spend the whole semester without visiting the faculty ...” This demonstrated that the librarians were still using the pull philosophy where the researchers are expected to visit the Library to get a service.

The incongruences that exist between espoused challenges and the challenges that librarians face in practice demonstrates a disconnect between management and practicing librarians. For example, the policy documents note funding and shortage of staff as the main challenges whereas in practice librarians lament the lack of research support policy which guide how the support is supposed to be delivered. The governing variables used by librarians explain the ineffectiveness of the Library in supporting researchers. Librarians were found to use the single loop reflective strategies. However, all this did not culminate into a reflection on the underlying principles hence according to Argyris and Schön (1974), no effectiveness is realised.

5.8 Case eight: UL08

The Library’s Strategic Plan (2016-2020), the Mission Statement and Vision Statement were availed and assisted in understanding what the Library espoused in terms of research support. To establish how research was practised, five qualitative questionnaires were distributed to Faculty Librarians. Interviews were also conducted with the same to triangulate the instruments.

5.8.1 Research support indicators derived from policy documents to inform conceptualisation

Providing access, e-resources, expand collection, access to information, library products and services, web presence, cash flow challenges, funding challenges, low levels of interest, information literacy skills training, reference services, resources, databases, CCTV, IR management software, millennium server, 3M security system and laptops. Table 5.41 presents the predominant categories and statement of claims emerged from UL08’s espoused theories.

Table 5.41: Predominant indicators and statement of claims - espoused theories

Predominant categories	Evidence	Claims generated from research support indicators in policy documents
Responsibility	Strategic Document, Mission Statement	The Library has a responsibility to support research done in the University
Goal:	Strategic Document	Provision of resources is seen as important in support of researchers
Marketing:	Strategic Document	Marketing of resources is strategic for increased use of resources
Challenges:	Strategic Document	Lack of funding and lack of interests from researchers are regarded as major impediments in support of researchers
Research Support	Interview	There is no consensus from Faculty Librarians on what constitutes research support
Technology	Strategic Document	The Library prioritise technological integration in library services

Source: field data (2017)

5.8.1.1 Validation of claims

a) The Library has a responsibility to support research done in the University

The Library articulates an information resource focused mission statement that it “... exists to provide all staff and students with information resources using state of the art tools and methods in support of the University's teaching, learning and research activities.”

b) Provision of resources is seen as important in support of researchers

The goals of the Library as espoused in the Strategic Plan revolve around the provision of resources as a way of supporting researchers. The Library aims to “establish links with other universities” as a way of securing sufficient resources for its researchers. The Library also sees the need to “expand library collection” and to “facilitate access to information products and services central to teaching, learning, research.” In addition, the Library espouses a need to “increase access to print and electronic resources” as a way of facilitating research support.

c) Marketing of resources is strategic for increased use of resources

The importance of marketing in promoting research and scholarship is captured in the Strategic Plan: “use web presence to market library products and services.”

d) Lack of funding and lack of interests from researchers are regarded as major impediments in support of researchers

The strategic document considers “low levels of interest in training from academic staff,” and “lack of financial resources to send staff for training” as critical challenges that have handicapped the Library in supporting researchers.

e) There is no consensus from Faculty Librarians on what constitutes research support

Various interviews conducted with Faculty Librarians revealed that research support is understood in the context of space; training; selective dissemination of information (SDI); process and reference services. In terms of space, one Faculty Librarian noted, “It’s also trying to provide space where researchers can easily meet and interact with fellow professionals. Here we have a challenge of space though, we don’t have space for researchers”. Research support was also understood as training and one Faculty Librarian stated, “training researchers on information literacy skills and e-resources so that they can independently locate the desired information.” In training researchers are expected to have skills “.... in searching for literature and ... familiarise with search strategies and databases.” Training was also done for reference management “where we are teaching about references and they can use those for their research”. When it comes to reference management training one librarian notes, “we provide reference tools and information management tools like Mendeley where we are teaching about references and they can use those for their research.” Research support is also viewed in the context of selective dissemination of information through “sending personalised emails of databases/journals to different researchers based on their areas of interests.” Another Faculty Librarian thought of research support as a process, “... we start with them to see which topics are researchable ..., this current season we are starting with them from the word go to select the right topic up to the final citation and polishing up projects, so it’s a process where we are walking with them.”

f) The Library prioritises technological integration in library services

Through its Strategic Plan, the Library espouses technology as critical in their endeavour to support researchers. As part of its Strategic Plan, the Library endeavours “To purchase laptops for Assistant Librarians” who also act as Faculty Librarians and “To install 3M Security System for Library material” as well as “To purchase Millennium Server” to enhance effective service delivery to researchers.

5.8.2 Research support indicators derived from interviews and questionnaires to inform practice

Information literacy, resources, collection, liaison, faculty, lecturers, students, lack of funds, resistance, attitudes of researchers, disintermediation due to online tools, lack of specialised tools and resources, lack of support from parent institution, limited funds, absence of research support policy, e-resources, projector, training, social media, data storage, library mission, teaching and learning, books, e-resources, University programmes, qualifications, library and information science, information practitioner, creation of guides, tutorials to help researchers, information literacy sessions, enveloping effective search, literature search, document delivery, online reference services, dissemination of research output, institutional repository as a facility to showcase research output, advice and support for Open Access, library sites as tools for research marketing and copyright and property rights.

The predominant indicators and statement of claims from espoused theories of the Library are presented in Table 5.42.

Table 5.42: Predominant categories and statement of claims-theories-in-use

Predominant categories	Evidence	Claims generated from research support indicators in interviews and questionnaires
Support	Interviews/ Questionnaires	Support for researchers is done mostly using traditional approaches
Resources	Interviews	Resources seen as an indicator of research support in practice
Researchers	Interviews/ Questionnaires	Librarians feel that there are no real researchers to support
Challenges	Interviews/ Questionnaires	Lack a research support policy and funding hinders research support initiatives
Technology	Interviews/ Questionnaires	Technology is regarded as an enabler in support of researchers
Services	Interviews/ Questionnaires	Services offered to researchers around the research process focus on gathering, sharing and commercialisation stages
Subject Knowledge	Interviews/ Questionnaires	Librarians lack subject knowledge in the areas they support
Services	Interviews/ Questionnaires	Services for researchers around the research process focus mostly on gathering, sharing and commercialisation

Source: field data (2017)

5.8.2.1 Validation of claims

a) Support for researchers is done using traditional approaches

Responses from the questionnaire indicated that librarians were using traditional approaches to support researchers. All the five Faculty Librarians who responded to the questionnaire indicated the Resources Model (n=5) and the Liaison Model (n=5) in support of researchers as presented in Table 5.43.

Table 5.43: Research support models used by librarians (n=5)

Approaches	Model	Frequency
Traditional	Resources	5 (100%)
	Liaison	5 (100%)
Modern	Engagement Model	1 (20%)
	Hybrid	0 (0%)
Alternative	Shared Services	4 (80%)
	Outsourcing	0 (0%)

Source: field data (2017)

Further evidence to the use of these research support models was also gathered through interviews with the same librarians. One Faculty Librarian explained, “we are responsible for the collection, to make sure that it is fully developed ... collection development through material selection.” Another noted, “I assist the faculty when it comes to the acquisition of books ... identify resources needed by the faculty and subscribe to those ... I also identify databases that are relevant to them and we forward them.” Yet another faculty Librarian revealed:

“As you can see, this is kind of a hybrid library where we have our traditional book collection which we also update as and when the need arises. We are now concentrating much on the electronic resources but for the integration part we are following the curricula so much when it comes to collection ...”

The use of Resource Model by librarians was further buttressed by one librarian who lamented the poor use of resources “the Library has tried to give them information resources but there are no takers. ... if you want, go and ask researchers about emerald, JStor and so on, they are blank.”

Interviews also confirmed the use of Liaison Model in support of researchers as Faculty Librarians were involved in “offering one-on-one ILS and e-resources training, assisting (researchers) on how they can deposit their works with IR and how to deal with copyright issues.” Faculty Librarians also attended faculty board meetings and market library products and services to researchers. In this regard, one Faculty Librarian noted, “we told them in faculty board meetings that the Library does ABCD for you.” Another librarian in an interview stated, “as Faculty Librarians we liaise with the academics in the faculty – from lecturers to students and whoever needs our support even if they are non-academic members.”

The Library also used the Shared Services Model to complement the Resources Model as the Library was affiliated to the Zimbabwe University Libraries Consortium (ZULC) so that they benefit from economies of scale in acquisition of e-resources. On this note, one librarian said, “the Library through our consortium – ZULC, pay for electronic resources.”

b) Resources seen as an indicator of research support in practice

Librarians seem to be satisfied with their facilitation role as far as the research done in the University is concerned. “There are a lot of resources that we have which our users can utilise and the fact that the majority are doing their PhD programmes, we see a lot of research being carried out.” A Faculty Librarians noted that even in terms of collaboration with researchers and faculty librarians the relationship is limited to issues only concerning resources. One librarian explained “we collaborate with faculty staff on building and sustaining a collection appropriate for the programme needs.”

c) Librarians feel that there are no real researchers to support

In an interview, a Faculty Librarian excoriated, “these academics are not researchers.” This was explicated by another librarian who commented:

“Yah! I think there is room for improvement especially on the side of research. We can see that research here is just for achieving an end without it being continuous research like some want to get his PhD or someone wanting to fulfil his teaching obligation but outside that we see that it’s very difficult. We expect to see continuation of research after the attainment of a degree. We need more beyond teaching and learning and start contributing to the knowledge production process.”

Another librarian succinctly put it, “There is not much when it comes to research at (the University).”

d) Technology is regarded as an enabler in support of researchers

Librarians acknowledged the important role played by technology as an enabler for research support. In an interview, commenting on the impact of technology, one librarian noted:

“They have made our work so much easy, for example things like information literacy and e-resources training can be delivered online. We have online video tutorials on how to access our e-resources. At times, I don’t really need to go and train people physically, I just refer them to the online tutorial. Also, use social media technologies where I give reference services to users online. We use WhatsApp and Facebook to communicate to direct users to resources they need. With the technologies that we have it is possible to have some remote access resources that we offer as a library. All they need to do is to go online to our websites to access these resources using their credentials.”

e) Services offered by librarians are skewed in favour of teaching and learning

Librarians indicated that the services that they offer are more inclined to teaching and learning at the expense of research. This was cogently put by one librarian:

“... but one thing that I have noticed is that, in my experience and the interaction that I have with most staff members is that the Library has failed to meet these research needs. The Library has been able to cater for the teaching and learning but the research needs we have not. You know that the Library budget is crippled, and you cannot really afford to provide each need that each researcher has, so at the end of the day when we are purchasing materials - books, e-journals, we prioritise teaching and learning ... the researcher needs are not catered for.”

Commenting on the level of research support another Faculty Librarian noted, “I don’t think it is that well developed because I think research support covers a lot of things which I feel we are concentrating on ... just providing access to resources for teaching and learning forgetting other issues that researchers are supposed to get ... I don’t think we have a fully-fledged research support service.”

f) Librarians lack subject knowledge in the areas they support

Data gathered through the questionnaire show that almost all librarians hold Master of Science degrees in library and information science hence they lack subject knowledge in the areas that they support. The same notion was also confirmed in interviews where one librarian stated:

“I don’t have a qualification in commerce so its difficulty for me to convince researchers from that background to say I am assisting you because they feel that

you are coming from a different background and you don't have the expertise, you don't know the jargon of that field.”

In the same vein, another Faculty Librarian said, “I am not a specialist in architecture, so I request for course outline then I check for resources that are suitable for them and then we add them to our subject guide.” The Faculty Librarian added, “like I said, I am not qualified in architecture, in another university, they really need someone who is qualified in that field but here it's just library and information science ... in my field I think I can partner with someone in research but in the area that I am supporting can't ...”

The lack of subject knowledge was confirmed in a questionnaire that was distributed to subject librarians. Table 5.44 shows that librarians had skills in designing ILS, literature search, marketing and had knowledge of the research process, knowledge of publishing and curation. However, knowledge of subject content in the disciplines they support was missing. Librarians also lacked new skills that are demand such as bibliometric skills and research data management.

Table 5.44: Knowledge and skills possessed by librarians (n=5)

Knowledge and Skills for research	Frequency
Knowledge of data curatorship and preservation skills	3 (60%)
Knowledge of publishing	2 (40%)
Knowledge of research process	5 (100%)
Teaching skills for designing information literacy training	5 (100%)
Knowledge of research methods	5 (100%)
Knowledge of bibliographic and searching tools in the subject	5 (100%)
Information Literacy skills	5 (100%)
Literature searching skills	5 (100%)
Knowledge of citation and referencing)	4 (40%)
Knowledge of subject content	0 (0%)
Knowledge of bibliometrics	0 (0%)
Research data management	0 (0%)
Finance and budget skills	1 (20%)
Technical and IT skills	1 (20%)
Marketing skills	4 (40%)
Collaborating skills	4 (40%)
Knowledge of the research landscape	3 (60%)

Source: field data (2017)

g) Services offered to researchers around the research process focus on gathering, sharing and commercialisation stages

The qualitative questionnaire revealed that services offered by the librarians are concentrated around; Gathering (tutorials to help researchers, information literacy sessions, developing effective search, literature searches, document delivery); Sharing (dissemination of research

output, advise on utilising new dissemination means, institutional repositories as a facility to showcase research output) and Commercialisation (library sites as tools for research marketing, copyright and property rights). Librarians indicated that they did not offer all the services for research support due to “lack of skills and lack support from management” as well as “limited funds and supporting infrastructure.” Table 5.45 presents the services and activities being offered by the librarians to the researchers.

Table 5.45: Services offered by the Library around the research cycle (n=5)

Stage	Service/Activities	Frequency
Preparation	Drafting applications	0 (0%)
	looking for ideas	3 (60%)
	deciding on a topic	3 (60%)
	formulating a research question	3 (60%)
	Identifying sources of funding	1 (20%)
Gathering	Creation of Guides	4 (80%)
	Tutorials to help researchers	5 (100%)
	Information literacy sessions	5 (100%)
	Developing effective search	5 (100%)
	Literature Searches	5 (100%)
	Document delivery	4 (80%)
	Strategies	4 (80%)
	Provision of physical space for researchers e.g. research	0 (0%)
	Online reference services	0 (0%)
Creation	Compiling data management plan	0 (0%)
	Creating and organising strategies for documentation	1 (20%)
	Collection and making available data sets for reuse	0 (0%)
	Research data curating and management	0 (0%)
	Backups	1 (20%)
	Dissemination of research output	4 (80%)
	Scholarly communication and open access	3 (60%)
	Advice and support for open access publishing	2 (40%)
	Advising on utilising new dissemination means	3 (60%)
	Institutional repositories as a facility to showcase research	4 (80%)
Measurement	Citation analysis	0 (0%)
	Publication counts	1 (20%)
	H--index	0 (0%)
Commercialisation	Library sites as tools for research marketing	3 (60%)
	Copyright and property rights	4 (80%)
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	2 (40%)

Source: field data (2017)

h) Lack a research support policy and funding hinders research support initiatives

Interviews with Faculty Librarians revealed their incapacitation to offer research support due to lack of appropriate policy and adequate funding. Almost all librarians, in separate interviews expressed their concern over “the absence of a research support policy” as “everything becomes very unclear.” One librarian added, “some of the things that we do are a result of our own initiatives and not that they are written somewhere, so even if we don’t do them, nobody is going to make a follow up to say you did not do ABCD.” As a result, one Faculty Librarian said, “I just do what I think is appropriate for my faculty” which is evidence of lack of a standardised or formal way to discharge research support.

Lack of funding was also frequently highlighted by librarians. One librarian said, “due to financial challenges, some resources needed by researchers cannot be made available due to lack of money to acquire or subscribe.” In agreement, another librarian added, “there is not much when it comes to research ... because without money you can’t talk of research, you can’t plan and you can’t implement.” As a result, librarians were handicapped hence were not in a sound position to discharge research support. This has resulted in “lack of appropriate technology and resources,” heavy workloads hence “balancing faculty and other duties becomes challenging,” “lack of adequate space” and inappropriate infrastructure and as a result they were “housed in a building which is not a library.”

With regards to research support, one librarian said, “one of the challenges we face in this endeavour is that the Library is far from campus, we are located about 7 km away from the campus and if we want clients to come here they don’t come.” The fact that “people can easily search for information online without necessarily using the Library” was another challenge that librarians were facing hence risking irrelevance in the process of discovery. Also, “lack of basic computer skills among graduate students who are adult learners” was another challenge that stressed librarians in their efforts to support researchers.

5.8.3 Relationship between espoused theories and theories-in-use

A comparative analysis of the claims that emerged from the data revealed congruence and incongruences that exist between how research support is conceptualised and how it is practiced. Table 5.46 juxtaposes claims from espoused theories and theories-in-use from UL08.

Table 5.46: Juxtaposition of claims: espoused theories and theories-in-use

Conceptualisation	Practice
<ol style="list-style-type: none"> 1. The Library has a responsibility of supporting researchers 2. Provision of information resources is seen as important in support of researchers 3. Marketing of information resources is strategic for increased use of resources 4. Lack of funding and lack of interest from researchers are regarded as major stumbling blocks in supporting researchers 5. There is no consensus from Faculty Librarians on what constitutes research support 6. The Library prioritise technological integration in library services 	<ol style="list-style-type: none"> 1. Support for researchers is done mostly using traditional approaches 2. Librarians feel that there are no real researchers to support 3. Lack a research support policy and funding hinders research support initiatives 4. Technology is regarded as an enabler in support of researchers 5. Services offered by librarians are skewed in favour of teaching and learning 6. Librarians lack subject knowledge in the areas they support 7. Services for researchers around the research process focus mostly on gathering, sharing and commercialisation

Source: field data (2017)

▪ Congruence

The policy documents acknowledge the need for the Library to establish links with other institutions to enhance provision of resources and this is realised in practice where the Library is part of ZULC for the purposes of realising economies of scale in subscribing to e-resources.

Research support is conceptualised as offering training through ILS sessions and e-resources training. This is reflected in practice as Faculty Librarians continuously engage researchers and the faculty in such training sessions where they teach them how to navigate databases, search strategies and how to retrieve the information they require.

There is congruence on the espoused challenges that the Library faces in its attempts to offer research support. Lack of funding and lack of interests from researchers are espoused as major stumbling blocks in the Library's efforts in supporting researchers and in practice, librarians also had the same sentiments when they reflected that their major challenges in research support evolved around lack of funds to facilitate research initiatives as well as lack of cooperation from academics and researchers.

The Library espouses its goal as to provide resources to researchers in support of research. There is congruence with the practice of librarians who use mostly the Resources model in supporting researchers. In addition, this is further realised in practice by the services that the

librarians are offering where greater emphasis is placed on availing resources and facilitating access to those resources. For example, practicing librarians were involved in the creation of subject guides to enable researchers to easily access library resources, SDI to researchers as well as acquisition of books and subscription to journals for researchers.

Marketing of library information resources is espoused as a critical way of promoting the use of library information resources by researchers. This is echoed in practice using the Liaison Model where librarians continuously engage the faculty in board meetings where they alert them on the new resources available in the Library.

There is congruence in the way technology is espoused as critical for effective service delivery and the way librarians appreciate the role that technology can play in discharging research support given that they could get in touch with researchers and selectively disseminate information to them conveniently via social media.

▪ **Incongruence**

There seems to be a hiatus between espoused support for research and the services offered by the Library. The Library claims through its Mission Statement that it supports research done in the University but in practice, librarians offer services that are skewed in favour of teaching and learning at the detriment of research. However, librarians justified their action as they claimed that there were no researchers to support at the University.

Another gap was seen in policy documents where lack of funding and resistance from researchers were the only challenges recognised by the Library in support of researchers. It was realised that in practice librarians faced a slew of challenges that directly affect research support. For example, librarians indicated that they lacked skills and knowledge to enable them to partner with researchers in the different areas they support and were also concerned about the lack of a research support policy that should guide them in discharging research support in a standardised manner.

5.8.4 Disconfirming experiences and dilemmas in practice

Librarians were also concerned about usurpation and overlapping of roles with other campus players. Commenting on the work of the Library and the Research Office at the University, a Faculty Librarian noted, “I would say that there is a bit of conflict of responsibilities ... yes, there are people in these units who would want to take duties and responsibilities of the Library.” This was further explained by another Faculty Librarian, “we are noticing that kind of tension between that unit and the Library. I remember at one time I applied for a research

grant so that I could run a workshop and the response was, ‘what you want to do is the responsibility of the research unit’ and there was nothing I could do about it.”

Another related dilemma was “lack of support from university management” and a Faculty Librarian cited a case where preference was given to academic staff:

“We are not being supported to attend some of the conferences and workshops where these things are trained. The University seems to prioritize academics when it comes to assisting members to go for (staff) development. You apply for money to go and do a PhD you are told priority is given to academics. That alone shows that the University is not serious about the Library. In some universities, you find librarians with PhDs and when it comes to collaboration, it becomes very easy because you will be at the same level.”

Librarians were facing resistance from academics who were not cooperating with their calls to training and research collaboration. One Faculty Librarian stated, “in some faculties, it’s a challenge because they don’t want us” and another librarian in a separate interview added, “... we told them in faculty board meetings that the Library does ABCD for you ... but for unknown reasons, academics believe the Library is not capable of doing what they are supposed to be doing.”

Other disconfirming experiences librarians were facing surround the issue of copyright as one Faculty Librarian who also doubled as the IR librarian indicated that:

“There are so many concerns that researchers have towards the deposition of articles e.g. copyright infringement to say if I deposit my article wont publishers follow me and sue me? There is an element of mistrust again to say if I deposit my paper without publishing it formally someone is going to steal my idea. Another concern is the issue of benefit, what is in it for me if I deposit? Do we have incentives? E.g. the University can say if you deposit your articles with the IR those articles should be considered for tenure.”

Librarians felt that they were “being judged and belittled by researchers ...”. And that, “researchers think that they are more knowledgeable” Librarians were also confused about “the extent of librarians’ involvement in the researcher’s work (which) tend to be fuzzy” especially given “the absence of a research support policy.”

5.8.5 Reflective strategies to deal with disconfirming experiences and dilemmas

Librarians were asked how they dealt with experiences that challenge their sense of competence and it was discovered that librarians were using both Model 1 (single loop learning) and Model

2 (double loop learning) strategies. In the single loop learning strategy, value: emphasising rationality (n=5) was seen as the most common governing variable employed by librarians and in Model 2, librarians were governed by maximizing valid information (n=4). Table 5.47 presents the data gathered on the governing variables used by librarians in practice.

Table 5.47: Strategies to deal with dilemmas (n=5)

Reflective Strategies	Model	Governing values/variables	Frequency
Single Loop	Model 1	I achieve my goals and purpose as stated	3 (60%)
		Win do not lose	0 (0%)
		Suppress negative feelings	1 (20%)
		Emphasise rationality	5 (100%)
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	2 (40%)
		Definition of task control over the environment is shared with the relevant others	2 (40%)
		Maximise valid information	4 (80%)
		Have high internal commitment to the choice and constant monitoring of its implementation	3 (60%)

Source: field data (2017)

5.8.6 Reflective analysis

The Library is evidently making efforts to support researchers as there were several instances of congruence between the espoused goals of the Library and practice. However, the Library was being ineffective to researchers as evidenced by lack of interests from researchers. This was attributed to the use of traditional approaches of research support which emphasised the provision of resources and materials, information literacy skills training, book acquisitions and reference services. These efforts fall short in meeting and matching the modern research landscape. Librarians were aware that they are lagging when it comes to supporting researchers. One librarian explained:

“There is a big gap that should be closed. There is a huge disparity in terms of international best practices and what we are doing here at (the University). We are focusing on the traditional approaches to support which is caused by lack of funding, lack of the right people at the top. People are not really keeping in touch with what is happening nowadays and practicing without necessarily finding out

what best practices are. In the end, we don't have full-fledged support mechanisms.”

The awareness demonstrated by Librarians about what needs to be done and changed for them to be effective in support of researchers confirmed the use of both Model 1 and Model 2 governing values and variables. The use of Model 2 promotes organisational transformation allow the library to question their policies to see if they are relevant however the Library's efforts were mainly constraint by lack of financial support as one Faculty Library said:

“There is no money to buy some of the things the library is supposed to use. So here there is no money you can't do everything but unfortunately you are blamed for not doing for example this week we were supposed to do Open Access Week, but we failed because we were told that there is no money.”

This kind of situation results in ineffectiveness in support of researchers.

5.9 Summary of the chapter

This chapter captured the results that were obtained from the investigation of eight Zimbabwean university libraries. Presentation was done in such a way that each bounded case stood with its own results to ensure comprehensive detailing and description. Mission statements, strategy plans, relevant policies together with interviews from heads informed conceptualisation while qualitative questionnaires and interviews with librarians practicing research support informed research support practice. Statements of claims that were developed during data analysis helped in presenting research support indicators which were found in policy documents, qualitative questionnaires, and interview scripts and. Congruences and incongruences that were discovered using the constant comparison were presented under the relationship between conceptualisation and practice within each case. Results show that librarians encountered several disconfirming experiences that challenge their sense of competence in the practice of research support and it was further established that the librarians used single loop learning strategy to deal with disconfirming experiences.

CHAPTER 6

META-ANALYSIS OF FINDINGS

6.0 Introduction

The previous chapter presented the findings of the study on a case-by-case basis to permit equal handling and detailing of issues that emanated from each university library. This penultimate chapter provides a meta-analysis of these individual findings to bring out a monolithic understanding of the nature of the relationship between conceptualisation and practice of research support in the eight Zimbabwean university libraries. Meta-analysis is “the aggregating of a group of studies for the purposes of discovering the essential elements and translating the results into an end-product that transforms the original results into a new conceptualisation.” (Schreiber, Crooks and Stern 1997:314). Statements of claims that were contrived in each university library enabled the subsequent comparison, merging and analysis of the results. Meta-claims were contrived from the rigorous constant comparison procedure of the initial claims from the eight cases. Discussion of the meta-findings was done in relation to the Theory of Action: espoused theories and theories-in-use together with related studies that were done prior to this one.

Presentation of meta-findings was done following the research questions of the study which are here recapitulated:

- i. How is research support conceptually understood by librarians in Zimbabwean universities?
- ii. How is research support practiced by librarians in Zimbabwean universities?
- iii. What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?
- iv. What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?
- v. What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support in Zimbabwean universities?

6.1 Conceptualisation of research support: espoused theories

▪ Overview

Findings from mission statements, strategic plans and other policy documents of the eight university libraries were further analysed as aggregated wholesale towards a holistic

understanding of the conceptualisation of research support by librarians in Zimbabwe university libraries. This was done as part of a broader aim of examining the nature of the relationship between conceptualisation and practice of research support given that librarians were not being effective and visible in support of researchers in institutions of higher learning in Zimbabwe. Du Mont and Du Mont (1981:10) make the point that without satisfactory value judgments about the library's mission and goals, any attempt to assess the library's effectiveness are exercises in futility. To provide more insight on policy documents, interviews were conducted with heads of libraries since policies emanate from them. To have a holistic understanding of conceptualisation of research support, the following sub-questions were explored:

- i. What kind of support do libraries offer to their universities as conveyed in vision and mission statements?
- ii. What are the goals of the libraries as expressed in strategic documents and other related policies?
- iii. How is research support defined by libraries?

These questions led to the development of the following meta-claims from meta-analysis of findings.

▪ **Meta-claims**

1. *Mission statements of academic libraries convey an integral role in support of higher education's core mission of research;*
2. *Collections are presented as essential to achieve the research role of libraries;*
3. *Libraries espouse traditional services and facilities for researchers;*
4. *Research support is conceived within collaborative environment;*
5. *Technology is essential in the discharge of research support;*
6. *Libraries champion faculty/subject librarians for research support; and*
7. *Research support is understood as training researchers and facilitating access to information.*

6.1.1 Support given to universities by libraries - mission statements

A mission statement is an institution's formal public declaration of its purpose and vision of excellence (Kerr 2010:56). Woodrow (2006) notes that among other reasons mission statements are effective means for an institution to be held accountable to the criteria of its mission as they provide a privileged window for understanding organisations..." The author

further notes that these statements identify activities the organisation considers important. To this end, mission statements of the eight university libraries in Zimbabwe were analysed as part of investigating how research support is conceptualised in libraries in a dynamic environment characterised by technological advancements and modes of knowledge production.

6.1.1.1 Levels of mission statements

A helicopter view of the mission statements of the eight cases investigated demonstrate that six libraries (UL01; UL02; UL03; UL04; UL07 and UL08) had meso level mission statements and two have micro level mission statements. Micro level statements were found to be very useful in understanding how research support was conceptualised by libraries as they possess and provide the “greatest degree of specificity, using specific and multiple terms to identify aspects of the library’s mission” (Aldrich 2007:310). Two (UL01 and UL06) mission statements which were found to be at meso level were also very useful as they were found to be on the continuum between micro and macro levels in their “amount of both their semantic and numerical specificity” (Aldrich 2007:310). No library was found to have macro level mission statement. Macro level mission statements are characterised by using semantically broad terms and the least number of diverse types of statements (Aldrich, 2007:310). Table 6.1 below shows the mission statements of the libraries investigated and their levels.

Table 6.1: Levels of mission statements

Case	Mission Statement	Level of Mission Statement
UL01	“provide access to appropriate information resources that support quality research, teaching and learning experiences of the university community.”	Micro
UL02	“To serve as the intellectual commons of the University, providing high-quality resources, services, and gateways to information to meet the needs of the University's diverse instructional, research, and outreach programmes.”	Meso
UL03	“The libraries will provide current and relevant information resources and services in accordance with international library standards in fulfilment of its role to facilitate teaching, learning, research and community service activities.”	Meso
UL04	“To achieve excellence in the provision and promotion of information services to support teaching, learning and research needs of the University through a well-chosen collection and highly qualified professional staff.”	Meso
UL05	“... seeks to support (the) University's teaching, learning and research programmes by acquiring and organising access to information resources in a variety of formats and by equipping the academic community with the skills necessary to exploit these resources.”	Meso
UL06	“The Library has a primary responsibility to support instructional, research and spiritual programmes of the University-through the acquisition, organisation, maintenance and preservation/conservation of appropriate print and non-print electronic and archival information resources and the retrieval/ dissemination of those resources.”	Micro
UL07	“to timeously provide information resources that promote learning, support teaching, enhance scholarly research and creativity for the advancement of knowledge.”	Meso
UL08	“... exists to provide all staff and students with information resources using state of the art tools and methods in support of the university's teaching, learning and research activities.”	Meso

Source: field data (2017)

6.1.1.2 Library mission statements tied to their parent institution

Du Mont and Du Mont (1981:14) point to the need for the libraries to come to terms with their environments by formulating goals and policies that are adaptive. From the findings, the coverage and lexicon used in mission statements of the eight libraries investigated demonstrated that the parent institutions played an important role in shaping the direction and nature of support libraries offer. A nexus between libraries and their parent institutions was

discovered in all the mission statements as they stress and reflect the need to support the three core functions of the parent institution namely; research, instructional and social responsibility. Statements such as “...seeks to support (the) University's teaching, learning and research programmes” “.... meet the needs of the University's diverse instructional, research, and outreach programs.” “...fulfilment of its role to facilitate teaching, learning, research and community service activities.” “.... promote learning, support teaching, enhance scholarly research and creativity for the advancement of knowledge” were found to be common among the cases. In the study of information literacy, Kerr (2010) found that all the knowledge concepts and values of universities were reflected in missions and goals of the libraries studied. The author further explained that these concepts indicated a synergy and connection between missions of academic libraries and universities and suggest that these concepts drove agendas of academic libraries. Given that the research and learning environment in institutions of higher learning was fast changing, libraries were expected to be reflective of the environment that they support and revamp their missions and visions accordingly. One Deputy Head Librarian observed the changes that were occurring in their institution:

“Research has been on-going but as you said of late there has been that shift towards research, putting more emphasis on research for two reasons. The first one is to attract funding and the second is for the purposes of institutional visibility. That is what I have noticed.”

6.1.1.3 Library mission statements research focused

Libraries were found to articulate a research-focused supportive role within their institutions. They also endeavoured to support the instructional and social responsibility functions of their institutions. Research focused statements were recorded in all the eight library mission statements with statements such as “enhance scholarly research”, “support ... research activities”, “...support quality research”, “support...research needs” indicated a commitment to support the research needs of their parent institutions. Table 6.2 illustrates how research was treated by libraries in eight academic libraries in Zimbabwean universities.

Table 6.2: Research support in mission statements

Case	Research focused mission statements	Concept
UL01	“provide access to appropriate information resources that support quality research...”	Research support
UL02	“....to meet the needs of the University's ... research...”	Research support
UL03	“....in fulfilment of its role to facilitate ... research...”	Research support
UL04	“...to support research needs of the University....”	Research support
UL05	“... seeks to support (the) University's ... research programmes...”	Research support
UL06	“Library has a primary responsibility to support ... research of the University....”	Research support
UL07	“...support teaching, enhance scholarly research and creativity for the advancement of knowledge.”	Research support
UL08	“...in support of the university's research activities.”	Research support

Source: field data (2017)

In a study carried out by Aldrich (2007) in academic libraries in America research roles were identified in 64 of the 70 library mission statements analysed. It is therefore axiomatic that research support is one of the key areas that libraries consider important within their mandates.

6.1.1.4 Library mission statements information focused

Hartzell (2002) posits that mission statements should describe what the library offers to their constituencies. From the eight libraries investigated, it was discovered, that apart from being linked to the core functions and aspirations of the parent institution, libraries, through their mission statements, articulated what they offer in support of the core functions of their parent institutions. It was established that libraries support the research activities of their parent institutions through information provision. All the eight libraries were found to have information resource focused expressions as part of mission statements' lexicon. The statements promoted libraries' position in terms of the kind of organisations they were within their institutions. Aldrich (2007) found that 50 of the 70 academic libraries mission statements studied had phrases implying provision or access to information resources. Through mission statements, academic libraries in Zimbabwean universities were found to be promoting a facilitating role in research through provision of current, timeous, and relevant information resources. Statements such as “To achieve excellence in the provision and promotion of

information services...”, “provide access to appropriate information resources...”, “to timeously provide information resources...”, “The libraries will provide current and relevant information resources and services ...” are an attestation to this. Table 6.3 provides a complete picture of the provision of information role.

Table: 6.3: Provision of information role of libraries

Case	Information focused mission statement	Concept
UL01	“provide access to appropriate information resources...”	Information provision
UL02	“... providing high-quality resources, services, and gateways to information...”	Information provision
UL03	“The libraries will provide current and relevant information resources and services...”	Information provision
UL04	“To achieve excellence in the provision and promotion of information services....”	Information provision
UL05	“... by acquiring and organising access to information resources in a variety of formats...”	Information provision
UL06	“...through the acquisition, organisation, maintenance and preservation/conservation of appropriate print and non-print electronic and archival information resources and the retrieval/ dissemination of those resources.”	Information provision
UL07	“to timeously provide information resources...”	Information provision
UL08	“... exists to provide all staff and students with information resources...”	Information provision

Source: field data (2017)

Provision of information resources as a service to researchers was found to be one of the traditional features of librarianship. This demonstrated that all the investigated libraries still hold the traditional mind-sets of librarianship in the new research and learning environment. The concept “provision” was found to be common and was used by all libraries to represent a facilitation of information role within their institutions, albeit without much amplification. Only two mission statements (UL01 and UL06) attempted to elaborate the facilitating role by stating their functional roles. These libraries identify the functional roles as “acquisition”, “organising”, “maintenance” and “preservation” of information resources.

6.1.1.5 Researchers as primary service targets

Identification of primary service targets helps librarians to design and tailor-make services for each constituency they served within their parent institutions therefore gives some indications of how research support is conceptualised. Analysis of the mission statements established that most of the libraries did not identify researchers as primary audience targeted to receive library support. This failure to identify primary service targets is not exclusive to Zimbabwean libraries alone as Aldrich (2007) found that 14 of the 70 academic libraries surveyed in America identified students, faculty and staff as primary service targets. From the eight mission statements only one library (UL08) identified their primary targets as “staff and students”. Only two libraries used semantically broad concepts “academic community” (UL05); “University community” (UL01) to capture primary targets. Five (UL02; UL03; UL04; UL06; UL07) of the mission statements analysed are silent on primary targets. The use of semantically broad and inclusive language is seen by Aldrich (2007:312) as an advantage in that groups which should receive services are not passed over or ignored and at the same time serve as strategic ambiguity. The author further notes that institutions that commit for example to serve the “university community” can interpret the referent at any point in time as needed. However, in this study the use of semantically broad statements was taken as a weakness because it became unclear who the primary audience of the service were and how they were supposed to be treated in environments characterised by mutually distinct constituencies with different needs. Ambiguity in expression becomes a challenge to practising librarians who discharge research support as they fail to interpret such mission statements in their day to day work. One librarian (UL08) explained:

“Everything becomes very unclear, some of the things that we do are result of our own initiatives and not that they are written somewhere. So even if I don’t do them nobody is going to make a follow up to say you did not do abcd.”

As a result, there is no uniformity in services offered to researchers and other constituencies and secondly there is no distinction between services for researchers and services for teaching and learning as one practising librarian notes “I just do what I think is appropriate for my faculty”.

6.1.2 Research oriented goals of the libraries - strategic documents and other policies

As noted by Raju and Schoombee (2013:32) strategic actions of a library contribute significantly to the implementation of new services to support research. Du Mont and Du Mont

(1981:10) observed that an examination of goals can serve as a starting point in any study of library effectiveness. Goals of the libraries were useful to scale how research support was conceptualised by the libraries. Analysis of the findings of libraries' goals reveal that research support was conceptualised in terms of collections, services and collaboration.

6.1.2.1 Collections as indicator of research support

Collections of libraries were presented in policy documents as primary indicators of support for researchers. A consolidation of the findings emerging from the individual libraries shows that there is a substantial amount of evidence from all cases that libraries articulate goals in support of research by significant emphasis on providing collections in form of books, electronic resources and other materials. This is testimony to Kleinveldt's (2011:40) take that academics still value their ... the management of collections (print and digital), far more than their roles in teaching and research. This was confirmed by statements expressing support for research such as "Build research collections in targeted areas of University research" (UL03); "To build and enhance research collections that are responsive to current and future teaching and research needs of the University" (UL05), "The size of the library collection is one of the indicators of how well we are supporting our core functions." (UL04). Table 6.4 summarise the evidence of collection as an indicator of research support as established from the goals of the libraries.

Table 6.4: Evidence of collections as indicator of research support

Indicator	Case	Evidence from policy documents
Collections	UL01	- “To build and enhance research collections that are responsive to current and future research needs of the University.” - “select and manage electronic resources such as e-Books and e-Journals”
	UL02	- “to provide high quality resources, services and gateways to information ...” - “increased collection as a way to enhance service delivery”
	UL03	- “Build research collections in targeted areas of University research ...”
	UL04	- “The size of the library collection is one of the indicators of how well we are supporting our core functions.”
	UL05	“acquiring and organising access to information resources in a variety of formats ...”
	UL06	-“maintain a “balanced collection” comprising “reference collection, standard works (and) general information resources.” -“... books and other materials in accordance with the needs of the University”
	UL07	“acquire books and other reading materials in order to improve library resources”
	UL08	“expand library collection” to “increase access to print and electronic resources”

Source: field data (2017)

These findings support Anderson’s (2011:299) take that librarians continue to view the comprehensive and well-crafted library collection as an end in itself. This was confirmed by one Head Librarian:

“You don’t need to become too much of a researcher though it’s professional responsibility. Once you know for example the electronic resources that are useful for each faculty and that is why I try to segregate them, divide them and say you should know the electronic resources in your faculty, be familiar with them. If you are not familiar with them you will not be able to assist people.”

According to Garner (2006) the shift from print to electronic journals, databases and e-books has witnessed a major shift in the importance of collections as an indicator of research support. Recent evidence suggests that libraries and librarians were not recognised as information resource providers in the research context, as they strive to make access to those resources as seamless as possible for individual researchers (RIN and RLUK 2011). This thinking contradicts one Head Librarian’s who viewed a shift to electronic resources is a significant improvement in support of researches “I would say we have shifted our focus that is why you find provision of information now emphasises electronic resources”. This explains why

librarians were failing to be effective in support of researchers because they continue to conceptualise research support in terms of collections. Early warnings were sounded by Grover and Hale (1988) who saw the need for librarians to move beyond traditional levels of service, and to assume more active roles in faculty research. A RIN and British Library (BL) report as cited by Auckland (2012:73) noted that many life science researchers have removed themselves from the mainstream library user population and, that researchers have stopped using the library catalogue. According to Hoffman (2016) the disaggregation of librarians from the search link has forced librarians to move away from using the term ‘research support’ to mean providing reference services or prescribed resources for students.

6.1.2.2 Services and facilities for researchers

Espoused services and facilities by academic libraries were seen as important in understanding how research support is conceptualised by academic libraries. Various services in support of researchers were identified in all the eight university libraries that were investigated in this study. Information literacy training and institution repository were found to be common services and facilities espoused by libraries in support of research and researchers (UL01; UL02; UL04; UL05; UL07). Data mining and marketing were the least espoused services in policy documents. Only libraries UL02 and UL08 articulated such services respectively. It was further established that the espoused services focused more on the facilitation of access to resources. Services such as information literacy training, reference services, tutorials for researchers validate this. Table 6.5 demonstrates the service and facilities and the libraries offering them.

Table 6.5: Service and facilities espoused for researchers

Service and facilities	Evidence- libraries
Provision of resources	UL04; UL06; UL02
Information Literacy Training	UL01; UL02; UL04; UL05;
Institutional repository	UL01, UL04, UL05; UL07;
Marketing	UL08
Library orientation	UL01; UL02; UL04
Reference services	UL01; UL02
Data mining	UL02
Provision of physical space for researchers	UL02; UL06
Research Skills Training	UL01; UL04

Source: field data (2017)

- *Provision of resources as a service to researchers*

Findings from different policy documents of all the cases investigated reveal that provision of resources is regarded as an important service for researchers. Concepts and statements such as “print book collection”, “Subscribe to more e-resources, databases and journals.”, “collecting, preserving and making available for use books, manuscripts, journals, extensive e-resources, on-line databases and related materials to augment students’ knowledge, enrich teacher instruction and enable research workers pursue their investigations.”, “collection development, reference and information provision” were pervasive in cases UL04; UL06; and UL02.

- *Information Literacy Training as a service to researchers*

Information Literacy Training was upheld as a key service in support of researchers by four (UL01; UL04; UL02; UL05) of the eight libraries. Information literacy presented as a “key competency for lifelong learning, fundamental to the teaching, learning and research focus of the University community.” (UL05). One of the strategic goals of UL04 is “designing and teaching of Information Literacy skills module,” and “organizing internal training workshops and programs.”. Detailed information literacy skills (ILS) Training Programmes on the use of electronic information resources as well as traditional information resources” were presented by UL01 as essential to their research support mandate. UL02 espouse “IBA as per request,” “orientation sessions” and “...Information literacy skills training sessions during semester breaks.”

One head librarian explained the idea behind information literacy:

“We want to ensure that lecturers and students are independent in searching, identifying, evaluating and using that information competently. For the students, we have information literacy training and apart from that we have electronic resources training where we also train undergraduate students- first years.”

This thinking is reflected in Auckland (2012:19), who notes that many libraries report that subject librarians use traditional means, such as ... information literacy sessions of various kinds to support researchers’ information discovery needs.

- *Research Skills Training as a service to researchers*

More related to ILS training, tutorials for researchers is another service offered by libraries investigated with a major concentration on access to resources. Richardson *et al.* (2012) also

discovered that libraries are providing individual consultations, workshops, and support materials to support research skills training. From the analysis of different cases, it was established that tutorials were a service provided by two libraries who espoused to help researchers in accessing quality information resources. Library UL04 articulated the need for "... subject librarians teach practicals on how to access electronic resources and referencing. UL01 went further to "identifying training needs ... especially in the use of the library and its resources." Such efforts would assure researchers' maximised use of library resources. One head librarian explained the goal of the tutorials:

"... we also focus on researchers, lecturers as researchers not teachers, we do training workshops and so on and we invite them, and we demonstrate to them the electronic resources that we have and other information resources for example, how to use google images to teach, how to use google scholar in their own research and so on."

▪ *Institutional repository as a facility for researchers*

The institutional repository is commonly conceptualised as an archetype of a library-based research support service. It suits the needs of researchers in providing a single place to manage all their publications and the university, as a comprehensive record of its research output (Parker 2012). Libraries UL01; UL04; UL05; and UL07 articulate IR in their strategic goals as a vehicle through which these libraries support researchers by capturing the end-product of scholarship for the purposes of preserving and dissemination research findings. UL05 expressed the IR as a facility for "... collecting, preserving and disseminating in digital form the intellectual / research output of the institution." In a more similar understanding, library UL04 presents its institutional repository as a source of "intellectual publications, past exam papers, dissertation and theses" that can be of critical use particularly to researchers and the academic community at large. IR is also addressed as one of the strategic goals of UL07 to develop an institutional repository (IR) for "publishing and presenting research findings." UL01 espoused IR facility that "provides access to the resources," "provides availability of local content," "provides increased visibility of ...research output" to preserve "intellectual heritage" and "facilitates exchange of expertise and experience." Raju and Schoombee (2013:32) also found out that Stellenbosch University Library and Information Service's strategic plan, Strategic Directions 2010-2015 (SULIS 2010) addresses specific aspects of research support such as scholarly publication and open access, research performance management and publication support.

Despite such agendas by libraries, it is acknowledged that Institutional Repositories (IRs) have been a mixed success. To researchers, services such as institutional repositories serve an administrative need, as far as researchers are concerned, since they lack any essential motivation to deposit their research outputs in them (MacColl and Jubb 2011:3). This is echoed by Dempsey (2014) who noted that one reason for this is that they are to one side of researcher workflows, and not necessarily aligned with researcher incentives.

▪ *Marketing as a service to researchers*

Researchers have no perception of the huge internal transformation most libraries have undergone in the conversion to digital access (Kroll and Forsman 2010). To address competitive threats, academic libraries are building robust websites personalised to learning and research tasks (Detlor and Lewis 2006:251). Marketing is addressed by UL01 and UL08 as vital in promoting the uptake of library resources by researchers. One of the goals of UL08 is to “use web presence to market library products and services.” In the same respect, the research policy of UL05 expressed the importance of a “dedicated marketing department which focuses on making products and services of the library known to researchers”. The Victoria University Library’s strategic plans ((Library Research Support Strategy 2012-2015) had “Promotion, marketing and communication” as one of its broad thematic goals. This demonstrates the importance of marketing service to researchers.

▪ *Orientation services as a service to researchers*

UL02, UL04 and UL01 flagged the crucial role of their orientation services to researchers and the entire academic community in their policy documents. UL04 claims “conducts library orientation sessions ...” as services targeted at familiarising researchers with library resources and procedures. Similarly, UL01 espouses “library orientation programmes” as the genesis for successful research support. “Orientation Sessions” are considered an important service at UL02.

▪ *Reference services*

Two libraries, UL01 and UL02 espoused reference services as one major service that allows the library to impact directly on the work of researchers. UL01 stated “reference services” through online media and one on one sessions as one of the services that were readily available for researchers while UL02 specified “Individual Based Assistance as per request” as a key research support service. References librarian particularly liaison to academic departments

have been viewed as the primary purveyors of research support. However, when considering emerging research needs, it became clear that research support roles are distributed through the library, encompassing technical services, technology support and more is not limited to librarians but include a variety of staff (Hoffman 2016).

▪ *Provision of space as a service to researchers*

Evidence gathered across the cases reveal that space and related facilities are addressed in two libraries. Statements like “reading area” which is regarded as “enough for current enrolment” and plans to create a “Reading room for PHD students and Masters students,” “discussion room,” “reference rooms” equipped with “computers for research and internet use by students” were recorded from UL06. UL02 emphasised the provision of space both physical and virtual for researchers and claimed its desire to provide “quiet areas and group study areas” as well as “Adaptable space for work and study, with easily reconfigured physical and virtual spaces / hot spots.” An example of such facilities is the research commons which “provides a flexible, technology-enabled space for postgraduate students and researchers and supports collaboration between students and academics, and between researchers and research communities” (Raju and Schoombee 2013:33).

6.1.2.3 Research support is conceived within a collaborative environment

The increasingly competitive research environment demands greater collaboration across disciplines, institutional, and national boundaries (Auckland 2012). Having recognised that a majority of librarians do not possess the skills and gravitas needed in support of researchers and that no self-contained library can incorporate all information resources within its collections, libraries turned to collaboration in training researchers and acquisition of resources. Teaching and training researchers was espoused as part of subject/faculty librarians’ responsibilities by UL04 however, this training should be done “... in conjunction with the institute of lifelong learning – Communication Skills department.” A similar arrangement was discovered in UL01 which runs the ILS programme in collaboration with the “department of Computer Science and Information Systems in the smooth running of the programme.” The goal of UL02 is to maximise the impact of its research support efforts through “... partnership with other campus stakeholders ...”

In respect of resources, libraries across cases were found to be part of the Zimbabwe Universities Libraries Consortium (ZULC). UL04 subscribes and accesses “42 electronic

databases through the Zimbabwe Universities Libraries Consortium” (ZULC). One of the goals for UL01 was “To establish and maintain linkages and partnerships for resource sharing.” In the same manner, UL08 espouses “Establishing links with other universities” to enhance resources for researchers. UL07 espouses the need to “Create sustainable linkages with key stakeholders in community” and develop “collaborative programmes based on community needs.” Table 6.6 shows extracts from the cases.

Table 6.6: Evidence of collaboration for research support

	Case	Evidence from policy documents
Collaboration	UL04	-“subscription and access to 42 electronic databases through the Zimbabwe Universities Libraries Consortium (ZULC).” -“teaching and training researchers in conjunction with the institute of lifelong learning – Communication Skills Department.”
	UL01	-Collaboration with the “department of Computer Science and Information Systems in the smooth running of the programme.” - To establish and maintain linkages and partnerships for resource sharing.”
	UL02	“... partnership with other campus stakeholders ...”
	UL07	Create sustainable linkages with key stakeholders in community
	UL08	Establishing links with other universities”

Source: field data (2017)

One Head Librarian explains the idea behind collaboration:

“Then apart from that we also go beyond IL skills training because most of the time we are not getting enough time for IL skills training, but we identify lecturers who are willing to participate with us, so in most cases we are working with those who are into research. When they are teaching research methods and statistics courses and so on, when it comes to the information gathering and so on, we lobby them to partner with us, we encourage our librarians to go and teach that component. In other courses for example in the faculty of education science they have courses that involve IT, courses such as Educational Technology where we want to see lecturers producing science educators we expect them to incorporate technology in teaching and learning, so those lecturers invite Faculty Librarians to teach component like how to use social media in education, how to use information resources in education and so on.”

Of significance to note, however, is the fact that collaboration presented by libraries entails working together with other campus players as well as partnering with other libraries and institutions in providing resources or training of researchers. The espoused collaboration does not include working with researchers in their projects but other departments and institutions.

This was important but not enough if librarians were to be effective in support of researchers. The new research environment demands that libraries enhance research support by developing customised support services and, where appropriate, embedding information specialists, with discipline-specific expertise, in departments and research centres/teams (Parker 2012). Similarly, Posner (2013) argues that contemporary digital humanities projects “do not need supporters – they need collaborators”, explaining that libraries need to provide both infrastructure (tools, servers, etc.) and “intellectual labour” (knowledgeable librarians).

6.1.2.4 Technology as an enabler for researcher support

Libraries, through their policies, strategic documents and service charters espoused technological support to researchers. In this regard, UL02 through its strategic document, espouses a dedicated room which “will be used by librarians for training students on ILS training and other library related trainings” and “... will be fitted with computers, a projector and a projector screen.” UL02 provides “public workstations ... in the library to provide access to the Internet and electronic resources ... to facilitate research.” UL06 was much concerned with providing “computers for research and internet ...” and planned to acquire “another photocopier,” “air conditioner” and “shelves” to cater for its research commons. UL02 espoused to “keep abreast in terms of technological tools like automated photocopiers, automated printing, self-circulation system, digital billboards” and felt these were ideal for supporting researchers. This was to be achieved through “Walk-in to OPAC PCs” and “Print-on demand services for electronic resources” available in the library. In addition, the library as captured in the strategic document, sought to “invest more in Internet Connectivity, bandwidth size and network facilities.”

These findings are consistent with Shires’ (2006) observation that academic libraries at all levels identified technology as a key influence for the future, yet many libraries fail to identify technological roles in their mission documents. It’s not clear what librarians are supposed to do with technology apart from availing gadgets such as computers and other electronic devices to researchers. Technology is linked to critical information skills identified by many libraries which strengthen this call for locating technology statements within academic library mission documents.

6.1.2.5 Libraries champion faculty/subject librarians to deliver research support

Libraries through policy documents acknowledge the importance of professionally qualified, competent and skilled librarians in the discharge of research support duties. Holland (2006:141)

argues that a subject librarian who has a broad knowledge of the organisational context in which research is undertaken, who combines this with knowledge of the information sources in the appropriate subject domain and who is skilled in one to one consultations is well placed to provide the informed individual support that researchers need. Reference is made in policy documents of the need for practitioners who hold “professional qualifications and skills that are relevant to the execution of their duties.” and who “... will display a high level of those qualities that are characteristic of trained and skilled people in the execution of their duties.” In its strategic plan UL07 lamented the lack of a fully developed research support to “inadequate academic and non-teaching staff” due to “limited funding for core academic activities (for example library, research and staff development...)” UL03 “highly qualified professional staff” to “achieve excellence in the provision and promotion of information service” as express in UL04. One of the strategic goals for UL06 is hire “subject/faculty librarians” and shows a recognition of the need for research support to be delivered by subject specialists. One Head Librarian boasted “... we have subject librarians, we assign a subject librarian to say, ‘you deal with this particular group of researchers’ ...” UL04. However, the use of subject librarians has been challenged as being ineffective in the technologically driven research environment. Jones-Evans (2005) reported that institutional administrators have disputed the use of subject librarians in the Google age. The repudiation of faculty librarians was on the grounds that they do not necessarily have a qualification in the subject they support (Dale, Holland and Mathews 2006). Such an argument has moved other libraries away from “subject specialist roles and stopped recruiting staff with a library-school education and/or relevant subject degree to research librarian positions” (Cotta-Schønberg 2007). One Head Librarian was of the view that only research librarians can support researchers:

“There is a saying that, it takes a thief to catch another thief, if you are a thief if there is a theft in another place you can just say don’t worry we are going to tackle we know the person, because you are a thief. So, if you are not a researcher there will be a limit to the assistance you can render to another researcher.” UL02

He went further and attributed the lack of proper research support in Zimbabwe to lack of research librarians who can deliver support:

“The librarians here are not researchers, they are not researchers that is what I thought about your title. Maybe I know they maybe researchers in South Africa, yes, they maybe a lot of researchers in South Africa because I have met some of them in conferences I have seen the articles they publish, you hardly see articles in academic journals published by a librarian in Zimbabwe...When you are not

a researcher there is a limit to which you can understand the context of what somebody is doing.”

It becomes clear that for effective research support, only research librarians and not faculty librarians are qualified to offer it.

6.1.3 Definition of research support - policies and heads of libraries

A comparative analysis of concepts and themes identified in definitions suggests that there is varied understanding of research support and that research support is a broad, amorphous and polysemic concept with a lot of activities within its boundaries. However, the definitions from the various cases were found to be comparable in linguistics used and they all articulate and reflect some traditional aspects and conceptualisation of research support. Principally, research support was understood as training of researchers about information literacy skills, e-resources use, reference management and holding training workshops as well as building collections. These multiple activities provide direct and indirect contact with researchers at different stages of their research life cycle. These varied but relevant definitions appear to approbate the diversity of explanations of research support discussed in literature (see Chapter Three, section 3.2.1). These definitions are dissected below.

- *Research support as training*

Research support as training was also prevalent in the university libraries investigated. Statements such as “the training that we give them on the use so that they maximise on the information that is available.” (UL01); “training researchers on information literacy and e-resources so that they can independently locate the desired information” (UL08) as recorded in Table 6.7 gives the understanding of research in terms of training. The understanding displayed reflects the definition of research support by Institute of Germanic and Romance Studies (2010:1) which defined research support as the assistance provided by the subject specialists to diverse faculties in the academic community to enhance their research skills.

Table 6.7: Research support as training

Case	Specific statements
UL01	“the training that we give them on the use so that they maximise on the information that is available.”
UL02	“train researchers on the basis of resources that they require.”
UL03	“... training staff and students how to access and use both print and electronic resources”
UL04	“training in the appropriate use of resources and tools”
UL06	“training especially on electronic resources”
UL07	“offer training, at times engage in research workshops, ... how to identify information, look for information ...”
UL08	“training researchers on information literacy and e-resources so that they can independently locate the desired information.”

Source: field data (2017)

It appears that librarians now want to be identified more as teachers as few and few researchers are now coming to the library for information resources. However, Dale, Holland, and Mathews (2006) are of the view that it is not sufficient for librarians to train students on the use of library resources but have a real understanding of pedagogy. One recurrent view is that not all librarians have appropriate teaching skills to make this training successful. Findings from various cases demonstrate that librarians who support research do not possess any teaching qualification and, yet most of the libraries espouse training of researchers. This puts them on a weak position in practice.

▪ *Research support as collections*

Comparative analysis of research support definitions indicates that research support is understood as the provision of resources to researchers as well. Concepts such as “facilitating access to resources both on and off campus”, “provision of required material” “acquisition, organisation, maintenance and preservation of appropriate print or non-print” were found to be pervasive in all cases studied. Table 6.8 gives a complete picture of the concepts and statements obtained in various definitions of research support as stated by the libraries.

Table 6.8: Research support as collections

Case	Specific statements
UL01	“availing of research materials that are needed by the clients, also the training that we give them on the use so that they maximise on the information that is available.”
UL02	“trying to bridge the information gap between the researchers and resources”
UL03	“assistance given to patrons when they are looking for information in the library be it for print or electronic resources facilitating access to resources both on and off campus.”
UL04	“provision of required material” and “provision of access to resources.”
UL06	“acquisition, organization, maintenance and preservation of appropriate print or non-print”
UL07	“give resources and maybe help identify a reference manager ... assist them with data analysis software, referencing ...”
UL08	“sending personalised emails of databases/journals to different researchers based on their areas of interests.”

These concepts do not only mirror the research support definition offered by Montora and Haddow (2015:83) who defined it “as the information and services provided by the university library to its research community” but suggests some association and influence of mission statements. For example, case UL06 defined research support in terms of “acquisition, organisation, maintenance and preservation of appropriate print or non-print resources”. These concepts are found in the mission statement of this case verbatim. UL07 and UL01 defined research support as provision of resources: “give resources”, “availing of research materials...” to researchers. These statements give allegiance to the mission statements of these libraries. It becomes ironclad that the way research support was understood was shaped ever so by the mission statement and that mission statements guide the way employees conceptualise and discharge their duties in libraries.

Apart from viewing research support as training and collections, some managers were “ambiguous in their understanding of research support. One Head Librarian noted that:

“The concept of research support is dynamic. The concept of research support has been dynamic in libraries and it keeps on changing with the context where you are ... So, we started to change in terms of information delivery, the media that we use to communicate that information and the way that we, disseminate

that information is now timely. It means also, if you disseminate that information very late, it won't serve any purpose for our clients, it means we must disseminate our information very quickly and accurately.”

Lack of clarity from the top management about how research is, further complicates the discharge of research support.

Taken together, it appears that there was consistency by all libraries in understanding research support as training and availing resources which reflects some traditional aspects of research support and this is thought to contribute to the ineffectiveness in practice. MacColl and Jubb (2011:6) noted that services more traditionally offered by libraries, such as information skills training are generally not highly regarded by researchers. Equally, Garner (2006) is of the view that the shift from print to electronic journals, databases and e-books has witnessed a major shift in the importance of collections as an indicator of support for research. The new conceptualisation focuses on partnership and collaboration where supporters are expected to engage researchers upstream. Parker (2012) opines that research support is more than the traditional provision of services to assist students and others who are conducting research. Rather than focusing on acquiring the products of scholarship, the library is now an engaged agent supporting and embedded within the processes of scholarship. Raju and Schoombee (2013:28) restricted the scope and use of the phrase research support to the new services being offered by academic libraries by defining it as “... the provision of a new and expanded suite of services such as research data management, curation and preservation, facilitation of free access and bibliometric analysis”. On that basis, it is crystal clear that libraries in Zimbabwe fall short of the required level of support and are not being much effective in support of researchers.

6.2 Practice of research support: theories-in-use

▪ Overview

The practice of research support was examined through findings from qualitative questionnaires and interviews conducted with different librarians who were actively engaged with researchers. Argyris and Schön (1974) make a point that persons should not simply be asked about their theories-in-use since responses sometimes reflect espoused theories, what people and institutions would like to do. They make a point that theories-in-use must be inferred from behaviour or representations of action and practice. To this end, research support services were considered to be representative of action as they show the actual way things are done. Because a service unlike a product is manufactured at the stage of delivery, it was prudent

and unavoidable to ask research support librarians the kind of services they offered notwithstanding the fact that Argyris and Schön (1974) warned that practitioners “...should not simply be asked about their theories-in-use”. To prevent librarians from regurgitating their espoused theories during interviews, the researcher made use of scenario questions which demanded some demonstrations of how they practice research support. A questionnaire which reflected services and facilities obtained from literature was also employed in order to obtain one set of outcomes in terms of services, and approaches used. Most importantly the use of a qualitative questionnaire increased credibility by cross validating of findings from the interviews to see patterns. Establishing research support practice was not a mean task but this affirmed Argyris and Schön’s (1974:37) warning that “theories-in-use are complex” to develop. Investigation of practice was guided by the following sub-questions:

1. What services are on offer to researchers?
2. Which approaches of research support are used by libraries?
3. At what stages of the research lifecycle are services for researchers found?
4. How do libraries achieve their research support goals?

These questions led to the development of the following meta-claims:

▪ **Meta-claims**

1. *Services for research coalesce around gathering and sharing stages of the research lifecycle;*
2. *Services offered by libraries skewed in favour of teaching and learning;*
3. *Librarians mostly use traditional approaches in support of researchers;*
4. *Research support practised within collaborative environment;*
5. *Specialisation is essential for effective research support; and*
6. *Librarians expressed mixed feelings with technological advancements.*

6.2.1 Services for research coalesce around gathering and sharing stages of the research lifecycle

A comparative analysis of service around the research lifecycle across the eight libraries revealed that librarians offered various services throughout the research orbit. At preparation stage “assistance in topic formulation” was indicated by UL01, UL02, and UL05). Service under gathering stage such as “information literacy training sessions, “e-resources training sessions” were common among all the cases (UL01, UL02, UL03, UL04, UL05, UL06, UL07, UL08 and while “literature search” by (UL01, UL05, UL06). At creation only UL05 indicated

that they offer research data management services. At sharing stage, all the cases “institutional repository” as a facility to showcase research output. At measurement stage, UL01 indicated helping researchers with publication counts and citation analysis. At commercialisation, library website as a tool for research marketing was indicated by UL01, UL02, UL05, and UL08. Helping researchers with emerging technologies was mentioned by UL02, UL03, UL1. UL05 was found to be exceptional as it offered services in all the stages of the life cycle from preparation to emerging technologies. This was plausible and possible given that the library had introduced a research services department within the library which is dedicated solely to the needs of researchers. Table 6.9 provides the complete picture.

Table 6.9: Services offered by libraries around the research cycle

Stage	Specific services offered	Evidence case
<i>Preparation</i>	looking for ideas, deciding on a topic, formulating a research question.	UL01, UL04, UL05
<i>Gathering</i>	Tutorials to help researchers, information literacy sessions, developing effective search, literature searches, document delivery, online reference services.	UL01, UL02, UL03, UL04, UL05, UL06, UL07, UL08
<i>Creation</i>	Compiling data management plan, backups.	UL01
<i>Sharing</i>	Dissemination of research output, scholarly communication and open access, advice and support for open access publishing, advising on utilising new dissemination means, institutional repositories as a facility to showcase research output.	UL01, UL02, UL03, UL04, UL05, UL06, UL08
<i>Measurement</i>	Citation analysis, publication counts, H-index.	UL01
<i>Commercialisation</i>	Library websites as tools for research marketing, copyright and property rights.	UL01, UL02, UL05, UL08
<i>Emerging Technologies</i>	Introduction of new technology to research (Web 3.0, podcasting, mobile phones).	UL01, UL02, UL03

Source: field data (2017)

Further analysis of the services around the research cycle reveal that services offered coalesce around the gathering and sharing stages (UL01, UL02, UL03, UL04, UL05, UL06, UL08) of the research life cycle. Services such as literature searches, information literacy, references service were also found to be traditional in nature and have been provided to researchers since time immemorial. Similar findings were obtained at the Cape Peninsula University of

Technology by Hart and Kleinveld (2011) who found a heavy emphasis on the traditional functions of academic libraries such as resource and information management. It appears librarians continued to cling on to traditional roles of information intermediary. Nevertheless, Auckland (2012:73) observed such roles have been largely replaced by direct access to online resources, with heavy reliance upon Google to identify them. This resulted in the service offered by libraries to be redundant and be of little effect on the lives of researchers. The majority of researchers interviewed by Kroll and Forsman (2010:5) in their study revealed that they used online tools and commercial services related to their discipline rather than tools provided by their library.

Be that as it may, it was discovered that librarians continued to obstinate and regarded traditional services of librarians as relevant and well appreciated by researchers. In an interview, one librarian stated, “there is still a need to acquire, preserve, organise and provide access to information resources ...” (UL04). In the same manner, librarians consider that high use made of library resources is a measure of success (UL06). This demonstrated why librarians continued to offer traditional service with little regard for new and expanded roles in research. As a result, librarians had failed to be effective in support of researchers as one librarian admitted “... but one thing that I have noticed is that, in my experience and the interaction that I have with most staff members is that the library has failed to meet these research needs.” (UL01). A study by Kennan, Corral and Afzal (2014:667) found out that the greatest areas of demand for research support in the new research landscape were research data management (18), followed by data curation (11), bibliometrics and related services such as citation analyses, altmetrics, and impact measures (10), systematic reviews and/or literature searching (7) and digitalisation of archives, records or data (4). Raju and Schoombee (2013:27) who examined academic libraries’ attempts to establish the ‘deeper meaning’ of the librarian for the researcher and the research process at Stellenbosch University found out that librarians were providing a new and expanded set of services which include, inter alia, research data management, curation and preservation, facilitation of open access and bibliometrics analyses.

6.2.2 Services offered by libraries skewed in favour of teaching and learning

Librarians discharge their duties with the confidence that the services for scientific research and other scholarly activities such as teaching, and learning are inextricably connected (UL01, UL03, UL04). Librarians hold a general understanding that, “teaching and learning encompasses research”. This is explained by one librarian:

“We don’t separate, ... the material which is for researchers could even be used for teaching and learning - so we cannot say don’t use this, ... this is specifically for research, this is specifically for teaching and learning, no we don’t separate” (UL04).

And another:

“Naturally, what libraries do, they always follow the mission statement of the University which is to support teaching and learning, however, teaching and learning entails the discovery of new information or new knowledge, that is research” (UL01).

And another:

“in this set-up, to separate the two is a bit problematic where you can say this is for teaching and this for research because we are saying these seem to be intertwined to the extent that the one doing teaching is also doing research ...” (UL03).

The lack of separation has unavoidably resulted in the needs of researches being overlooked with everything skewed in favour of teaching and learning (UL04, UL06; UL08). Admittedly librarians agreed to this, “we mainly focus on teaching and learning. If you really look at our services, they are concentrated on teaching and learning compared to research support” (UL04). Another attributed the prejudice to the mission statement “... I think that everything is aligned to teaching and learning and maybe we are just following what the mission statement says, to say to support teaching and learning ignoring the research aspect in the process” (UL06). One librarian commenting on the research support services they were offering pointed out that the support offered was not well developed because they just focused on “providing access to resources ...forgetting other issues that researchers are supposed to get” (UL08). As a result, it is indubitable that librarians were not being effective in their practice of research support because of this bias.

However, librarians defend their approach which favour teaching and learning by insinuating that there are no researchers to support. Such views were summed up by one librarian who stated, “there are no researchers to support and as a result we have no option but to provide services that favour teaching and learning” (UL08). This view was reinforced by another librarian who charged: “these academics are not researchers” and another added “We can see that research here is just for achieving an end without it being a continuous research process, like someone want to get his PhD or someone wanting to fulfil his teaching obligation but outside that we see that it’s very difficult.”

6.2.3 Librarians mostly use traditional approaches in support of researchers

Evidence collated from interviews and questionnaires showed that in practice librarians were using traditional models of research support. The Resources, Liaison and Shared models were found to be the commonly employed models by libraries. The following table shows a summary of the models used in practice by libraries is presented in Table 6.10.

Table 6.10: Models used by libraries in support of research

Model	Evidence Case
Resources	UL01; UL02; UL03; UL04; UL05; UL06; UL07 and UL08
Liaison	UL01; UL03; UL04; UL05; UL07 and UL08
Shared Services	UL01; UL02; UL03; UL04; UL05; UL06; UL07 and UL08
Engagement Model	-
Outsourcing	-
Hybrid	UL01

Source: field data (2017)

▪ *Resources Model*

Researchers are supported through collection development and information discovery (Auckland 2012). Librarians indicated that they supported research and academic activities of their parent institution by means of providing information resources to researchers and academics as they undertake research. Expressions such as “current books”, “e-journals”, “information resources” and “collection” suggest and confirm the emphasis given to providing resources to researchers to support researchers.

The use of the Resources Model by librarians was explained by one librarian, “... in order to support the academic activities, we ensure that we buy current books, subscribe to current journals ... both physical and electronic ..., e-resources ...” (UL01). A librarian from UL04 indicated that their key focus was to support researchers through “... collection development, to identify their needs and to initiate the process of identifying the best resources that they need, identifying the gaps of information that they need.” Another librarian echoed similar sentiments: “to download the resources” or train them accessing resources by means of workshops (UL03). With another librarian from the same library adding that greater part of their annual financial plan “... was mostly for the print collection ...”

In the same vein, librarians from UL07 were so clear that they were restricted to supporting research by providing information resources, for example, one librarian explained, "... we do not give much support to our researchers as a library, we just give resources ...". One practising librarian from UL01, with regards to the library's use of resources as an indicator for research support stated, "We do have electronic resources for the researchers, students, academic staff and also for librarians." In confirmation, another librarian from the same library added, "the library supports research by acquiring electronic resources on behalf of researchers." One of the core responsibilities for practising faculty librarians was "provision, development and management of information resources" (UL08).

A Faculty Librarian confirmed the emphasis that the librarians placed on resources in support of researchers and noted, "There are a lot of resources that we have which our users can utilise and the fact that a majority are doing their PhD programmes, we see a lot of research being carried out." Librarians also thought of electronic resources as one of the enablers to research support as one librarian noted, "electronic resources help our researchers in that, these days researchers want current and up-to-date information" (UL06). Librarians also "... emphasise more on e-resources" and they "always train researchers on basis of resources that they require" (UL02). Another librarian from the same library added "the physical books will always remain important ..." which is equally an indication of how the library values its role of providing information resources.

Such use of the Resources Model by librarians is also confirmed in literature where for example Curtin University in Tise (2015) notes that research support is for the purposes of proactively supporting the growth and development of research activities by providing high quality resources. Such an approach, according to Auckland (2012:19) is common where many Subject Librarians use traditional means to support researchers such as training and providing researchers with means to use current information resources.

▪ *Liaison Model*

Auckland (2012) records that one pervasive element of the traditional model in support of research is ...liaison with departments. The Liaison Model is another approach commonly employed by libraries in support of researchers. A majority of the libraries [6] employed Faculty/Subject Librarians as liaison officers in their libraries. Only two libraries (UL06 and UL02) did not have faculty librarians because of staff shortages. However, these libraries were

planning to hire them. Through the course of data gathering commonly mentioned terms by librarians were “Faculty Librarians”; “Subject Librarians” and “Faculty Liaison”, and such appellations suggest an emphasis on liaison with researchers in departments and the academic community at large. Library UL05 stated, “Research support in this library is much through the effort of the Faculty Librarians.” From another library which also discharged research support through Faculty Librarians it was noted that for every new member of staff, “it is a requirement that before they are registered with the library and they go under training, ... we refer them to their respective Faculty Librarians ...” (UL04).

Faculty Librarians also “attend faculty board meetings and answer issues to do with the library mostly and hear if they are new courses coming up ... have constant communication, formal and informal with the school.” UL07 Faculty Librarians indicated that as part of their responsibilities they were de facto “Faculty Liaison” and were responsible for “liaising with the faculty in terms of providing training sessions to researchers.” As part of their responsibilities of supporting research in their respective universities, librarians “... liaise with the faculty ...” (UL01). In addition, librarians undertook “training sessions for information literacy skills, especially for the students.” One librarian said, “as Faculty Librarians we liaise with the academics in the faculty – from lecturers to students and whoever needs our support even if they are non-academic members” (UL01). In the same manner of practice, Jaguszewski and Williams (2013:7) in a study at five ARL libraries found out that most libraries continue to embrace a Liaison Model in which subject librarians are assigned to academic departments, institutes, and research centres.

▪ *Shared Services Model*

The concept of using the Shared Services Model was found to be very common in the practice of research support within the various cases under study. In this Model, libraries combine efforts to gain the benefits of economies of scale in the acquisition or purchasing of materials especially information resources. It was established that all the libraries under study were part of the ZULC initiative which most librarians pointed to as a critical enabler in terms of making resources available in their libraries (UL01; UL02; UL03; UL04; UL05; UL06; UL07 and UL08). This initiative provides expensive academic journals online to institutions in developing countries at a cheaper or affordable price (INASP 2005 in Machimbidza 2014a:7). Librarians also felt that the databases that they were getting were “providing more than enough information for researchers.” Outside the ZULC initiative, UL02 was found to be partnering

with other organisation such as ACBF and UNESCO in staff and infrastructural development initiatives. A critical consideration of the use of the Shared Services Model in these cases leaves no doubt that it has limitations in the sense that it focuses on securing resources for researchers and as a result appears to be more of an extension of the Resources Model which in its nature is a traditional model of research support.

- *Hybrid Model*

Auckland (2012) notes that academic libraries seek to support researchers by creating new library posts using the Hybrid Model. Of all the libraries investigated, only UL01 was found to be using the Hybrid Model in support of researchers. At UL01 the Research Services and Marketing Services departments were created. The Research Office was headed by a Research Librarian who was responsible for directly assisting and organising support for researchers. The research librarian explained his duties:

“The Research Services department in the library oversees all research needs of users be they students or researchers that is answering basic telephonic enquiries right up to working with somebody on his or her PhD or dissertation right from the start up to the end.”

The Hybrid Model was also popular with other university libraries in the developed world. The Ohio State University in America created a position for a dedicated research librarian in 2004 to better support the organization's focus on the research mission (Cheek and Bradigan 2010). Rowlands (2012) reported that the University of Leicester Library in the UK created a new research services team that aimed to sharpen the library's focus on research support. The new structures at UL05 brought together new and expanded services such bibliometrics, research data management and partnerships with researchers and have reported success in their support for research as a result.

A dedicated office responsible for marketing of library products and services to researchers and the academic community was created in response to the underutilisation of electronic resources by researchers. The INASP report of 2006 expressed concerns at the general underutilisation of peer reviewed electronic journals by virtually all state universities in Zimbabwe as noted by (Machimbidza 2014a). The introduction of marketing services buttresses the point that librarians consider the high use made of library resources was a measure of success in support of researchers (UL06).

6.2.4 Research support practiced within collaborative environment

A critical comparative review of finds from the university libraries investigated indicates that libraries uphold collaboration as a key enabler for research support. This was found to be a necessary arrangement given the challenges of funding and other related issues that the libraries were blighted with in support of researchers. In response, librarians considered collaboration as a panacea and it was discovered that libraries work with other campus players such as “the research office” (UL05, UL06), “office of research and output” (UL05), “research board” (UL02, UL01), “Postgraduate research department” (UL01), and with other institutions as part of “ZULC” (UL01, UL02, UL04, UL05, UL06, UL08). In one library, librarians felt that the research office was an “extension” to the library and they could not make it in support of researchers without the intervention of the research office. The importance of collaboration to librarians in research support efforts was also felt when practising librarians lamented the “lack of collaboration” from other campus units such as the research board (UL04, UL07). Their concern shows how much collaboration is a critical aspect of upstream research support.

Kennan and Kingsley (2009) established that research support in most African institutions was “jointly shared” among different campus players like the IT department and the research office. It was noted that the common area of collaboration was the teaching of information literacy skills course where the libraries combined efforts and divided time with other departments such as the communication skills and the IT. One librarian explained, “we combine with the guys from IT who teach the other part which is information technology and we teach ILS which is examinable at the end of the semester as one module with two parts.”

6.2.5 Specialisation of roles recognised as essential for effective research support

From the various libraries, services for researchers were coming from different departments within the library, with each department focusing on different areas of the research process. Notable departments that were mentioned by librarians include the IR department which among other things concentrated on “archiving and dissemination institutional research output” and securing such related “rights to upload to open access research work from local researchers” (UL03, UL04, UL01, UL08); the Systems department which concentrated much on “anti-plagiarism”, “data analysis and citation software” (UL02, UL05, UL06); the Faculty /Liaisons Librarians who acted as intermediaries to information sources by “provision and facilitation of access to information” through “document delivery services”, “information literacy skills training” and “selective dissemination of information” to researchers (UL01, UL03, UL04, UL05, UL07, UL08). From one of the cases (UL01), where research department existed, the

department assists researchers with “... information on how to formulate and decide on a topic, literature searchers, literature reviews right up to the end ... and management of electronic resources as well.”

The significance of specialisation was also emphasised in another case (UL07) where all the librarians lamented that most of the challenges they were facing in practice was due to lack of ‘definition and separation of roles’ hence they had to serve researchers as well as meet other administrative responsibilities. As a result, these librarians felt that specialisation was ideal for effective research support service delivery. For example, one of the librarians said, “Research support services need to be separated from basic library duties as it cannot be multitasked but requires designated personnel, working closely with faculty, embedded within the faculty ...” This points to the fact that librarians considered specialisation to be critical if they are to be effective in research support service delivery.

6.2.6 Librarians expressed mixed feelings over technological advancements

Across the cases, librarians indicated their appreciation of technology as a necessary tool in support of researchers. Technology has shifted the focus of libraries with provision of information emphasising the availing of electronic resources. Statements like “enables remote access”, “untimely access” and “improved services” emerged to be common with librarians as they appreciate that modern technologies had helped them reach out to researchers without boundaries. For example, one librarian said, “We now have remote access where we can assist our researchers even when they are outside the campus they are not handicapped ... we are not limited by time or closure of the library” (UL05). In the same vein, one librarian from UL08 added that technologies “have made our work so much better, for example things like information literacy skill training and e-resources training can be delivered online.”

Technology was also helping librarians provide current and relevant information resources. In this regard, one librarian said technology “... has improved our services, there is improved access to information that is needed by our clients ... now with the technological advancement we can actually have a book that was published a month ago available to our users hence the information that they have is the most current information ...” (UL01). Another librarian reiterated “we have books, print media but most of those now are outdated and researchers are craving for current up-to-date information” (UL06). ICTs were helping librarians to meet their goal of providing timeous and current information.

Another librarian felt that the traditional roles of the library remained the same, but technology had changed “the way in which we execute our duties” (UL02) hence they felt that technology was never a threat to their work. However, some librarians felt that technology was a threat to their space and was disintermediating them from the process of discovery where researchers would *get all* they wanted via the internet hence librarians risking irrelevance. A librarian at UL03 stated, “You know professor google has come as a threat!” Yet another from the same library added that researchers “... feel that they can do on their own.” However, he acknowledged that, “Technology has positives” and noted that the library is “so much into electronic resources” where provision of such is considered support for researchers. Never the less, another librarian from UL04 said technology was “a source of worry” as far as the research support role of librarians is concerned.

However, some librarians expressed reservations over technological advancements. One librarian noted the challenges brought by ICTs: “in as much as technologies are good, they came along with sundry challenges, for example relating to training researchers who in most of the cases “lack basic computer skills.” Technologies in libraries were available in assisting researchers deal with such issues as access to resources, referencing and citation through softwares like Mendeley as well as communication and reaching out through social media. The librarian detailed:

“The advancement of technology is helping but again it goes back to the issue that I mentioned earlier about digital literacy challenges, for instance I train and teach people how to use Mendeley - the issue of referencing. You do your training session, the first time you introduce, you let people know and give people time to practice how to use that, you go back and look for feedback to say is it helping and how best can I assist, you send emails to people, you call people but still you have people who come after finishing the whole dissertation and say I need assistance with Mendeley where do I start from? ... ICTs are there that make work so easy for people, even me per se WhatsApp its easier these days and we talk but some would need physical presence.”

6.3 Relationship espoused theories and theories-in-use of research support

▪ Overview

Espoused theories and theories-in-use can be juxtaposed resulting in congruence or incongruity. Argyris (1980) makes the case that effectiveness in practice results from developing congruence between theory-in-use and espoused theory. However, Argyris and Schön as noted by Kerr (2010) caution that there is little virtue in congruence alone since congruence between an inadequate espoused theory and a theory-in-use is useless. Examining

the relationship between theories-in-use and espoused theories of research support helped to explain why librarians were ineffective in support of researchers as it revealed congruences or incongruences between the two. The following four sub-questions were instructive,

- 1) What similarities can be observed between conceptualisation and practice of research support?
- 2) What differences can be observed between conceptualisation and practice of research support?
- 3) What gaps are seen between the way research support is conceptualised and practiced?
- 4) What reasons are given for the incongruences between conceptualisation and practice of research support?

Analysis of the understanding ascribed to research support by all academic libraries investigated revealed that research support is conceived within a traditional view of what a library is: a collection of resources from books, journals and other related material. This understanding has driven academic libraries to espouse collaboration, adoption of technology, engage subject librarians to teach information literacy skills, market the library and provide reference work as congenial requirements for research support.

Further analysis of research support practices revealed that services of the libraries in general are crooked in favour of teaching and learning. Services for researchers were seen to be focused at the beginning and at the end of the research lifecycle and that collaboration and technology were seen to be driving these services. Consistent with the service on offer it was established the Resources Model and Liaison Model were traditional approaches used by the libraries. Shared service services were also popular with all the libraries. Table 6.11 shows a juxtaposition of espoused meta-claims and theories -in-use meta-claims.

Table 6.11: Juxtaposition of meta-claims

Espoused meta-claims	Theories-in-use meta-claims
<ol style="list-style-type: none"> 1. Mission statements of academic libraries convey an integral role in support of higher education's core mission of research 2. Collections are presented as essential to achieve the research role of libraries 3. Libraries conceive traditional services and facilities for researchers 4. Research support conceived within collaborative environment 5. Technology is essential in the discharge of research support 6. Libraries champion faculty/ subject librarians for research support 7. Research support is understood by libraries as training researchers and facilitating access to information 	<ol style="list-style-type: none"> 1. Services for research coalesce around gathering and sharing stages of the research lifecycle 2. Services offered by libraries skewed in favour of teaching and learning 3. Librarians use traditional approaches in support of researchers 4. Research support practised within collaborative environment 5. Specialisation is essential for effective research support 6. Librarians expressed mixed feelings with technological advancements

Source: field data (2017)

Comparative analysis of the meta-claims above revealed that conceptualisation of research support was affecting practice. To this end, several congruence and incongruences were discovered. According Kerr (2010) there is a belief that there should be a positive relationship between espoused values in missions and the implementation of these values in practice for professionals to be effective.

6.3.1 Congruence

▪ *Congruence on collections*

All the eight libraries investigated were found to espouse a mission of supporting research through provision of information resources and this mission was realised in practice through the Resources, Liaison and Shared Service models. Libraries were putting greater emphasis on availing resources such as books, electronic resources, and other kindred materials. As part of realising this mission librarians were also facilitating access to these resources by training researchers and doing reference work.

▪ *Congruence on services*

Congruence exists between traditionally espoused services and facilities for researchers and traditional models employed in practice. The following services were found to be popular in practice as espoused in documents:

- ✓ Provision of resources realised in practice via the Resources Model.

- ✓ Information literacy training realised in practice via the Liaison model.
- ✓ Institutional repository as a facility to capture the intellectual output of the university. realised in practice through the Resources Model.
- ✓ Marketing in practice via the Liaison Model.
- ✓ Reference services realised in practice via the Liaison Model.
- ✓ Tutorials for researchers realised in practice via Liaison Model.

▪ *Congruence on the definitions of research support*

Research support definitions from all the libraries reinforce the info-centric approach seen in all the libraries. The definitions provided in all the libraries expressed collections in form of e-resources, books, and e-journals as a form of research support. This was in tandem with building of both physical and electronic resources in libraries. Information literacy training, e-resources training and research tutorials were also frequently articulated in of the definitions. This is in synch with practice where the libraries through the efforts of Subject Librarians hold information literacy training sessions for researchers, e-resources training, workshops on the research process, anti-plagiarism and intellectual property rights.

▪ *Congruence on collaboration*

Collaborative work is a growing trend in higher education (Ford and Zeigen 2013:3). Collaboration as a conduit to enhance and meet the needs of researchers was espoused as a strategic goal in achieving the needs of researchers. This was actualised in practice by all libraries through the Shared Service Model. Several initiatives to realise this goal in practice were palpable. All libraries were part of ZULC initiative for the purposes of realising economies of scale in subscribing to expensive e-resources.

It was also found that majority of the libraries were collaborating with sister departments within their institutions in the delivery of information literacy skills training to researchers. Notable department mentioned by librarians to be amenable to collaboration in information literacy training initiatives included computer science, Information technology as well as communication skills. It was discovered that libraries collaborate with research offices in capturing the end products of scholarship such as conference papers, research projects and research articles for preservation and disseminating through the institutional repository.

- *Congruence on multiple understanding of research support*

A negative congruence was noted as librarians lack consensus on what research support entails. In some cases, it was said to be training, in others, availing of resources and yet in another as conducting literature searches for researchers. This multiplicity of understanding is reflected in practice where different faculty librarians emphasised different service to researchers, for example one librarian emphasised the provision of resources, another training and yet another felt it had more to do with publishing research output. This results in lack uniformity of services within libraries.

- *Congruence on technology*

The goal of providing technologically driven services to researchers was partly realised in practice as librarians practising research support appreciated the role played by technologies in supporting researchers in communicating with researchers and in the selectively disseminate information via social media. Services are also available 24/7 due to the capabilities of technological advancements in acquisition, access and delivery. Services such as information literacy skills training were also delivered online in some cases.

- *Congruence on subject librarians*

Most libraries used Faculty/Subject Librarians as research support staff in practice as espoused in mission goals. The Librarian deployed Faculty/Subject Librarians in faculties to provide service such as ILS training, SDI, marketing, literature searches, acquisition among other service for researchers. Six of the eight libraries had Faculty Librarians on the ground helping researchers as pronounced in policy documents.

6.3.2 Incongruence

Du Mont and Du Mont (1981:12) contend that there is not necessarily a correspondence [congruence] between the library's stated goals (intentions) and its actual outcomes (services). Incongruences between espoused theories and theories-in-use can render professional practice ineffective (Argyris and Schön 1974). It was found from the comparative analysis that there are considerable contradictions, inconsistencies and major gaps between espoused theories and theories-in-use in the practice of research support. Argyris 1982 makes a point that practitioners are usually unaware of the discrepancies between espoused theories and theories-in-use as people have built into their theory-in-use features that prevent them from becoming aware and from learning beyond the confines of their theory-in-use (Smith 1983:51). In a study of public

library services to older adults in Ontario and New York Nauratil (1982) concluded that the incongruences discovered appear to be rooted in the survival of certain traditional library philosophies or theories-in-use which conflict with the officially espoused theory of service to older adults in response to the social and demographic developments. This is corroborated by Kerr (2010) who found major contradictions and incongruence in the relationships between the espoused theories and theories-in-use as indicated by significant gaps in addressing goals and missions of information literacy. The following list show the major incongruences that were discovered from the comparative analysis:

1. A major gap was seen in the way services were being delivered by all libraries to their various constituencies and what the mission statements encapsulate in support. Implicit in mission statements of libraries was that libraries would provide balanced support to the three core functions of universities - namely research, social responsibility, teaching and learning. However, comparative analysis revealed that espoused support for research was not fully realised in practice as service offered were biased towards teaching and learning. The majority of the libraries had no structural mechanism to deal with unique needs of researchers. Only one library had a dedicated department dealing with needs of researchers. However, the distinction made between research and teaching and learning in mission documents demonstrates the importance and the exclusivity of these constituencies within the academic setup.
2. Closely related to the above, the limited services provided to researchers reflect the traditional aspects of librarianship which do not match and satiate the new research landscape currently obtaining in Zimbabwean universities. In the new research landscape libraries were expected to offer the following services among others as expressed by several scholars- Ford and Zeigen (2013); Rockman, Puckett and Bass, 2008; Richardson *et al.* (2012); Detlor and Lewis (2006); Chan (2004); Raju and Schoombee (2013); Corral, Kennan and Afzal (2013); Tise (2015):
 - i. Bibliometrics;
 - ii. research commons;
 - iii. research data management;
 - iv. collaboration/partnership with researchers;
 - v. digital collections;
 - vi. institutional repositories;
 - vii. research skills training;
 - viii. web services; and

- ix. excellent written and analytical skills.

From the list, it was established that libraries provided institutional repositories, web service such as 'Ask a librarian' and research skills training as services targeted towards researches. Other services offered by the libraries include availing information resources and literature searches.

3. Comparative analysis of the meta-claims revealed that there was a gap in both policy documents and practice in the recognition of researchers as distinct constituency served by the library. Mission documents were not explicit about researchers as a distinctive group. It was also discovered that in practice librarians just offer services to all constituencies as one package. They made no distinction between the services for teaching, and learning and those for research. This arrangement has resulted in services being skewed in favour of teaching and learning through acts of omission and commission. Unconvincingly, Faculty Librarians attempted to sanitise this by claiming that they were following their mission statements which emphasise teaching and learning.
4. Conceptualising research support as embedding, partnering and providing new and expanded services to researchers was not fully appreciated by many of the libraries. Only library UL01 demonstrated the new conceptualisation by creating new structures and enacting policies germane to research support. Most of the libraries concentrating and emphasising provision of resources and facilitation of access to information. New understanding of research support means working with researchers throughout the entire research lifecycle, including advising on rights issues, helping create and implement data management plans, and providing guidance on digital research tools and methodologies.
5. Competence in the delivery of service is one of the values espoused by most of the libraries, but this was not properly addressed in practice as librarians lack the skills and knowledge needed to work with researchers. Management in various libraries regard their staff as competent enough to deal with researchers simply because the librarians were holders of library and information science degrees. However, this contradicts what practising librarians experienced as they did not have the requisite skills needed to support researchers. Many of the Faculty Librarians lacked subject knowledge required to be in

partnership with researchers. They also lacked knowledge of the research methods, research data management and bibliometrics.

6. Inconsistencies among the actions in the delivery of information literacy were reported by librarians. Although information literacy training skills training course was promoted in mission documents as an important service to researchers to develop them into independent learners, its teaching in practice varied, uncoordinated, shortened and at times conflated with library instruction. Some Faculty Librarians in different university libraries offered it on one on basis, some as a for-credit course, and in groups with no examination at the end.
7. Collaboration is heralded in espoused documents as an important cog of research support in an environment characterised by budget cuts and shortage of manpower. It was discovered that all the libraries were in collaboration of some kind, however a major hiatus was noticed in practice as collaboration was limited to partnering with organisation and departments within the institution. Such efforts ceased to be sufficient in meeting the needs of the researchers given the modern research environment. No librarians were found to be collaborating with researchers as required in the new conceptualisation of research support where librarians are expected to embed and partner, researchers in their research projects. According to (Monroe-Gulick, O'Brien and White 2013:384) the concept of being a partner was interpreted as not only helping researchers succeed in completing and disseminating their research, but also contributing to actual knowledge creation using the specialised knowledge and skills which librarians possess. It means working with researchers throughout the entire research lifecycle, including advising on rights issues, helping create and implement data management plans, and providing guidance on digital research tools and methodologies.
8. A disjunction was also observed between the espoused importance of technology as a major influence in meeting the needs of researches and the use of technology in the practice of research support. In as much as the librarians praise the technology for making their work easier, paradoxically, they complain about researchers as being adult learners who struggle to use technology. In the end, the technological use becomes limited by lack of uptake by researchers.

9. A disconnect was realised in some libraries where system librarians were responsible for research support which did not have subject librarians on the ground yet in strategic documents subject librarians are heralded as the most competent to offer research support in faculties.

6.3.3 Reasons for the incongruence between espoused theories and theories-in-use

When confronted with difficult situations people often do not act in congruence with their espoused theories (Federman 2006). From the examination of eight university libraries, it was established that librarians face barriers that contribute to incongruence between espoused theories and theories-in-use of research support. These barriers were found to be both at institutional and individual levels. At institutional level librarians interviewed point to “shortage of finances”, “limited support infrastructure”, “lack of policies”, “lack of support from parent institutions”, as well as “heavy workloads” emerging from “shortage of qualified staff”. At individual level librarians lacked skills needed to support researchers. Both levels of barriers are explained below.

▪ Funding

Libraries used various language to express funding as a major hindrance to effective research support initiatives. Statements like “budget constrains” (UL02), “economic recession” (UL05), “downturn in economic progression” (UL05), “low budget” (UL01), “money is not enough” (UL04) and “financial challenges” (UL03, UL04, UL07 and UL08) were recorded. Librarians felt that without money it was impossible to discharge and plan for research support. For example, one librarian from UL08 stated, “there is not much when it comes to research ... because without money you can’t talk of research, you can’t plan and you can’t implement.” This discovery supports the findings of Namuleme and Kanzira (2015) who examined the challenges and opportunities associated with the provision of research support services among librarians of the Consortium of Uganda University Libraries (CUUL) and discovered that library budgetary cuts, coupled with the inflationary cost of e-resources, have hindered research support services in academic libraries.

▪ Shortage of staff

“Heavy workloads” resulting from “shortage of manpower” emerged to be a key challenge across the libraries with respect to research support in these institutions. Librarians mentioned that the work is “overwhelming” due to “staff shortage” (UL07) and others noted that they

“require more staff” (UL05), “not adequately staffed” (UL06) and have “limited human capital” (UL02). This confirms what Pasipamire (2015) who noted that practising librarians face many challenges regarding the enormous size of the student bodies, lack of support from parent institutions and financial constraints. In this regard, one librarian from UL06 noted, “We are not adequately staffed to deal with researchers, first we have a shortage of manpower and then another issue is that of skills.”

▪ **Time**

It was also discovered that librarians practising research support faced the challenge of time allocation which was aggravated by the absence of an institutional policy that makes it mandatory for librarians to have specific schedules for meeting and delivering services to researchers. The language of researchers was telling: “not on the timetable” UL01; “don’t have enough time allocated” (UL06) and failed to “get adequate time” (UL03, the time is very minimum” (UL02). This challenge was presented as needing top level management to solve as one librarian raised:

“It is a challenge that needs to be dealt with at a higher level. You may not get the adequate time that we need for example when we want to do ILS training. The curricula here is such that we are not on the timetable. We rely on the beneficence of the communication skills lecturers who provide us with time in their lectures.”

In the same vein, librarians felt like they were “serving two offices” (UL07) due work overload which meant that “we don’t have enough time...” UL07 to focus on researchers. This was attributed to lack of a governing policy: “I think it is because we don’t have a policy to say librarians should be involved in this or that.” In this setup, “balancing faculty and other duties becomes challenging” (UL08). In the same breadth, librarians were also worried that they were incapacitated in terms of discharging research support.

▪ **Infrastructure**

Lack of facilities needed to support researchers was also another common challenge acknowledged by practising librarians. For effective service delivery, librarians needed space and related infrastructure to hold “ILS training sessions” and “conduct workshops.” In addition, librarians also needed technological tools like reference management software and computers so as to meet the “international best practices” in research support. From the interviews that

were held, statements like; “we don’t have training rooms” (UL03), “the biggest ... we don’t have training facilities” (UL04), “we have two intakes, but the space is not increasing” (UL01), “lack of appropriate technology and resources,” and “lack of adequate space” (UL08) emerged from almost all the libraries. This dovetails with Namuleme and Kanzira (2015) who observed that inadequate infrastructure and ICTs are a major challenge to providing research support services.

▪ **Lack of management support**

Librarians also felt that they were not receiving a fair share of attention from management and administration. Statements like “they don’t support” (UL04), “the library survives as an island” (UL07), “lack of support from university management” (UL08, UL02), “administrators don’t accept change” (UL06) pointed to the fact that practicing librarians were more worried and were affected by this lack of support and cooperation from management. One librarian exclaimed over lack of support from management in terms of professional development:

“The university seems to prioritise academics when it comes to assisting members to go for (staff) development. You apply for money to go and do a PhD you are told priority is given to academics, that alone shows that the university is not serious about the library.”

▪ **Absence of enabling policy**

The absence of a supportive policy that defines the way research support is supposed to be discharged in a fast-changing research environment put librarians in a quandary. The challenges emerging from lack of policies ranged from “unclear roles and responsibilities” and “job specifications (where) you can’t change anything” (UL05) where one librarian bemoaned: “we don’t have a policy to say librarians should be involved in this or that” (UL07). It was mentioned that “policy wise or strategic wise the library itself doesn’t seem to be positioning itself well because it’s not even talked about” (UL04). This absence of policy that speaks directly to research support puts everything in a quandary as one librarian expressed: “absence of a research support policy ... everything becomes very unclear” (UL08). Explaining the depth of the challenge, one librarian said, “some of the things that we do are a result of our own initiatives and not that they are written somewhere, so even if we don’t do them, nobody is going to make a follow up to say you did not do ABCD” (UL08).

At individual level, it was established that librarians lack the skills needed to support researchers. Librarians indicated the “need to upgrade” (UL05) themselves and the “need to

enhance some other skills” (UL03) to be able to offer full-fledged support for researchers. In this regard, one library head noted, “... another issue is that of skills, here at the library I can say that I am the only person with a master’s degree” (UL06). It emerged that due to lack of skilled personnel in the library, the systems librarian had taken the centre stage in discharging research support at UL06 with other librarians focusing on other traditional responsibilities like cataloguing and classification of library materials. Faculty/subject librarian also bemoan lack of knowledge and expertise in the areas they support notwithstanding the fact that they were holders of MSc LIS. In the same manner, Namuleme and Kanzira (2015) concluded that lack of skills was one of the serious issues incumbering the discharge of upstream research support in academic libraries in Uganda.

6.4 Disconfirming experiences and dilemmas in practice of research support

In the practice of research support, librarians expressed several disconfirming experiences which challenge their sense of competence in the new research environment characterised by e-science, generation of vast amount of research data, and new modes of knowledge production. The disconfirming experiences are discussed below.

6.4.1 Researchers expect librarians to do research for them

In practice, it was discovered that researchers expect librarians to do research for them as one librarian from UL05 expressed:

“Sometimes the researcher comes to you with a topic and the researcher would want you to actually do, probably read the whole article and give them a summary of the article, we have incidences of that where the researcher would say, retrieve an article for me, read it and give me a summary report of the article.”

Another librarian noted “when you try to teach a user on how to find the desired information, but the user insists on wanting me to find the information for them.”. This was also succinctly put by another librarian who appeared to complain, “Researchers want research done for them”.

Fascinatingly, the demands from researches for librarians to be involved in the actual research is the what is expected of librarians in new research landscape where research support is conceptualised as embedding and partnering with researchers upstream. However, this becomes a dilemma as librarians felt that they were “...overlapping in other fields.” (UL01; UL03). Librarians claim that they were not researchers for them to involved in actual research.

One Head Librarian noted that librarians don't need to go much into research, "Well some of the advice we give our librarians before they think of collaborating and partner with researchers, is to let them know, this one you don't need to become too much of a researcher though it's professional responsibility" UL05. Knowing e-resources was regarded as enough to assist researchers:

"Once you know for example the e-resources that are useful for each faculty and that is why the electronic resources here I try to segregate them, divide them you should know the electronic resources in your faculty, be familiar with them. If you are not familiar with them you will not be able to assist people who will want to use them."

6.4.2 Researchers struggle to grasp skills

There has been increasing emphasis on information literacy- the ability to recognise when information is needed and have the capacity locate, evaluate and use it effectively the needed information (Dale, Holland and Mathews 2006). It also emerged that researchers fail to grasp skills taught by librarians in various trainings. This challenge was discovered on four of the eight cases (UL04; UL02; UL03; UL01). One librarian noted that "... they will say of course we have been getting training but it's not enough, can you come, and you find that you will be orienting the same person repeatedly" (UL02). Another librarian elaborated: "... I think there is still much to be done concerning the use of this thing, it's you who is supposed to do the work for them, if you say go and do this they come back again, how can I do this, I can't find it I think I don't know, is it that they don't know? I just don't know!" (UL03). Yet another librarian bemoaned:

"We have some challenges with researchers there, I am not sure if its correct to say they don't want to use e-resources or they need more training or the training that they have is not enough. Even after training they still come to say, 'I am not sure how to go about this, how do I access this' even though we would have trained them" (UL01).

Lack of pedagogical skills to teach researchers is one of the possible and plausible reasons why researchers were not able to grasp skills. And the fact that information literacy skills training was said to be done in an unscheduled, varied and uncoordinated manner meant that librarians did not have enough time and space to help researchers gain the requisite skills. Increasingly it was not sufficient for librarians to train students in use of library resources but have a real understanding of the pedagogy teaching (Dale, Holland, and Mathews 2006).

6.4.3 Librarians suffer negative perception

Librarians also suffer negative perception from researchers (UL03; UL04; UL01). Statements such as “researchers looking down upon librarians,” UL02; UL03; “scepticism about the abilities of the librarians in carrying out research” UL05 were quite telling. This was elaborated by one librarian:

“Just to comment on the surface, at times the research unit organises workshops that are into research and you would want to register yourself to attend the workshops realising that this makes sense ... But you are told ‘this workshop was meant for academics, we will see if there is space and we will slot you at the end’ ... You feel like you are begging to say I also want to be part of this, but you know your responsibilities and expectations, they will not understand that” (UL04).

Developing skills and knowledge outside the traditional librarianship skills is critical for librarians to improve their image to researchers and to provide support in an effective manner. As noted in ARL Strategic Plan 2010-2012 (ARL 2010), there is a need for librarians to acquire new skills in relation to scholarship, particularly e-scholarship (or e-science).

6.4.4 Research units usurp and undermine libraries’ role in research support

Due to the changing research landscape, other players within universities were also providing support to researchers and this has resulted in players usurping each other’s roles to be visible and valuable. Commenting on the relationship between the library and the research office one librarian noted, “I would say that there is a bit of conflict of responsibilities, there are people in these units who want to take duties and responsibilities of the library.” UL06. This was echoed by another “we are noticing that kind of tension between that unit and the library. I remember at one time I applied for a research grant so that I could run a workshop and the response was, ‘what you want to do is the responsibility of the research unit’ and there was nothing I could do about it.”

6.4.5 Outdated policies

Another dilemma librarians faced was working with outdated policies. This view was summarised by one librarian who noted:

“We sometimes face challenges with clients where you will be challenged to say no this is not practical, ... but we should defend the policy, but you will be knowing that you are defending something that is not defensible because it’s now old. So sometimes you just justify things that are just unjustifiable because you have to support the policy.”

6.4.6 Poor attendance in training

Another disconfirming experience expressed was poor attendance in training by researchers. Half of the libraries raised the issue of poor attendance. Attendance apathy was seen in workshops as one librarian noted “At times, you call for a training seminar or a workshop, you get low attendance” (UL05). One librarian said, “I have tried to organise some trainings before for the staff in the faculty because some of them say “we don’t even know how to access those databases ... but you find out that the turnout is very low” (UL03). Poor attendance was also experienced information literacy training (UL05, UL07, UL04). “Poor attendance by researchers in information literacy training sessions and e-resources training” (UL07). According to MacColl and Jubb (2011:3) academic staff and researchers are time-poor; they begrudge any time spent on activity which seems to them to serve an administrative need, they see their job as to perform research not be in class. This was also exacerbated by the absence of an enabling policy that makes it mandatory for researchers to attend training crucial to acquire lifelong skills.

6.4.7 Resistance from researchers

Libraries used institutional repository (IR) as a vehicle to support researchers and research at the institution. It appeared librarians faced resistance in their attempt to capture the end-product of scholarship. In making such efforts, the libraries faced resistance as one librarian put:

“There are so many concerns that researchers have towards the deposition of articles for example, copyright infringement to say if I deposit my article wont publishers follow me and sue me? There is an element of mistrust again to say if I deposit my paper without publishing it formally someone is going to steal my idea. Another concern is the issue of benefit, what is it for me if I deposit? Do we have incentives? For example, the university can say if you deposit your articles with the IR those articles should be considered for tenure” (UL06).

Librarians claim that researchers expect financial gain from their works:

“Very limited support from researchers who expect financial gain from depositing their research output into the IR and a result the library is failing to be effective. ...third world researchers want money for their research and would not accept offering it as a service to the community” (UL08).

These findings support Kroll and Forsman (2010:5) who found that the new areas of mission for libraries seems at best orthogonal, and at worst irrelevant, to the support needs of researchers. This explains why researchers had little interest in the support services libraries

have built for them in recent years as noted by (MacColl and Jubb's 2011:3). To researchers, services such as institutional repositories serve an administrative need, as far as researchers are concerned, since they lack any essential motivation to deposit their research outputs in them (MacColl and Jubb 2011:3).

6.4.8 Research staff project a self-sufficient image

Condescending behaviour from researchers who think they know everything was also seen as a disconfirming experience. Librarians report "that researchers no longer come to the library" for services (UL08). The reason for not coming being, "researchers think they know everything and librarians cannot provide any help ..." (UL04). This was reverberated by another librarian, "researchers think that they are more knowledgeable" (UL06). Some librarians think that it is an ego issue, "there are those who think that librarians are academic support staff who cannot teach academics staff members- can we have professor so and so come and sit down and we demonstrate ... so probably it is an issue of egos, that is the challenge we face" (UL02).

However, researchers appear to have no perception of the huge internal transformation most libraries have undergone (Kroll and Forsman 2010). A study by OCLC (2014: 51) found that the library brand remains firmly grounded as the "book" brand. This may very well explain why researchers are sceptical and not interested in the services of the library. As noted by Dale, Holland, and Mathews (2006) librarians should learn to articulate their services in terms of the benefits for the teaching and research staff community. There is evidently a need for more marketing of the services that librarians can offer outside the perceived traditional services on offer. In this regard librarians needs to develop, marketing skills to better promote research services on offer with an awareness of effective marketing strategies.

6.5 Reflective Learning strategies to deal with disconfirming experiences

As revealed in the section above, research support librarians encountered a slew of disconfirming experiences which challenge their sense of competencies. Among these were low turnout in training, negative perception from researchers, other units arrogate themselves the roles of the library. To remain viable in an environment characterized by uncertainty and change, organisations and individuals alike depend upon abilities to learn (Edmondson and Moingeon,1998). According to Smith (1983:51), the identification of a problem, a disconfirming experience and a challenge to our sense of competence, is a powerful and essential stimulus for learning.

The Theory of Action- espoused theories and theories-in-use provides single loop and double loop learning strategies as corrective measures. From the eight libraries investigated, it was established that majority of librarians practising research support use single loop learning strategy. In this strategy, governing values and variables “I achieve my goals and purpose as stated” received the most scores [22] from librarians, followed by “Emphasise rationality” [17] and “Suppress negative feelings” [16] were popular among librarians. Win do lose was the least popular governing variable with single digit score of 9.

It was discovered that very few librarians use the double loop learning strategy in practice of research support. Governing values and variable that received highest scores under this learning strategy were “Maximise valid information” [16] and “Share power with anyone who has competence and who is relevant” [15]. Tables 6.12 provides a comprehensive picture of the governing variables used by librarians.

Table 6.12: Governing variables and variables used by practising librarians

Reflective Strategies	Model	Governing Values/Variables	Frequency								Total
			UL01	UL02	UL03	UL04	UL05	UL06	UL07	UL08	
			(n=5)	(n=1)	(n=4)	(n=6)	(n=5)	(n=1)	(n=2)	(n=5)	N=29
Single Loop	Model 1	I achieve my goals and purpose as stated	1	0	4	6	5	1	2	3	22
		Win do not lose	1	0	4	5	2	1	0	0	9
		Suppress negative feelings	1	1	4	3	4	1	1	1	16
		Emphasize rationality	1	0	3	4	3	1	0	5	17
Double Loop	Model 2	Share power with anyone who has competence and who is relevant	3	0	1	4	5	0	0	2	15
		Definition of task control over the environment is shared with the relevant others	2	0	0	2	1	0	0	2	7
		Maximise valid information	2	1	2	1	2	1	2	4	16
		Have high internal commitment to the choice and constant monitoring of its implementation	0	0	1	4	2	0	0	3	10

Source: field data (2017)

Faced with challenges and disconfirming experiences, librarians were emphasising “achieving their goals as defined” and “suppress negative feelings”. This approach prevents librarians from becoming aware and from learning beyond the confines of their theories-in-use. They were unlikely to do “frame-breaking” to question their impact on their effectiveness. According to Kerr (2010:48) in Single Loop Learning strategy “policies, values and missions are taken for granted and the emphasis is on techniques and making techniques more efficient”. For example, in the face of disconfirming experiences such as “resistance from researchers” and “lack of scheduled time to meet with researchers”, librarians, based on the analysis, may “suppress negative feelings” and “emphasise rationality” instead of making any efforts to question their goals and policies as advocated by the Double Loop Learning strategy.

The incongruences that exist between conceptualisation and practice of research support were also attributed to the Single Loop Learning strategy which prevents librarians from learning beyond the confines of their theories-in-use. Governing variables of Single Loop Learning strategy do not promote actualisation of the two theories to see if the practice is aligned to the espoused theories. For example, it was discovered that there was a gap between espoused support for research in mission statements and the services offered to researchers. Most of the services were biased towards teaching and learning. In the “double looping” librarians reflect not only on whether the theory-in-use is effective (as in accomplishing goals), but also whether the theory-in-use is compartmentalised from espoused theory when there are inconsistencies (Federman 2006). Double loop learning tends to be open to possibilities for change in behaviour that may result from that testing (Kerr 2010:47). It therefore be concluded in confidence that this lack of double loop learning contributed to the ineffectiveness of librarians in support of researchers.

6.6 Summary of the chapter

Meta-analysis chapter detailed the aggregated findings of the nature of the relationship between conceptualisation and practice of research support. Statements of meta-claims that were contrived after a thorough cross-case comparative analysis of initial claims were presented. The meta-claims developed for conceptualisation of research support addressed three sub-areas, namely support given to the parent institution by the libraries, goals of the library and definitions of research support. Meta-claims contrived for practice addressed services for research support, the research lifecycle and research support models. Comparison between conceptualisation and practice research support meta-claims revealed several congruences and

incongruences which helped to explain why librarians were not being effective in support of researchers. The chapter revealed that librarians from the eight libraries encountered several disconfirming experiences ranging from low attendance in trainings to antiquated policies due to constant changes occurring in institutions of higher learning. It was discovered that they dealt with these unusual experiences using the Single Loop Learning Strategy which emphasises the technical environment under which research support is practised without questioning the goals, values and policies that affect the practice.

CHAPTER 7

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.0 Introduction

This chapter closes the study by taking a retrospective assessment of the whole process to determine whether the aim of the study and the set objectives were achieved. To this end, the chapter begins by a recapitulation of the purpose of the study, research questions, summaries of all the previous chapters together with the main findings for the purposes of convenience, linkages and easy of reference. The chapter then proceeds to make conclusions about the research questions and the problem that prompted the study. It goes further to make recommendations to Zimbabwean university libraries based on the findings and conclusions of the study. Most importantly it looks at the contribution made by this study in terms of policy, practice and theory. The chapter ends by proposing areas for further investigation.

7.1 Purpose of the study and research questions

The purpose of the study was to examine and gain some insight into the nature of the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. This was muted after realising that librarians practising research support were struggling to make a positive impact on the scholarly work of researchers as they were not visible in the scholarly orbit of researchers. This situation was attributed to the way librarians conceptualised, practiced research support and the nature of the relationship between espoused in mission documents and practice. There was a call for librarians to change and re-conceptualise their roles and responsibilities with changing trends in higher education; to move away from ‘life support’. If this scenario was to continue unabated, libraries risked irrelevance in the lives of researchers who are one of most important constituency of any university library. To this end, the study was able decipher how research support was conceptualised, how it was practised and examined the nature of the relationship between the two using the following research questions:

- i. How is research support conceptually understood by librarians in Zimbabwean university libraries?
- ii. How is research support practised by librarians in Zimbabwean university libraries?

- iii. What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?
- iv. What are the disconfirming experiences and dilemmas faced by librarians in the practice of research support?
- v. What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support?

7.2 Summary of chapters

In this section, a panoramic view of all the previous chapters of the study and their contribution to the overall research process is presented in chronological order.

The first chapter provided the prologue to the study of conceptualisation and practice of research support. It presented the background to the study by focusing on the historical, contextual and the theoretical aspect of research support a subject. It also provided the background to the problem which revealed the triggers of the study and their manifestation in practice, literature and policy. This was followed by the statement of the problem which stated what was wrong in the practice of research support in institutions of higher learning in Zimbabwe. Objectives and research questions that provide milestones and direction to the study were listed. A brief overview of the theoretical framework (Theory of Action) that informed the objectives was provided. Justification of the need to embark on this study was also provided. This was followed by a definition of terms to aid understanding of how certain core terms are used in the study. The chapter closed by providing the methodology which is grounded in the interpretivist approach.

Chapter 2 discussed the theoretical framework of the study; Theory of Action: Espoused Theory and Theories-in-use. The chapter also discussed other relevant theories in the study of professional practice namely the Theory of Reflection-in-Action and Transformative Learning Theory. However, the study did not adopt these for various reasons among them their emphasis on individual as opposed to the system. To this end, the study chose the Theory of Action for its explanatory power in describing the causes, conditions and variables that lead professionals to be effective or ineffective through its constructs namely theories-in-use, espoused theories, relationship between theories-in-use and espoused theories and learning strategies. Previous scholars who employed Theory of Action praise it for explanatory power to the full story through comparing espoused beliefs of action with observed practice. In this study, the Theory of Action helped to develop the conceptual framework for the study.

The literature review chapter confirmed the fogginess of the concept research support. It revealed debates in literature regarding the roles and responsibilities librarians must take in the new research and educational landscape. The research life cycle provided insight of the stages where services of the academic library were required. Services for research support were identified as bibliometrics, research commons, research data management, collaboration and partnership, digital collections, institutional repositories, research skills training among others. The literature identified the approaches used by librarians in supporting researchers viz traditional, modern and other alternative approaches and within these approaches there are multiple models that can be employed. Academic libraries compete with other units in institutions of higher learning such as copyright office and research office to support the needs of researchers. Reviewed literature validated the point that mission statements and strategic plans are conveyors of institutional values and beliefs and are useful for establishing espoused theories while research support services can act as theories-in-use. The review also showed that literature on research support is biased towards western and other developed countries. In Africa, South Africa has given more on research support compared to other countries including Zimbabwe. Literature reviewed also proved that librarians are still clinging to the traditional functions and services in support of researchers. From the literature accessed, no study was found to have addressed the research support services being offered by librarians and their relationship with the mission and policies documents that inform them. Again, no study was found to have looked at whether there has been a mind shift from a supporter to a partner as suggested by the new understanding of what research support should be. The review also showed that there are no studies that looked at the relationship between espoused theories (mission statements; strategic documents) and theories-in-use (services) of research support. A gap this study attempted to fill.

Chapter 4 documented the methodological techniques employed in the study. It showed that the study adopted interpretivism as a research paradigm and qualitative method as the research design. The theoretical framework, problem and the research questions of the study informed the selection of the qualitative research design. Qualitative research design gives a chance of going into the subjects' life to make sense of their experiences. It provides an opportunity to understand the meaning librarians give to research support as one of their library services given that conceptual understanding is rooted in definitions and mental models ascribed to by librarians in support of research. Multi-case study design was preferred because of the existence of several similar phenomena under consideration, i.e., university libraries in

Zimbabwe. Multi-case study design was also chosen to increase credibility of the findings. Case study approach gave the opportunity of using various data sources and in this study interviews, questionnaires and document review were used. Interviews allowed the researcher to collect data for developing theories-in-use whilst document review allowed the researcher to determine espoused theories of research support from mission statements, strategic documents and policies. A qualitative questionnaire reflecting the services and approaches was distributed to librarians. A constant comparison method was employed to advance concepts and categories, and statements of claims from these multiple data sources. The study observed ethical issues to do with confidentiality, informed consent, data privacy, plagiarism among other issues.

Chapter 5 captured the results that were obtained from the investigation of eight university libraries. Presentation was done in such a way that each bounded case investigated stood with its own results to ensure a comprehensive detailing and description. Mission statements, strategic documents, and other relevant policies together with interviews from heads informed conceptualisation while questionnaires and interviews with librarians practising research support informed the practice. Several claims were developed from research support indicators in documents and interview scripts and these were supported by evidence from the data. A constant comparison method was used to establish the relationship between conceptualisation and practice within each case and several congruences and incongruences were discovered. In practice, librarians encountered several disconfirming experiences that challenge their sense of competence in their practice of research support and it was further established that the librarian dealt with these disconfirming experiences using single loop learning strategy that did not encourage interrogation of goals and policies that inform practice.

The meta-analysis chapter detailed and discussed the aggregated findings of the various cases investigated. It started by discussing how research support was conceptualised by various libraries using meta-claims that were contrived during the process of meta-analysis. These meta-claims addressed three sub-areas, namely support given to the parent institution by the libraries, goals of the library and definitions of research support. A presentation and discussion of how research support was being practised followed and meta claims that were contrived addressed research support services, research lifecycle and research support models among other kindred issues. The relationship between meta claims of conceptualisation and practice were scrutinised and deliberated. The process revealed several congruences and incongruences which helped to explain why research support librarians were not being effective to researchers.

The chapter further presented several disconfirming experiences ranging from low attendance in trainings to antiquated policies. The strategies that they used to deal with the disconfirming experiences were presented and discussed.

7.3 Overview of the findings

This study was carried out to examine the nature of the relationship between conceptualisation and practice of research support in Zimbabwean university libraries. This investigation was carried out guided by five research questions which are used in this section to summarise the findings of the study.

- *How is research support conceptually understood by librarians in Zimbabwean university libraries?*

The first research question sought to gain some insight into how research support was conceptually understood by librarians in Zimbabwean university libraries. To ascertain conceptualisation, mission statements, strategic goals and definitions of research support were scrutinised. From the findings, the coverage and language used in eight mission statements of the libraries investigated demonstrated that the parent institutions played an important role in shaping the direction and character of the support offered by libraries. A nexus between libraries and their parent institutions was discovered in all the mission statements as they stress and reflect the need to support the three core functions of the parent institution namely that of instructional, research and social responsibility.

Libraries were found to articulate a research support role within their parent institution. Research focused statements were found in all the eight library mission statements with statements such as “enhance scholarly research”, “support ... research activities”, “...support quality research”, “support...research needs” demonstrating a commitment to support the research needs of their institutions. From the investigated libraries, it was discovered that apart from being linked to the core functions and aspiration of the parent organisation, libraries, through their mission statements articulated the nature of support of the core pillars of their parent institutions. It was established that libraries support the research activities of their parent institutions through information provision. All the eight libraries were found to have information resources focused statements as part of their mission statements to promote their position in terms of the kind of organisations they are within their institution. Analysis of the mission statements established that a majority of the libraries did not identify researchers as a primary audience targeted to receive library support. From the eight mission statements only

one library (UL08) identified their primary targets as “staff and students”. Only two libraries used a semantically broad phrase “academic community” (UL05); “University community” (UL01) to capture their primary targets. Five (UL02; UL03; UL04; UL06; UL07) of the mission statements analysed are silent on primary targets.

A consolidation of the findings shows that there is a substantial amount of evidence that libraries articulate goals in support of research by significant emphasis on providing collections in form of books, electronic resources and other materials. Various services in support of researchers were identified in the eight libraries that were investigated in this study. Information literacy training and institution repository were found to be the most common services and facilities espoused by libraries in support of research and researchers (UL01; UL02; UL04; UL05; UL07). Data mining and marketing were the least espoused services in policy documents. Library UL02 and UL08 articulated such services respectively. Other services espoused for researchers included provision of resources, library orientation, reference services, provision of physical space for researchers and research skills training.

Libraries conceptualised research support as a collaborative initiative in two fronts. Firstly, libraries touted collaboration in training of researchers as one of their strategic goals. Collaboration in teaching and training researchers was espoused as part of Subject/Faculty Librarians’ responsibilities by UL04 and this training was done “... in conjunction with the institute of lifelong learning – Communication Skills department.” A similar arrangement was pronounced in UL05 which runs the ILS programme in collaboration with the “department of Computer Science and Information Systems in the smooth running of the programme.” Equally, the goal of UL02 was to maximise the impact of its research support efforts through “... partnership with other campus stakeholders ...” Secondly, libraries across cases were part of the Zimbabwe Universities Libraries Consortium (ZULC) in a collaborative arrangement to subscribe to quality electronic resources. UL04 boastfully stated that they subscribe and access “42 electronic databases through the Zimbabwe Universities Libraries Consortium (ZULC). One of the strategic goals for UL01 is “To establish and maintain linkages and partnerships for resource sharing.” In the same manner, UL08 espouses “Establishing links with other universities” to enhance resources for researchers. UL07 espouses the need to “Create sustainable linkages with key stakeholders in the community” and develop “collaborative programmes based on community needs.”

Libraries, through their policies, strategic documents and service charters espoused technological support to researchers. In this regard, UL02 the library through its strategic document espouse a dedicated room which “will be used by librarians for training ... on information skills literacy and other library related trainings” and “... will be fitted with computers, a projector and a projector screen.” UL02 provides “public workstations ... in the library to provide access to the Internet and electronic resources ... to facilitate research.” UL06 was much concerned with providing a “computers for research and internet ...” and planned to acquire “another photocopier,” “air conditioner” and “shelves” to cater for its research commons. UL02 espoused to “keep abreast in terms of technological tools like automated photocopiers, automated printing, self-circulation system, digital billboards” and felt these were ideal for supporting researchers. This is achieved through “Walk-in to OPAC PCs” and “Print-on demand services for electronic resources” available in the library.

Implicit in policy documents is the importance of professionally qualified, competent and skilled librarians in the discharge of research support duties. Reference is made in policy documents of the need for practitioners who hold “professional qualifications and skills that are relevant to the execution of their duties.” and who “... will display a high level of those qualities that are characteristic of trained and skilled people in the execution of their duties.”

A comparative analysis of concepts and themes identified in definitions suggests that there was varied understanding of research support as a concept. The definitions were found to be comparable in their linguistic treatment and they all articulate and reflect some traditional aspects and understanding of research support. Some defined research support as “assistance given to patrons when they are looking for information”; some as “training researchers” and some as “availing research materials” yet others as “sending personalised emails of databases/journals to different researchers based on their areas of interest.” Although these definitions were found to be different in expression, they all articulate and reflect some traditional aspects and conceptualisation of research support. Principally, research support was understood as training of researchers on information literacy skills, e-resources use, reference management and holding training workshops as well as building and availing research materials that suit research needs. These definitions appear to approbate the diversity of explanations given to research support in literature and that it is a broad and amorphous concept that include several issues within its boundaries.

- *How is research support practiced by librarians in Zimbabwean university libraries?*

Research support practice was determined by looking at the services offered to researchers on the continuum of the research life cycle, the research support models employed in practice and the environment under which research support was discharged by librarians. A comparative analysis of service around the research lifecycle across the eight cases revealed that librarians offer various services throughout the research orbit. At preparation stage “assistance in topic formulation” was indicated by UL01, UL02, and UL05. Service under gathering stage such as “information literacy training sessions, “e-resources training sessions” were common among all the cases (UL01, UL02, UL03, UL04, UL05, UL06, UL07, UL08) and “literature search” by (UL01, UL05, UL06). At creation only UL01 indicated that they offer research data management service. At sharing stage, all the cases “institutional repository” as a facility to showcase research output. At measurement stage, UL01 indicated helping researchers with publication counts and citation analysis. At commercialisation library website as a tool for research marketing was indicated by UL01, UL02, UL05, and UL08. Helping researchers with emerging technology was mentioned by UL02, UL03, UL01. Case UL01 was found to be exceptional as it offered services in all the stages of the life cycle from preparation to emerging technologies.

Librarians discharge their duties with the belief that the services for scientific research and other scholarly activities such as teaching, and learning are inextricably connected (UL03, UL04, UL01). The lack of separation had unavoidably resulted in the needs of researches being overlooked with services offered skewed in favour of teaching and learning (UL04, UL06; UL08). This was aptly put by one librarian: “we mainly focus on teaching and learning. If you really look at our services our services are concentrated on teaching and learning compared to research support.” UL04. Another attributed the prejudice to the mission statement “... I think that everything is aligned to teaching and learning and maybe we are just following what the mission statement says, to say to support teaching and learning ignoring the research aspect in the process” (UL06).

A preponderance of evidence collated from various cases points to the fact that in practice librarians were using various models of research support. The Resources and the Liaison were the two traditional models found to be the common in all libraries. Shared Services model was the only modern approach found to be popular with all libraries (UL01; UL02; UL03; UL04;

UL05; UL06; UL07 and UL08). Hybrid was discovered at one library (UL01). No library was found to follow the Engagement and Outsourcing models.

A critical comparative review of cases indicates that research support was practised in a collaborative environment. It was discovered that libraries work with other campus players such as “the research office” (UL01, UL06), “office of research and output” (UL05), “research board” (UL02, UL01), “Postgraduate research department” (UL01), and with other institutions “ZULC” (UL01, UL02, UL04, UL05, UL06, UL08). In one case, librarians felt that the research office was an “extension” to the library and they could not make it without the intervention of the research office. The importance of collaboration in the research support service delivery was felt when practising librarians lamented the “lack of collaboration” from other campus units like the research office (UL04, UL07).

The significance of specialisation was seen in practice where various services for researchers were coming from different departments within the library, with each department focusing on different areas of the research process. Notable departments that were mentioned by librarians include the IR department which among other things concentrated on “archiving and dissemination of institutional research output” and securing such related “rights to upload to open access research work from local researchers” (UL01, UL03, UL04, UL08); the Systems department which concentrated on issues to do with “anti-plagiarism”, “data analysis and citation software” (UL01, UL02, UL06); the faculty librarians or liaison who acted as intermediaries to information sources by “provision and facilitation of access to information” through “document delivery services”, “information literacy skills training” and “selective dissemination of information” to researchers (UL01, UL03, UL04, UL05, UL07, UL08).

Across the cases, librarians indicated their appreciation of technology as a critical enabler in supporting researchers. Statements like “enables remote access”, “untimely access” and “improved services” emerged to be common with librarians noting that the use of modern technologies had helped them reach out to researchers with no boundaries. For example, one librarian said, “We now have remote access where we can assist our researchers. Even when they are outside the campus they are not handicapped ... we are not limited by time or closure of the library” (UL01). In the same vein, one librarian from UL08 added that technologies “have made our work so much easy, for example, things like information literacy and e-resources training can be delivered online.”

- *What is the relationship between conceptualisation and practice of research support in Zimbabwean university libraries?*

A practice of a profession is subject to incongruences between espoused theories and theories-in-use, which can render professional practice ineffective (Argyris and Schön 1974). To this end, comparative analysis of the meta-claims of conceptualisation and practice revealed several congruences and incongruences that exist in the practice of research support. The following congruences were observed in the comparative analysis:

- i. There appeared to be congruence between espoused collections for researchers and the use of resources model in practice;
- ii. Elements of congruence were discovered between espoused services for researchers and the actual service recorded in practice;
- iii. There were instances of congruences among libraries on the definitions of research support as collections and training of researchers;
- iv. Multiple understanding of research support as a concept was reflected in the various models employed in practice;
- v. There was consonance on the use of Faculty/Subject Librarians as research support librarians across cases; and
- vi. Research support was found to be technologically driven in practice as well as in espoused mission documents.

It was also discovered from the comparative analysis that there were considerable contradictions, inconsistencies and major gaps between espoused theories and theories-in-use in the practice of research support as shown below:

1. A major gap was seen in the way services were being delivered by all libraries to their various constituencies and what the mission statements encapsulate in support.
2. The services provided to researchers were falling short of the expected ones in the new research landscape.
3. Understanding of research support as embedding, partnering and providing new and expanded services to researchers was not fully realised by many of the libraries.
4. Competence in the delivery of service was one of the values espoused by the majority of the libraries for research support not addressed in practice as librarians lack the skills and knowledge.

5. Inconsistencies and gaps in the delivery of information literacy were reported by librarians.
6. Collaboration was heralded in espoused documents as an important cog of research support in an environment characterised by budget cuts and shortage of personpower.
7. A disjunction between the espoused importance of technology as a driving force in meeting the needs of researches and the actual use and benefits of technology in the practice of research support was discovered.
8. Comparative analysis of the meta-claims revealed that there was a gap in both policy documents and practice in the recognition of researchers as a distinct constituency served by the library.
9. A disconnect was realised in some libraries where system librarians were responsible for research support in two libraries which did not have subject librarians on the ground yet in strategic documents subject librarians are heralded as the most competent to offer research support in faculties.

▪ *What are the disconfirming experiences encountered by librarians in practice?*

Consolidated findings show that librarians faced several disconfirming experiences that challenge their sense of competence in the new research landscape characterised by e-science, generation of vast amount of research data, and new modes of knowledge production. The disconfirming experiences are listed below:

- i. Researchers expect librarians to do research for them;
- ii. Researchers struggle to grasp skills;
- iii. Librarians suffer negative perception;
- iv. Research units usurping library roles;
- v. Poor attendance in training by researchers;
- vi. Resistance from researchers; and
- vii. Research staff project a self-sufficient image.

▪ *What corrective reflective strategies are employed by librarians to deal with challenges experienced in research support?*

From the eight libraries investigated it was established that the majority of librarians practicing research support use the Single Loop Learning strategy. In this Strategy, governing value 'I

achieve my goals and purpose as stated' received the most scores [22] from librarians, followed by 'Emphasise rationality' [17] and 'Suppress negative feelings' [16]. 'Win do not lose' was the least with single digit score of 9. Faced with challenges and disconfirming experiences, librarians are likely to emphasise and uphold 'achieving their goals as defined' and 'suppress negative feelings' as their governing variables.

It was discovered that not many librarians use the double loop learning strategy in practice of research support. Governing values that received highest scores under this model are "Maximise valid information" [16] and "Share power with anyone who has competence and who is relevant" [15]. This learning strategy promotes interrogation of policies, values and goals to establish if they are still relevant to practice.

7.4 Conclusions of the study

This section presents several conclusions derived from the findings of the study according to the outline of the objectives of the study.

7.4.1 Conclusions about conceptualisation of research support

From all the ascertainable indicators, the study concludes, in confidence, that research support was consistently conceptualised within a traditional functional framework of librarianship across all the cases. Libraries were found to espouse information provision as a means to support research as demonstrated in mission statements and strategic goals across all libraries. This conceptualisation was further buttressed by definitions attributed to research support. Librarians defined research support as provision of access to information and training of researchers. Availing of information and training of researchers falls short under the prevailing research landscape which requires more than an informational support role to meet the needs of researchers. It was also inferred that libraries were also ineffective because they failed to identify and recognise researchers as primary service targets notwithstanding the fact that they articulate mission statements that recognise research as one of the core functions of the university that needs library support. This failure has given leeway to practising librarians to provide services to their constituency as one package and leave researchers to ascertain how these services can be of benefit to their research needs. Service such as information literacy and provision of information resources which were also critical for teaching and learning were appropriated by librarians as services for researchers when asked. These services created an *ignis fatuus* (deceptive appearance) that librarians were providing services for both research, teaching and learning in equal measure when in actual fact these services were inclined to one

user group. It is therefore hardly surprising that, to librarians, research support entails training and provision of resources to researchers. These services were conveniently used to hide the skewed services in favour teaching and learning. Libraries conceptualised research support within a collaborative environment where efforts from other players within and outside of their institutions were required to offset the shortcomings of the libraries. It can also be concluded that librarians turned to collaboration because they lacked skills, and knowledge, lacked a good staff compliment and financial resources for libraries. This arrangement vindicated and demonstrated the point that librarians were not fully equipped to deal with needs of researchers, hence, the in-effectiveness in practice.

7.4.2 Conclusions about research support practice

It can be concluded that librarians in Zimbabwean universities practised research support predominantly through traditional approaches. With respect to research support models, librarians were found to discharge their duties using the Resource Model, Liaison Model and Shared Services Model. As a result, the study deduced that librarians were not being effective to the needs of researchers because they focused on provision of resources using the resource model and teaching of information literacy using the liaison model. The Shared Service Model was used to facilitate collaboration with other departments and institution to buttress the Resource and Liaison models in ensuring resource availability as well as to improve the quality of training offered to researchers. It can also be deduced that services and facilities that are offered by libraries are concentrated at the beginning and at the end of the research life cycle. Information literacy and literature searches were common services to all libraries at gathering stage and institutional repository was a common facility at sharing stages of the research life cycle. Lack of visibility by librarians at idea generation, creation and measurement stages of the research orbit put them at the periphery of knowledge production and therefore rendering them ineffective in supporting researchers. It can also be concluded that lack of separation of service offered to research, teaching and learning by libraries, in practice, contributed to the ineffectiveness as services for researchers can be easily overlooked under such an arrangement. Services such as information literacy and availing resources apply to both research, teaching, and learning and it becomes difficult for researchers to claim such services as theirs. Librarians admitted that their services were skewed in favour of teaching and learning and they reasoned that there are no visible researchers to support.

7.4.3 Conclusions about relationship between conceptualisation and practice of research support

Even though several congruences were recorded between espoused theories and theories in use which, according to Argyris, promotes effectiveness in professional practice, the study concludes that libraries were being ineffective primarily because librarians still conceptualised and practised research support from a traditional view point. The libraries emphasised on the provision of resources and materials, information literacy skills training, book acquisitions and reference services as means to support researchers in the new research environment. These efforts were not only inadequate, but were rather falling short in meeting and matching the modern research landscape where research support was conceptualised as partnering and collaborating, undertaking research, working outside the library and spending time in departments. Argyris and Schön as noted by Kerr (2010) caution that there is little virtue in congruence alone since congruence between an inadequate espoused theory and a theory-in-use is useless. Librarians attested to the fact that they were being ineffective to researchers as evidenced by lack of interests on the part of researchers. The study further inferred that the failure by librarians to introduce the Engagement and Hybrid models which emphasise partnering, collaboration, new structure, new post was caused by among other challenges lack of financial resources, skills and knowledge.

The study also concludes that incongruences that were discovered between conceptualisation and the actual practice of research support directly contributed to the ineffectiveness of research support. Argyris and Schön (1974) make the point that a practice of a profession is subject to incongruences between espoused theories and theories-in-use, which can render a professional practice ineffective. The study found that services articulated in mission documents were not fully realised in practice. The study found a gap as new and expanded services for research support such as bibliometrics and data management were yet to be incorporated in libraries. The study concludes that a majority of the libraries did not have subject/faculty librarians with the necessary subject knowledge in the discipline they support despite an appreciation of competent staff in policy documents. The study concludes that the collaborative environment was not ideal to meet the needs of researchers. The call was for librarians to collaborate with researchers in their projects and intellectual discoveries so that they play a central role in the knowledge production spectrum. Some libraries did not have subject librarians as espoused in policy documents. They gave the systems librarian the responsibility of discharging research support in a library environment where information skills are paramount, making it difficult

for the library to be effective in support of researchers. The study also concludes that the failure by management to see lack of skills and lack of relevant policies as albatrosses to the delivery of support to researchers was a contributory factor to the ineffectiveness. The study also concludes that incongruence between conceptualisation and practice of research support was caused by shortage of finances, lack of time, limited support infrastructure, lack of enabling policies, lack of support from management, as well as heavy workloads emerging from a shortage of qualified staff and lack of skills.

From the examination of the cases, it was established that incongruence between espoused theories and theories-in-use of research support was caused by barriers. These barriers were found to be both at institutional and individual levels. At institutional level librarians interviewed point to “shortage of finances”, “limited support infrastructure”, “lack of policies”, “lack of support from parent institutions”, as well as “heavy workloads” emerging from “shortage of qualified staff”. At individual level, lack of skills was discovered to be the main barrier.

7.4.4 Conclusions about disconfirming experiences and dilemmas in practice

The study concludes that several disconfirming experiences encountered by librarians in practice were a testimony that librarians had not changed the way they conceptualised and practised research support and continue to barricade themselves in preconceived ideas of traditional support. Argyris and Schön (1974) believe that this kind of situation arises because practitioners tend to build theories-in-use that prevent them from seeing that they are not being effective, and they are not being relevant. Disconfirming experiences such as “researchers expecting librarians to do research for them”, “negative perception”; “research units usurping and undermining library roles”, “poor attendance in training”, “resistance from researchers”, demonstrated that librarians were not effective in support of researchers.

7.4.5 Conclusions about reflective learning strategies

The study concludes that the Single Loop Learning strategy used to deal with disconfirming experiences was responsible for the lack of a paradigm shift in conceptualisation and practice of research support. This has resulted in slow reaction to changes occurring in their environments. For example, the tendency to “achieve the goals as stated” and the propensity to “suppress negative feelings” without interrogating whether the practice is still relevant to needs of researchers go against the dictum that libraries are growing and learning organisms. Professionals who use Single Loop Learning strategy have little or no chance of being effective.

In the face of disconfirming experiences such as “resistance from researchers” and “lack of scheduled time to meet with researchers”, librarians, based on the analysis, may “suppress negative feelings” and “emphasise rationality” instead of making any efforts to question their goals and policies as encouraged by the Double Loop Learning Model. According to Argyris and Schön (1974:97) deep reflection on espoused theories and theories-in-use should provide valid information which makes dilemmas recognisable for correction.

7.5 Overall conclusion

The purpose of the study was to examine and gain insights into the nature of the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. This aim was successfully achieved as the study discovered that libraries were ineffective in research support of researchers because, firstly the research support as a concept and professional practice was traditional in nature as was seen in espoused documents, definitions and in practice. Put differently, the espoused theories of research support were found to be insufficient. Secondly, there were several instances of incongruences, gaps and inconsistencies between conceptualisation (espoused theories) and practice (theories-in-use) and among libraries. Thirdly librarians used governing variables and values that did not promote reflection in and on practice. Fourthly, librarians faced a slew of challenges among them lack funding.

7.6 Recommendations

The study offers the following recommendations to libraries based on the findings and conclusions of the study:

- **Mission statements**

Libraries should constantly revise, revamp and update their mission statements and [more so](#) that they reflect exigencies of the moment. A majority, if not all, of the mission statements had not been changed since their enactment when their institutions were established. Librarians who practised research support blamed their mission statements for their traditional approaches to research support (Chapter 6, section 6.2.2). They also blamed mission statements for biased services. Mission statements should capture service targets so that members of staff are guided accordingly in their execution of duties because it was established that researchers were being overlooked because they do not appear as service targets in mission statements. The study recommends that libraries develop mission statements with a high degree of specificity to ensure that all the salient issues are explicitly covered than inferred.

▪ **Strategic plans**

Libraries need to shorten the duration of their strategic plans from 5 to at least two to three years so as to truncate the period needed to achieve goals. The danger with long term goals is the risk of them being overtaken by events before they are even achieved in these fast-changing research and educational environments. Long terms goals also have the danger of making employees relax in achieving them for the benefit of clients. For example, one library espoused having faculty librarians in five years. Although it was a noble idea to have such a goal, the time to achieve this goal was relatively too long while researchers remain neglected.

▪ **Staff development**

In a service industry such as libraries, staff members represent the organisation at the point of need. Library service quality cannot be separated from those who deliver the service (Snoj and Petermanec 2001). As such, when offering research support, research support librarians are the greatest intellectual asset and they need to be competent to ensure satisfactory service to researchers. To this end, training and development of these librarians should be prioritised for them to remain relevant and deliver effective research support. According to Sen (2014) employers and professional bodies have a role to play in facilitating reflective practice. As such, practising librarians need to be supported in their development and re-skilling initiatives. As pointed out by Tenopir, Birch and Allard (2012); Tise, Raju and Adam (2015:3) skilled, knowledgeable and confident librarians will resolve the ambiguity surrounding the roles and specific responsibilities of libraries. It was discovered that many librarians were lacking the skills and knowledge required to support researchers in a new way (Chapter 6, section 6.3.3). Skills such as bibliometrics, research data management, citation analysis were lacking among librarians. However, librarians lamented the lack of financial support and study time from employers to attend refresher courses, conferences and to attain higher degrees. Most librarians across cases were embarking on studies as a personal initiative save for one library where librarians were the only non-academic group funded to do research, attend workshops, and conferences. It was discovered that librarians were holding on to traditional philosophy of doing things partly due to lack of exposure that comes with attending conferences, fresher courses and attainment of higher degrees. Staff development makes librarian sensitive and aware of the environment they operate and make them confident in taking new roles emerging due to changes that are occurring. In the end, they become the agents of change in an increasingly volatile environment.

▪ Services

With limited resources available, libraries should separate services for researchers and services for teaching and learning so that researchers as a *sui generis* constituency can identify with services. The study established that librarians separate these services in their heads and on paper, yet on the ground its one package. One common way of separating services nowadays is via the research commons model where researchers are provided a dedicated facility equipped with some computers, internet, research librarians and other kindred resources. No library was found to have this facility at the time of study (Chapter 6, section 6.3.2). It was established that a majority of the researchers now shun the services of the library because they feel services offered by libraries are geared more towards teaching and learning. Another consideration is to introduce the Hybrid Model where new structures, new posts and highly qualified research supports are put in place solely for researchers. This arrangement was reported in one of the libraries (UL01) where a research services office was opened. The spinoff of this arrangement would be the realisation of the much-coveted aspect of specialisation in roles. This would put to rest the problem of work overloads which is being experienced by librarians.

▪ Policies

The study found that most of the libraries did not have a research support policy in place (Chapter 6, section 6.3.3). The study recommends that libraries enact research support policies so that librarians who practice research support are clear on what they are supposed to do, as in the case of UL01. Many librarians claim that they are not clear of what they are supposed to do and how they are supposed to do it. Things are supposed to be clear from a policy perspective, so that employees can appreciate them. Roles and responsibilities need to be spelled out so that librarians are held accountable for poor practice. It was mind boggling to discover that librarians who were practising research support were doing so at their own pleasure of what they thought was appropriate for researchers notwithstanding the fact that research is one of the core functions of any university.

An institutional policy that makes it mandatory for librarians to have specific schedules for meeting and delivery of services to researchers needs to be put in place. It was discovered that due to the absence of policy whatever librarians were advocating to do for academics was not taken seriously (Chapter 6, section 6.3.3). For example, in some cases librarians reported that lecturers were resisting the teaching of information literacy by librarians because it's not policy. Academics themselves have a lot to do and would not do anything that they do not

consider to be from policy. In the absence of policy, they know that they would not be found guilty of anything and that nobody will make a follow up to say you did not do this or that.

- **Funding and budgeting**

Everything that the libraries do revolves around budgets. It is recommended that parent institutions adequately finance their libraries. It was discovered that libraries suffer from staff shortages, infrastructure and other resources to effectively discharge their research support duties (Chapter 6, section 6.3.3). Lack of adequate financial support by parent institution leads to poor services in libraries because without money, there is nothing libraries can do to help researchers achieve their goals. It is an open secret that libraries have been operating on shoestring budgets for a long time and thus may be forgiven for failing to achieve their goals as plans are held in abeyance due to poor funding. Libraries as the ‘central organ’ through which the ‘character and efficiency’ of the university may be gauged should get financial priority by university authorities to discharge their mandate properly. If a library fails to discharge its role then this reflects poorly on the university.

- **Alignment of research support practice to espoused policies**

Due to several incongruences that were recorded between espoused theories and theories in use, librarians are exhorted to adjust to constantly monitor their theories in use to see if they are in line with their corresponding espoused theories as noted by Federman (2006). This submission is made notwithstanding the fact that the study found out that espoused theories were inadequate to deal with modern day researchers. Argyris and Schön (1974) point out that there is no virtue in congruence for the sake of it. However, for librarians to be successful in aligning theories-in-use to espoused theories, they need to be reflective practitioners. For Schön, 1983 the crucial competence for all professionals is “reflection”. Kerr (2010) noted that reflection on practice is done in the interests of learning, towards bringing theories-in-use in line with espoused theories for greater effectiveness in practice. Schön (1983) noted that the capacity to reflect on action so as to engage in a process of continuous learning was one of the defining characteristics of professional practice. It is the entire process of reflection-in-action which is central to the ‘art’ by which practitioners sometimes deal well with situations of uncertainty, instability, uniqueness, and value conflict. A deep reflection on instructional values, beliefs and practice may address challenges and dilemmas in professional practice of research support.

7.7 Originality of the study

The study was found to be original as it took a different approach to the study of research support. The literature gleaned indicates that studies that were carried out around the world on research support by librarians focused on skills and knowledge gaps (Auckland 2012); tools and services for research support (Kroll and Forsman 2010; RIN 2010); service offered by libraries (Raju and Schoombee 2013; Afzal, Corral and Kennan 2012). It appeared there are no studies that focused on the conceptualisation of research support, relationship between conceptualisation and practice and the corrective measures used by librarians to deal with dilemmas and disconfirming experiences.

The study was found to be contextually original because a cursory review of related literature found no comprehensive studies that were carried out in Zimbabwe that covered research support as a broader higher-level concept. However, there are piece meal studies that were carried out focusing on standalone activities and services that form an important part of the research support concept viz institutional repositories (Nyambi 2011); information literacy (Chanakira and Madziwo 2013); and Open Access (Kusekwa and Mushowani 2014). This study took a broader view of research support, added Zimbabwe onto the on-going discourse on research support around the world and, provided imperial data on the state of research support in Zimbabwe.

The study was also found to be original as it took a different methodological approach to the study of research support. The study addressed research support from an interpretivist standpoint employing a multi-case approach using a constant comparison method. Meta-analysis was applied to results from individual cases to build a thicker richer and comprehensive understanding of research support. Most of the studies that were carried out around the subject of research support employed surveys (Corral, Kennan and Afzal 2013; Auckland 2012; Kroll and Forsman 2010; RIN 2010; Raju and Schoombee, 2013; Afzal, Corral and Kennan 2012). Furthermore, the study is methodologically original as it successfully used a questionnaire in qualitative study. In this regard, the study debunked an apocryphal that questionnaires can only be applied in quantitative studies.

The findings of the study have offered a holistic, thicker and comprehensive position of research support as a concept and professional practice from a Zimbabwean perspective. Previous studies focused on the practise of research support without giving due attention to how the concept is understood by librarians. Findings are expected to be an alarming call which

is likely to trigger reflection and a paradigm shift in the way research support is conceptualised and practised in many academic libraries in Zimbabwe and the region.

7.8 Contributions of the study

Creswell (2010) noted that any study should be able to contribute to practice, theory and policy. This study contributed in these three areas raised by Creswell as discussed below.

7.8.1 Contribution to theory

The contribution of this study to the body of knowledge is threefold. Firstly, the study contributed to area of research support literature by using a theory outside the discipline of librarianship: Theory of Action -espoused theory and theories-in-use, which was never done before. This Theory addresses professional practice in the field of education. However, the theory was successfully applied in field of librarianship before in the study of information literacy Kerr 2010; LIS education (Edwards 2010); and public library services Nauratil (1982). In this study, the theory was useful and suitable in providing a fulcrum for a holistic understanding and description of research support as a professional practice. Secondly the study contributed to literature by providing a new trajectory to the study of research support. Majority of the study looked at research support practice and no study was found from the literature accessed to have looked at the nature of the relationship between conceptualisation and practice of research support. This philosophical treatise makes a primary contribution to the research support literature by focusing on the relationship between conceptualisation and practice of research support. Thirdly, the study has contributed to literature by proposing a model (Figure 7.1) for effective research support in the Zimbabwean context. This Model is based on the literature, research findings and theory of action: espoused theories and theories-in-use. The proposed Model is presented below, and the explanation to the constructs of the model follows.

- **The university and institutional research policy**

Findings of the study revealed that Zimbabwean universities have three core functions, namely that of research, social responsibility, teaching and learning (Chapter 6, section 6.1.2). To support these three pillars, university departments such as the library rely on university policy to shape and execute their mandates. With respect to research as one of the pillars, many of the librarians were not aware of their institution research policy. The new proposed model stresses on the availability of an institutional research policy, which clearly spells out the specific roles played by each of the research support departments. This is particularly important as it was found in this study that different players within the universities who support researchers lacked a coordinated effort and were developing the same agendas for research support resulting in conflict and overlapping of responsibilities (Chapter 6, section 6.4.4). This situation was found to contribute to research support ineffectiveness in two ways. Firstly, resources from research funders can easily be misappropriated and secondly researchers may totally fail to get a service simply because players would assume the others are doing it. This was epitomised by the issue of Open Access initiatives where both the library and the research office were claiming to champion it in one of the universities investigated. The end results of this was a failure by both parties to hold the Open Access Week in 2016. This shows that lack of clarity regarding responsibilities has come as a disservice to researchers. Effectiveness in support of researchers depends on the clarity and understanding of roles. It is therefore imperative that all the roles and strategies of the support environments are clearly stated and synchronised through the institutional research policy to unlock synergies among departments.

Further, librarians lamented that researchers shun services offered by the library and one of the many reasons offered was the fact that there were no policies in place that make it mandatory for beneficiaries to attend and receive research support service. A policy would ensure programmes such as information literacy skills training are made mandatory to attend because they provide life-long skills fundamental to the success of researchers. So, an institutional research policy is the starting point for effective support to researchers and this policy must be cascaded down to all the departments so that everyone is aware of their responsibilities.

- **Library, funders and research administrators**

A healthy, complementary and fiduciary relationship among players is very important for effective support of researchers. The study found out that funding was one of the problems that libraries were facing (Chapter 6, section 6.3.3). Libraries were not prioritised in resource allocation and faced budget cuts every now and then. This resulted in libraries failing to acquire

resources and build infrastructure conducive for research support. The proposed model put emphasis on funders to demonstrate the importance of funding to the delivery of research support. Without adequate financial resources, there is no way libraries can develop and provide services that are required in a modern-day research landscape.

Equally, a healthy working relationship with other players such as research administrators was needed to ensure that the know-how and know-what is very clear. Findings indicated that research administrators do not see librarians as important academic partners (Chapter 6, section 6.4.3). This was exemplified by the exclusion of librarians in one of the universities when they tried to attend a research workshop organised by the research office upon which they were told that it was meant for academics only. This demonstrated that research administrators did not understand the role of the library and librarians in the scholarly orbit of researchers. Administrators failed to understand that attendance of such workshops by librarians would make them aware of the nature of research done in the university and give them leverage to anticipate the needs of researchers and support them accordingly.

▪ **Library and the mission statement**

It was found during the study that libraries were intricately connected to the missions of their universities as they express their mission statements in terms of the three pillars of research, teaching and learning and social responsibility (Chapter 6, section 6.1.1.2). However, majority of the mission statements were found to have medium degree of specificity and failed to explicitly identify aspects of the library's support towards research. For example, researchers as a service target were not mentioned by the mission statements. This failure was attributed to lack of clearly stated institutional research policies that should inform and shape the research mission of the libraries. It was also discovered that library mission statements failed to reflect exigencies of the moment in as far as research support is concerned. A majority of Faculty Librarians that were interviewed blamed the mission statements for inadequate and ineffective research support. Mission statements and values must consistently get revamped so that they speak to current issues. As Aldrich (2007:9) noted, mission statements are “forms of organisational discourse or ways of talking about” and “public declaration of its purposes and its vision of excellence” (Meacham and Gaff 2006; Kerr 2010:53).

▪ **Research support at par with teaching and learning support**

Findings of the study showed that services offered by libraries were skewed in favour of teaching and learning (Chapter 6, section 6.2.2). Librarians claimed that they were mainly

focusing on provision of information resources suitable for teaching and learning and claimed that there were no researchers to support. This kind of situation made teaching and learning superordinate to research. However, the proposed model put research support and teaching, and learning support at the same level and should be treated as equals. This ensures that libraries balance their investments in information resources and services in a manner that reflects the competing needs of both teaching and research. Research was found to have gained currency in universities in Zimbabwe as academics and politicians alike seek local solutions to local problems. As such, librarians must be seen to be contributing to this need by prioritising research needs to redress a historical imbalance of support to research.

- **Library research policy**

Findings of the study showed that lack of library research support policy undercuts the effectiveness of library research support (Chapter 6, section 6.3.3). Faculty librarians and other library staff charged with research support duties lamented lack of clarity in research support roles and responsibilities due to lack of a guiding library policy. The danger with a lack of policy is that nobody takes these research support librarians to task in an event that they abdicate their duties to researchers. This scenario has resultantly caused service to be skewed in favour of teaching and learning because in the absence of policy librarians do what they think is appropriate even if it is not enough. The new proposed model puts emphasis on library research policy is the starting point to a balancing act in as far as services of the library are concerned. A library research support policy is a prelude to effectiveness because it has the potential to spell out how research support will be delivered, who will deliver it and where it will be delivered. The model also demonstrates that the library research support policy must be predicated upon the mission, vision, values and strategic goals of the library in order to achieve congruence between espoused goals and what happens on the ground.

- **Research Services and facilities**

Study findings show that libraries do not separate service for research, teaching and learning (Chapter 6, section 6.2.2). This arrangement was thought to cause ineffectiveness in support of researchers because under such an arrangement it was very easy to overlook services that were needed. The new proposed model puts emphasis on separate and distinctive services for researchers so that researchers can effortlessly identify with the library. Studies that were carried out elsewhere show that researchers believe that services from the library are geared towards teaching and learning and a majority have stopped using the library. Distinctive services and facilities such as research commons, bibliometrics, research data management,

citation analysis, data curation and collaboration in projects must be introduced to raise the services for researchers together with those of teaching and learning.

- **Library research support staff**

In research support practices, intellectual labour is the greatest asset because most of the research support services are manufactured as they are being delivered. The new proposed model places emphasis on a competent, dedicated and well-resourced team of research librarians as a *sine qua non* for effective research support. For example, collaboration in research projects demands that librarians have the knowledge and competence to do research. Over and above, research librarians should only focus on researchers. The arrangement that was found in libraries was inimical to effective research support because Faculty Librarians who were discharging research support duties were also doing other central organisational duties such as supervision and collection development.

Additionally, the model proposes that librarians practising research support must be reflective practitioners who reflect both in action and on action. Schön (1983) noted that the capacity to reflect on action, to engage in a process of continuous learning, was one of the defining characteristics of professional practice. To this end, librarians must apply governing variables from Model 2 of Argyris and Schön's (1974) Theory of Action which promotes reflection in action. That way, librarians can identify dilemmas, challenges and disconfirming experiences and take counter measures to deal with them. Kerr (2010) noted that reflection on practice is done in the interest of learning, towards bringing theories-in-use in line with espoused theories for greater effectiveness in practice. Congruence between theories-in-use of research support librarians and the mission documents and policies of the library should result in effectiveness in practice. It is the entire process of reflection-in-action which is central to the "art" by which practitioners sometimes deal well with situations of uncertainty, instability, uniqueness, and value conflict. In the end, organisational flexibility is a core requirement for academic libraries to be responsive to changing research practice (Frances, Fletcher and Harmer 2011).

- **Research support models**

The study found out that librarians use traditional models in support of researchers. Resource and Liaison models were found to be the most popular means of supporting researchers (Chapter 6, section 6.2.3). However, these were found to be inadequate in dealing with modern day needs of researchers. To be effective in practice, the proposed model stress on the need for librarians to put more emphasis on modern approaches of support viz Hybrid Model which

demands new structures, new posts and highly qualified and competent staff and the Engagement Model where librarians work outside the library spending time in academic departments, collaboration in conducting research and being assertive and proactive. These models have strong impact in the scholarly life of researchers when compared with traditional models that emphasises resource building and training of researchers.

7.8.2 Contribution to policy

The research may help to inform development of policy through the proposed model for effective research support above. The model demonstrated that for effective research support institutional research policy should help clarify the roles that the library and that of other players who support researchers play. The study has also illustrated the need for a library research policy. As such, the study is expected to influence the crafting of research support policies in various academic libraries so that library staff members are guided by a blue print in their execution of duties.

7.8.3 Contribution to practice

This study is expected to influence librarians who practice research support to be reflective practitioners who are sensitive to the environment in which they operate. The impact of this work to practice was felt during field work. The researcher was praised by participants in various institutions for bringing up the subject of research as it stimulated them. Because of the awareness brought by this study, librarians promised to reflect on their practices. This final product should be able to guide them in developing services for researchers as it managed to identify important areas that affect the discharge of research support viz policy, values, funding, research support models, incongruence between espoused policies and theories-in-use.

7.9 Areas for further research

This study investigated the nature of the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries. Given that libraries in institutions of higher learning are as diverse and distributive as the institutions they serve, the feasibility of investigating all the different types of academic libraries at one go was impossible. The researcher recommends that a similar study be conducted in other types of academic libraries such as junior college libraries, teachers' colleges, polytechnics, agricultural colleges, schools of theology, and law.

This study focused on research support from an academic library perspective, it would be interesting if another study is done in Zimbabwe focusing on researchers to ascertain their specific needs and expectations. As noted by Auckland (2012:3) researchers are not a homogeneous group, their activities, discourse, approaches to research, and their information needs differ, in relation to their discipline and/or subject and its culture and praxis, and the stage of their career. A study that covers how the needs and expectations of researchers vary with discipline, research culture and praxis, and the stage of their career would complete the puzzle concerning research support and help both academic libraries and researchers alike to achieve their respective goals.

Considering the challenges faced by various research support players, such as conflict of responsibilities, a study needs to be done around university research policy in Zimbabwean universities to establish their coverage and relevance in the fast-changing research landscape since “policy is both text and action, words and deeds” (Ball 1994:10).

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Appendix A: Interview guide for heads of libraries

1. May you kindly share your experience in the field and qualifications you hold?
2. University environments are changing as a result of socio-economic pressures, technology and other kindred factors, how are these changes affecting the role you play in support of teaching, learning and research?
3. How well developed is your support to researchers compared to your support to other constituencies such as teaching and learning?
4. In recent years a variety of other campus players are developing service agendas around digital information management that may overlap with library interests. Do you feel threatened as a library?
5. How is library research support received by researchers?
6. Do you agree with the notion that libraries are decreasing in importance to researchers and are more geared to supporting teaching and learning activities?
7. What are some of the methods you use to evaluate the services you offer to researchers?
8. Share with me how research support is discharged in your library?
9. Is your library facing any challenges in discharging this role?
10. Is your library staff adequately trained to practice deep research support where they can collaborate and partner with researchers?
11. If not, how are you intending to improve the situation?
12. Do you have policies to specifically deal with research support in your library?
13. When formulating policies, do you involve members of staff who are directly affected by them?
14. How frequent do you review your policies and mission statement?
15. What are your plans for the future regarding research support role of the library?
16. Any other comment pertaining to research support is welcome as we close the interview?

Thank you

Appendix B: Interview schedule for librarians who support researchers

General Information

1. How were you recruited to work or represent the discipline you support?
2. What are your responsibilities?
3. Do you have a qualification in the area you work in?
4. Your library mission is to support teaching, learning and research of your institution. How do you integrate and deliver these responsibilities as a library?
5. Academic institutions are transforming as a result of technological advancements, socio-economic pressures and other kindred factors. How is the role of the library being affected?

Research support

6. Describe the mission of your library in today's environment?
7. What constitute research support you offer from the library side?
8. How is the research support role of the library appreciated in your institution?
9. There is emerging dominance of research as seen by establishment of research units, use of new modes of knowledge production and e-science. How is this transformation affecting the way you support researchers?
10. Researchers feel that the services offered by librarians are skewed in favour of teaching and learning, what is your response to that?
11. Do you feel that librarians have a role to play in these transformative times in higher education, especially to researchers?
12. The availability of today's online collections and tools is making academic libraries increasingly "disintermediated from the discovery process, risking irrelevance in one of its core functional areas. From your experience as a research supporter do you agree with this observation?
13. How would you describe the research support you provide to researchers in these transformative times?
14. Are you clear of the new roles and responsibilities you are supposed to carry for research support?
15. What are the goals and objectives of your support for researchers?
16. What are the enablers to realising these goals?

17. What would you see as strengths of your services which enable you to achieve your goals?
18. The shift from print to electronic journals, databases and e-books has witnessed a major shift in the importance of collections as an indicator of support for research. Do you think traditional practices and services are still adequate to support scholars in new research environment?
19. What are your fundamental beliefs and assumptions regarding the practice of research support?

Research support service/activities

20. Researchers go through different stages in their research life cycle. What services/ activities do you currently offer in support of researchers during their research process?
21. What infrastructure do you have in place for support of researchers?
22. How far do you commit to the needs of research during the research process?
23. As the environment in institutions of higher learning is changing, librarians are moving from supporter to partner in the research process. Do you think you have the depth of expertise needed to partner with faculty at the desired level?
24. What skills and knowledge gaps do you have in researcher support?
25. How are you gaining the skills and knowledge for research support?

Reflective strategies

26. As you undertake research support, how do you deal with disconfirming encounters/ dilemmas/ situations that conflict with set out organisational policies and procedures?
27. Do you devise instant solutions to get things done or you stick to the organisational policies that guide you?
28. Do you put across such concerns to management/ superiors?
29. How have they responded?
30. As we end, do you have any comments regarding research support in general?

Thank you very much for taking time to answer the questions.

Appendix C: Questionnaire for librarians supporting researchers

Section A: Background information

1. Name of Institution and Library.

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2. Designation.....

3. Qualifications.....

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4. If you work as a subject/faculty librarian, state the discipline(s) under your support.

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5. If not a subject/faculty librarian, state your designation and responsibilities.

.....
.....
.....

6. State below your responsibilities as a subject/ faculty librarian.

- i.
- ii.
- iii.
- iv.
- v.
- vi.
- vii.
- viii.
- ix.
- x.
- xi.
- xii.

Section B: Research support

7. Describe what constitute what you call research support services offered by your library.

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8. In your library, who is responsible for offering research support?

Subject/faculty librarians ☐

Research support specialist ☐

Reference librarian ☐

All of the above ☐

Any other please specify

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9. In your own opinion, who is better placed to provide research support services at the desired level in today's research environment? Please, tick your choice (one only).

☐ Subject librarian who has a broad knowledge of the organisational context, who combines this with knowledge of the information sources

☐ Librarians with domain expertise

☐ General information specialists

☐ Research librarians

10. Do you have an office dedicated for research support?

Yes ☐

No ☐

11. How is the research support role of your Library appreciated by researchers?

Well appreciated ☐

Poorly appreciated ☐

Highly appreciated ☐

12. Which category of researchers do you provide research support to? Please tick the appropriate categories from the list.

- Master's students ☐ ☐
- Doctoral students ☐ ☐
- Contract research staff ☐ ☐
- Early career researchers ☐ ☐
- Established academic staff ☐ ☐
- Senior researchers ☐ ☐
- Experts/research fellows ☐ ☐

13. How is your time of work divided across the constituencies you serve? Your answers should come to a 100% in total.

- Undergraduate ☐ ☐
- Researchers ☐ ☐
- International students ☐ ☐
- Asynchronous learners ☐ ☐

14. Do you agree with the assertion that the core responsibility of the academic support librarian is to connect the library's contribution to the academic mission of the university with the focus being the researchers as opposed to the university as a whole?

- ☐ ☐ I agree
- ☐ ☐ Not sure
- ☐ ☐ Disagree

15. Do you agree with the notion that libraries are decreasing in importance to researchers and are more geared to supporting teaching and learning activities as a way to justify existence?

- ☐ ☐ Yes
- ☐ ☐ No

Explain your answer

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16. As universities are moving to position themselves to meet the demands of a more competitive research environment. How do you see the reform affecting the way you support researchers? Please, tick your choice (one only).

Positively, I expect to see new structures and better definition of roles [☐]

I don't know, the future seems quite uncertain [☐]

Negatively, the same mixture and no definition [☐]

17. Do you agree with the following statements on beliefs and assumptions attributed to librarians? Show by way of a tick (✓) for the statement you agree with and an (✗) for those you do not agree with.

Statements	I agree (✓) I disagree(✗)
I am a subject specialist who is an expert in sourcing material in a range of format in support of researchers	
I view the comprehensive and well-crafted library collection as an end in itself.	
I value my “infrastructural” role and the management of collections (print and digital), far more than their roles in teaching and research	
The basic professional tenets of librarianship remain the same while the methods, tools, scope and environment of information delivery continue to change dramatically	
Scholarly activity is not a pre-requisite for librarians involved in research support	
Many of the functions and structures to which librarians cling play such a marginal role in the real lives of researchers	

18. How do you perceive the research support offered by you and all the support staff in the library? Please, tick your choice (one only).

[☐] Low support, depending both on number of staff and skills/degree of professionalism

[☐] Moderate but with room for improvement

[☐] Relatively high, we have some good research professionals around

19. Do you agree with the notion that the traditional roles of professional information intermediaries have been largely replaced by direct access to online resources, with heavy reliance upon Google to identify them?

☐ Yes

☐ No

20. If your answer is “Yes” to question 19, briefly describe your experience?

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Section C: Research support services/activities

21. From your experience do you think library services for supporting teaching and learning and those of supporting researchers are different?

☐ Different

☐ Same

Explain your answer

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22. The environment in which research is being conducted and disseminated is undergoing rapid and extensive change. Have you changed the methods you employ to support researchers?

☐ Yes

☐ No

23. If you answer is “Yes” to question 22, describe the measures you have taken to support researchers in your faculty of support.

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24. What informs the nature and extend of the services that you offer to researchers? Multiple answers apply.

☐ Library mission statement

- ☐ library policies
- ☐ strategic document
- ☐ exigency of the moment
- ☐ Availability of appropriate tools
- ☐ Personal preferences

25. Which model(s) below best describe how you provide research support services to your research constituency?

- ☐ Classical model of deploying subject librarians -Liaison model
- ☐ Resources Model of collection development and information discovery
- ☐ Engagement and embedding model requiring an outside focus and support for all processes of instruction and scholarship
- ☐ Hybrid Model requiring with new library research posts
- ☐ Share services model which combine efforts with other academic libraries to gain the benefits of economies of scale.
- ☐ Outsourcing research support services model as way to dealing with the financial pressures

Turn overleaf

26. Please show by way of a tick (✓) the activities/service you are currently offering and an (×) for the activities you do not provide around the research life cycle provided below.

Stage	Service/Activities	Frequency
Preparation	Drafting Applications	
	looking for ideas	
	deciding on a topic	
	formulating a research question	
	Identifying sources of funding	
Gathering	Creation of Guides	
	Tutorials to help researchers	
	Information literacy sessions	
	Developing effective search	
	Literature Searches	
	Document delivery	
	Strategies	
	Provision of physical space for researchers e.g.	
	Online reference services	
Creation	Compiling data management plan	
	Creating and organising strategies for	
	Collection and making available data sets for	
	Research data curating and management	
	Backups	
Sharing	Dissemination of research output	
	Scholarly communication and open access	
	Advice and support for open access publishing	
	Advising on utilising new dissemination means	
	Institutional repositories as a facility to	
Measurement	Citation analysis	
	Publication counts	
	H-index	
Commercialisation	Library sites as tools for research marketing	
	Copyright and property rights	
Emerging Technologies	Introduction of new technology to research (Web 3.0, podcasting, mobile phones)	

27. From a practical view point, which services from the table above are commensurate with the new research landscape currently obtaining in your institution?

- i.
- ii.
- iii.
- iv.
- v.
- vi.

28. what criteria do you use to measure successful services to researchers? Show by way of a tick from responses given below. Multiple answers apply.

- ☐ Customer satisfaction ratings
- ☐ High use made of information resources
- ☐ Good attendance levels at training workshops/sessions
- ☐ Positive feed-back
- ☐ A high number of participants at courses
- ☐ Strengthen or support the library brand as an institution with resources and competencies of a high quality.
- ☐ Services must meet institutional objectives
- ☐ Professional service objectives
- ☐ There must be requests and demand by users
- ☐ Time for the researchers

Section D: Skills and knowledge gaps

29. As the research environment in institutions of higher learning is changing, librarians are moving from supporter to partner in the research process. Do you think you have the depth of expertise needed to provide modern research support services at the desired level?

- ☐ yes
- ☐ No

Please turn overleaf.

30. Please show by way of a tick (✓) for the skills you possess and (✗) for those you do not have for research support

Knowledge and Skills for research	Yes (✓) No (✗)
Knowledge of Data Curatorship and preservation skills	
Knowledge of Publishing	
Knowledge of Research Process	
Teaching Skills for Designing Information Literacy Training	
Knowledge of Research Methods	
Knowledge of Bibliographic and Searching Tools in the Subject	
Information Literacy skills	
Literature searching skills	
Knowledge of Citation and referencing)	
Knowledge of Subject Content	
Knowledge of Bibliometrics	
Finance and Budget Skills	
Technical and IT Skills	
Marketing Skills	
Collaborating Skills	
Knowledge of the Research Landscape	

Any other, please specify

.....

31. What would you like your library to do in order to deliver better research support services? Show by way of a tick from responses given below.

- ☐ [] Broadly, more support staff for research
- ☐ [] Same staff but better trained to support research
- ☐ [] Research professionals within the library to support researchers throughout the research project
- ☐ [] Enact new policies and review old ones
- ☐ [] Review goals and mission of the library in line with changes occurring in practice

Section E: Challenges and disconfirming of experiences in research support

32. Please list the challenges that you face in providing support to researchers in your institution.

- i.
- ii.
- iii.

- iv.
- v.
- vi.
- vii.
- viii.

33. Explain below any disconfirming experience encountered while providing support to researchers.

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34. Explain the dilemmas you face as a librarian supporting researchers.....

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Section F: Learning Strategies

35. Which of the following values best describe what you do when faced with challenges and disconfirming experiences while discharging research support duties? Please tick in the box ☒ provided. (Multiple answers apply).

- ☐ I achieve my goals and purpose as defined
- ☐ Win, do not lose
- ☐ Suppress negative feelings
- ☐ Emphasise rationality
- ☐ Share power with anyone who has competence and who is relevant
- ☐ Definition of task control over the environment is shared with the relevant others
- ☐ Maximise valid information
- ☐ Have high internal commitment to the choice and constant monitoring of

its implementation

36. Which of the following action strategies are in line with your values when offering research support? Please tick in the box ☒ provided (Multiple answers apply).

☐ Design situations where participants can originate actions and can experience high personal success.

☐ Jointly control tasks

☐ Make protection of self and others a joint enterprise

☐ Design, manage, and plan unilaterally

☐ Own and control the task

☐ Unilaterally protect self and others.

☐ Evaluate others in ways that do not encourage testing the validity of the Evaluation

37. Please use the space below to express anything concerning research support as a service offered by librarians.

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Thank you very much for participating in this study

Appendix D: Permission to conduct research – AU approval letter



REGISTRAR'S OFFICE

A UNITED METHODIST - RELATED INSTITUTION

P.O. BOX 1320, MUTARE, ZIMBABWE - TEL.: (263-20) 60075/60026/61618 - FAX: (263-20) 61785 - E-MAIL: registrar@africau.edu

22 June, 2016

Mr Notice Pasipamire
University of Kwazulu-Natal
Pietermaritzburg
Information Studies
School of Social Sciences
College of Humanities
Pte Bag X01
Scottsville, 3209

Dear Mr Pasipamire

E-MAIL: npasipamire@gmail.com;
214584623@stu.ukzn.ac.za;

**CONCEPTUALISATION AND PRACTICE OF RESEARCH SUPPORT BY ACADEMIC
LIBRARIAN IN ZIMBABWEAN UNIVERSITIES**

We wish to advise you that your proposal was cleared by AUREC (Africa University Research Ethics Committee) and your research has been approved.

Please be guided by the conditions stipulated in the letter from AUREC dated 16 June, 2016.

Kindly advise us when we can expect you on campus and which departments you will be visiting so that the relevant departments are notified. You may bring this letter when you report to the Registrar's Office.

Yours faithfully

T MUSHAMBI
ACTING REGISTRAR

cc Deputy Vice Chancellor
Programmes Officer - AUREC

Appendix E: Permission to conduct research – WUA approval letter

WOMEN'S UNIVERSITY IN AFRICA

Education Services Centre
Upper East/Brighton Rd
P.O Box MP 1222
Mount Pleasant
Harare



Tel: 307930/333139
Fax: 333154
E-mail: bmuwise@gmail.com /
registrar@wua.ac.zw

Addressing Gender Disparity and Fostering Equity in University Education

3 February 2016

Mr Notice Pasipamire
E-mail: hoskinsr@ukzn.ac.za

Dear Mr Pasipamire

Re: **REQUEST FOR PERMISSION TO CARRY OUT RESEARCH AT WUA**

Reference is made to your request for permission to carry out research on the following topic: "Conceptualization and Practice of Research Support by Academic Liberians in Zimbabwean Universities" in fulfillment of PhD (Information Studies) which you are undertaking with the University of Kwazulu-Natal.

After due diligence of your research proposal, you are hereby granted permission to carry out your research. However, the findings of your study should be confined to your original intentions only i.e research. Any breaching of this understanding can constitute an act of misconduct.

Thank you for your cooperation.

Yours sincerely

B. Mugwise (Mrs)
REGISTRAR

CC: Pro-Vice Chancellor
Research Board Chairperson



Appendix F: Permission to conduct research – MSU approval letter

Approved
07/01/16



UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

University of KwaZulu-Natal
Pietermaritzburg
Information Studies,
School of Social Sciences,
College of Humanities
Pte Bag X01,
Scottsville, 3209

15 December 2015.

The Registrar
Midlands State University
Postal Address
P Bag 9055
Gweru
Zimbabwe

Dear Sir,

REF: REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH AT YOUR INSTITUTION

My name is Notice Pasipamire, a PhD student (214584623) in Information Studies in the School of Social Science, College of Humanities at the University of KwaZulu-Natal, Pietermaritzburg.

I am embarking on a study entitled "Conceptualisation and Practice of Research Support by Academic Librarians in Zimbabwean Universities". I have successfully presented and defended the proposal for this study. As part of the doctoral requirements, the University of KwaZulu-Natal Ethical Compliance Regulations Committee requires proof that the relevant authorities where research is to be undertaken have given approval. Your institution was chosen to be part of this research for various reasons; among them is your track record of supporting researchers.

I am therefore writing this letter requesting for your permission to administer questionnaires, conduct content analysis of documents and interviews at your esteemed library. The data will be treated with utmost confidentiality, and anonymity. It is my intention to share the results with all participating institutions to ensure that they draw direct benefit from the outcome of the study. The study seeks to highlight issues that affect academic librarians as they support researchers. It is expected that the study will improve practice, policy and extend theory in the field of library and information science.

Attached, herewith, is a supporting letter from my supervisor, Professor Ruth Hoskins.

Appendix G: Permission to conduct research – Solusi approval letter

11 May 2016

Notice Pasipamire
University of Kwa-Zulu Natal
Pietermaritzburg
South Africa

Dear Sir,

Re: Permission to Conduct Research

The Faculty Research Committee met to consider your request to conduct research at Solusi University towards a PhD with the University of KwaZulu-Natal in Pietermaritzburg, South Africa. Your request was granted and it is noted that the title of your Research is “**Conceptualisation and Practice of Research Support by Librarians in Zimbabwean Universities.**” It is also noted that you will administer questionnaires and interview personnel in the Solusi Library and that you will conduct content analysis of documents.

The permission is granted on condition that you furnish us with a copy of your document at the completion of your study.

We wish you God’s blessings as you strive to finish your doctoral programme.

Sincerely,

Sophie Masuku, PhD
Office of Research, Information and Publications
smasuku@solusi.ac.zw
Cell: 0778940148

Appendix H: Permission to conduct research – CUT approval letter



CHINHOYI UNIVERSITY OF TECHNOLOGY

✉: P. Bag 7724, Chinhoyi ☎: 263-67-22203-5 📠: 263-67- 27214 E-mail : vicechancellor@cut.ac.zw

Vice-Chancellor's Office: Prof. D. J. Simbi - PhD, BSc, MIM, CEng, FZ'weIE, FICorr, FZAS, Hons FZ'weIE

HUMAN RESOURCES DEPARTMENT

22 February 2016

Mr Notice Pasipamire
University of Kwazulu-Natal
SOUTH AFRICA

Dear Mr Pasipamire

RE: REQUEST TO CARRY OUT A RESEARCH PROJECT AT CHINHOYI UNIVERSITY OF TECHNOLOGY

We acknowledge receipt of your application letter dated 1 February 2016 seeking permission to undertake a research study under a title that reads: *Conceptualization and Practice of Research Support by Academic Librarians in Zimbabwean Universities*.

You are kindly advised that permission to undertake your study is hereby granted. However, you are reminded to observe the University Official Secrecy Oath.

The University would also expect results of your research upon completion.

Thank you.

T.A. Kaseke (Mr)
DEPUTY REGISTRAR, HUMAN RESOURCES

Appendix I: Permission to conduct research – BUSE approval letter

REGISTRY DEPARTMENT



BINDURA UNIVERSITY OF SCIENCE EDUCATION

HUMAN RESOURCES

P Bag 1020
BINDURA, Zimbabwe

Tel: 0271 – 7531-6, 7621-4
Fax: 263 – 271 – 7534

06 January 2016

Mr Notice Pasipamire
University of KwaZulu Natal
Information Studies,
School of Social Studies
College of Humanities
P Bag X01
Scottsville, 3209

Dear Mr Pasipamire

**RE: APPLICATION FOR PERMISSION TO CARRY OUT EDUCATIONAL
RESEARCH IN THE UNIVERSITY**

Permission to carry out Research on:

**Conceptualization and Practice of Research Support by Academic Librarians in
Zimbabwean Universities.**

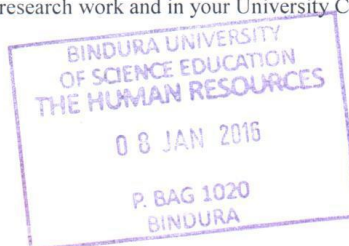
Bindura University of Science Education has granted you the permission on the following conditions.

- a) That in carrying out this research you do not disturb the programmes of the Department.
- b) That you avail to the University a copy of your research findings.
- c) That the permission can be withdrawn at any time by the Registrar or by any higher officer.

I wish you success in your research work and in your University College studies.

Yours Sincerely

SG Chitera (Mr)
ACTING REGISTRAR



Appendix J: Permission to conduct research – LSU approval letter



2nd Floor
CBZ Building
P O Box AC 255
Tel: +263-9-79146 (Direct) 73770/1,
Telfax: +263-9-63311
BULAWAYO, ZIMBABWE
E-mail: csmakoni@lsu.ac.zw

Registrar's Office

16 February 2016

Mr Notice Pasipamire
University of KwaZulu-Natal
Pietermaritzburg
Information Studies,
School of Social Sciences,
College of Humanities
Pte Bag X01
Scottsville, 3209
South Africa


Dear Mr Pasipamire

REQUEST FOR PERMISSION TO UNDERTAKE RESEARCH

The above subject refers.

This letter serves to grant you permission to undertake a research on the "Conceptualisation and Practice of Research Support by Academic Librarians in Zimbabwean Universities" in our University as requested.

Thank you


Mrs C S Makoni
Acting Registrar



Appendix K: Permission to conduct research – NUST approval letter



National University of Science and Technology

P. O. Box AC 939, Bulawayo, Zimbabwe
Cnr. Gwanda Road/Cecil Avenue

Telephone: 263-9-282842/288413/39/58
Fax: 263-9-289057

From Registrar F. Mhlanga Dip Edu, BEd, MSc(UZ); MBA (NUST)

FM/sb

18 February 2016

Mr Notice Pasipamire
University of Kwazulu-Natal
Pietermaritzburg
Information Studies
School of Social Sciences
College of Humanities
Pte Bag X01
Scottsville, 3209
SOUTH AFRICA

Dear Mr Pasipamire

RE: **AUTHORITY TO UNDERTAKE RESEARCH AT THE NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

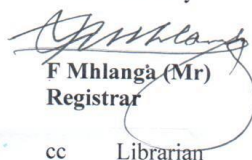
Reference is made to your letter dated 31 December, 2015 on the above request.

We would like to inform you that we have granted you permission to do your research study entitled **“Conceptualisation and Practice of Research Support by Academic Librarians in Zimbabwe Universities”**.

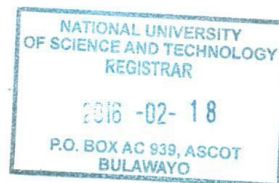
We would like to emphasize that all the information gathered should be for research purposes only and that confidentiality has to be exercised.

The University wishes you the best in your research.

Yours sincerely


F Mhlanga (Mr)
Registrar

cc Librarian
Deputy Registrar, Academic
Dean of Students



Appendix L: Ethical clearance from the University of KwaZulu-Natal (UKZN)



08 July 2016

Mr Notice Pasipamire (214584623)
School of Social Sciences
Pietermaritzburg Campus

Dear Mr Pasipamire,

Protocol reference number: HSS/0068/016D

Project title: Conceptualisation and practice of research support by librarians in Zimbabwean universities

Full Approval — Expedited Application

With regards to your application received on 14 January 2016. The documents submitted have been accepted by the Humanities & Social Sciences Research Ethics Committee and FULL APPROVAL for the protocol has been granted.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Professor Ruth Hoskins

Cc Academic Leader Research: Professor Maheshvari Naidu

Cc School Administrator: Ms Nancy Mudau

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001 Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609

Email: ximbapaukzn.ac.za /snymann@ukzn.ac.za } mohunp@ukzn.ac.za

 **Howard College** Website: www.ukzn.ac.za

Founding campus Edgewood Medical School Pietermaritzburg Westville

Appendix M: Informed consent letter for the interviews



Dear Respondent,

Informed Consent Letter for the Interview

I, Notice Pasipamire, a PhD Information Studies student at the University of KwaZulu-Natal, kindly invite you to participate in the research project entitled “Examining the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries.”

The research project is being undertaken as part of the requirements of the Doctor of Philosophy Degree which I am undertaking with the University of KwaZulu-Natal, Information Studies Programme.

The aim of the study is to examine and gain insight into how librarians are conceptualising and practising research support in the transformative times in Zimbabwe universities. The study will assist in understanding the actions of librarians and provide a picture of where Zimbabwean university librarians are in terms of transforming themselves with the changing academic environment. It is hoped that the study will identify areas that librarians need to focus their energy on as well as providing direction at which librarians must take going forward. It goes without saying that the study will promote the value of research support provided by librarians in the development of highly skilled researchers in the face of renewed pressure for libraries to demonstrate value.

Participation in this research project is voluntary. As such, you may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Information Studies Programme, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact me or my supervisor using any of the communication methods provided below.

The interview should last about an hour.

Thank you for participating in this project.

Researcher: Notice Pasipamire

Institution: University of KwaZulu-Natal, Pmb

Telephone number: +27626775343

Email address: npasipamire@gmail.com or 214584623@stu.ukzn.ac.za

Supervisor: Prof. Ruth Hoskins

Institution: University of KwaZulu-Natal, Pmb
Telephone number: +0332605093
Email address: hoskinsr@ukzn.ac.za

HSSREC Research Office: Ms P Ximba
Institution: University of KwaZulu-Natal
Telephone number: +27 (0) 31 260 3587 Email address: ximbap@ukzn.ac.za

Please complete this form

Title of study: “Examining the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries.”

I....., hereby confirm that I understand the contents of this document and the nature of the research project, and I agree to participate in the research project as outlined in the document about the study. I consent / do not consent to have this interview recorded.

I acknowledge that I have been informed of the purpose of this interview. I am aware that participation in the study is voluntary and I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Participant

Signature

Date:

Email:

Researcher

Signature

Date:

Email:

Appendix N: Informed consent letter for the questionnaire



Dear Respondent,

Informed Consent Letter for the Questionnaire

I, Notice Pasipamire, a PhD Information Studies student at the University of KwaZulu-Natal, kindly invite you to participate in the research project entitled “Examining the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries”.

The research project is being undertaken as part of the requirements of the Doctor of Philosophy Degree which I am currently undertaking with the University of KwaZulu-Natal, Information Studies Programme.

The aim of the study is to examine and gain insight into how librarians are conceptualising and practising research support in the transformative times in Zimbabwe universities. The study will assist in understanding the actions of librarians and provide a picture of where Zimbabwean university librarians are in terms of transforming themselves with the changing academic environment. It is hoped that the study will identify areas that librarians need to focus their energy on as well as providing direction at which librarians must take going forward. It goes without saying that the study will promote the value of research support provided by librarians in the development of highly skilled researchers in the face of renewed pressure for libraries to demonstrate value.

Participation in this research project is voluntary. As such, you may refuse to participate or withdraw from the research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Information Studies Programme, at the University of KwaZulu-Natal.

If you have any questions or concerns about participating in this study, please feel free to contact me or my supervisor using any of the communication methods provided below.

The questionnaire should take about 30 minutes to complete.

Thank you for participating in this project.

Supervisor: Prof. Ruth Hoskins

Institution: University of KwaZulu-Natal, Pmb

Telephone number: +0332605093

Email address: hoskinsr@ukzn.ac.za

Researcher: Notice Pasipamire

Institution: University of KwaZulu-Natal, Pmb
Telephone number: +27626775343
Email address: npasipamire@gmail.com or 214584623@stu.ukzn.ac.za

HSSREC Research Office: Ms P Ximba
Institution: University of KwaZulu-Natal
Telephone number: +27 (0) 31 260 3587 Email address: ximbap@ukzn.ac.za

Please complete this form

Title of study: “Examining the relationship between conceptualisation and practice of research support by librarians in Zimbabwean university libraries”.

I....., hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participate in the research project as outlined in the document about the study.

I acknowledge that I have been informed of the purpose of this survey. I am aware that participation in the study is voluntary and I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Participant

Signature

Date:

Email:

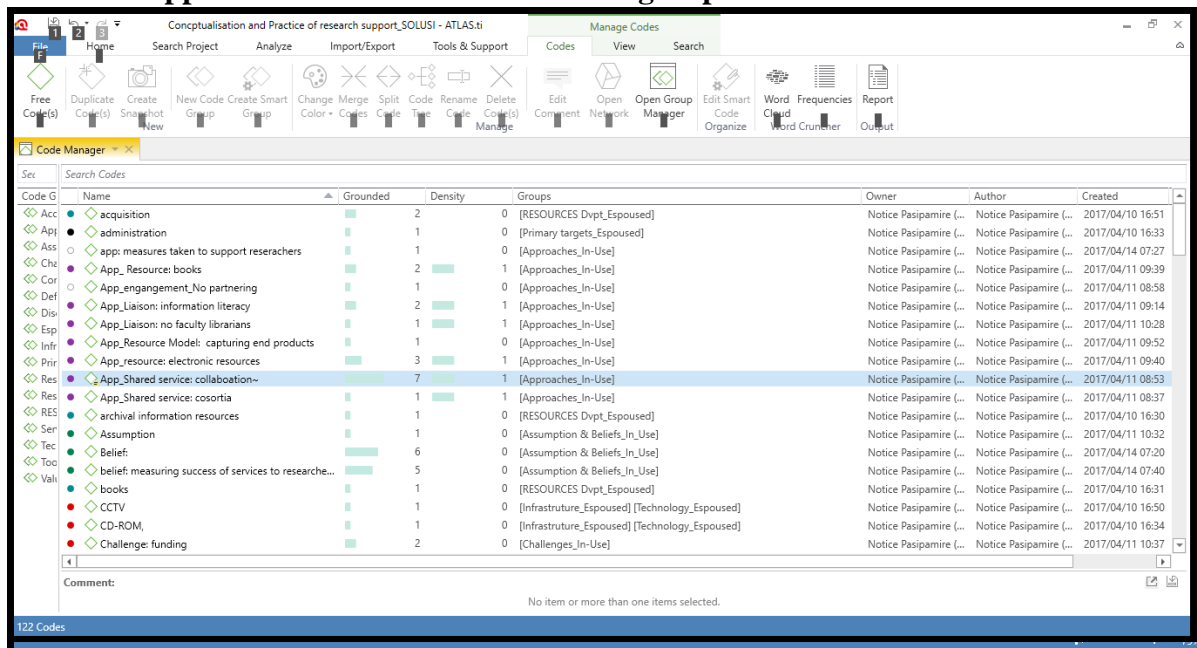
Researcher

Signature

Date:

Email:

Appendix O: List of codes and their groups

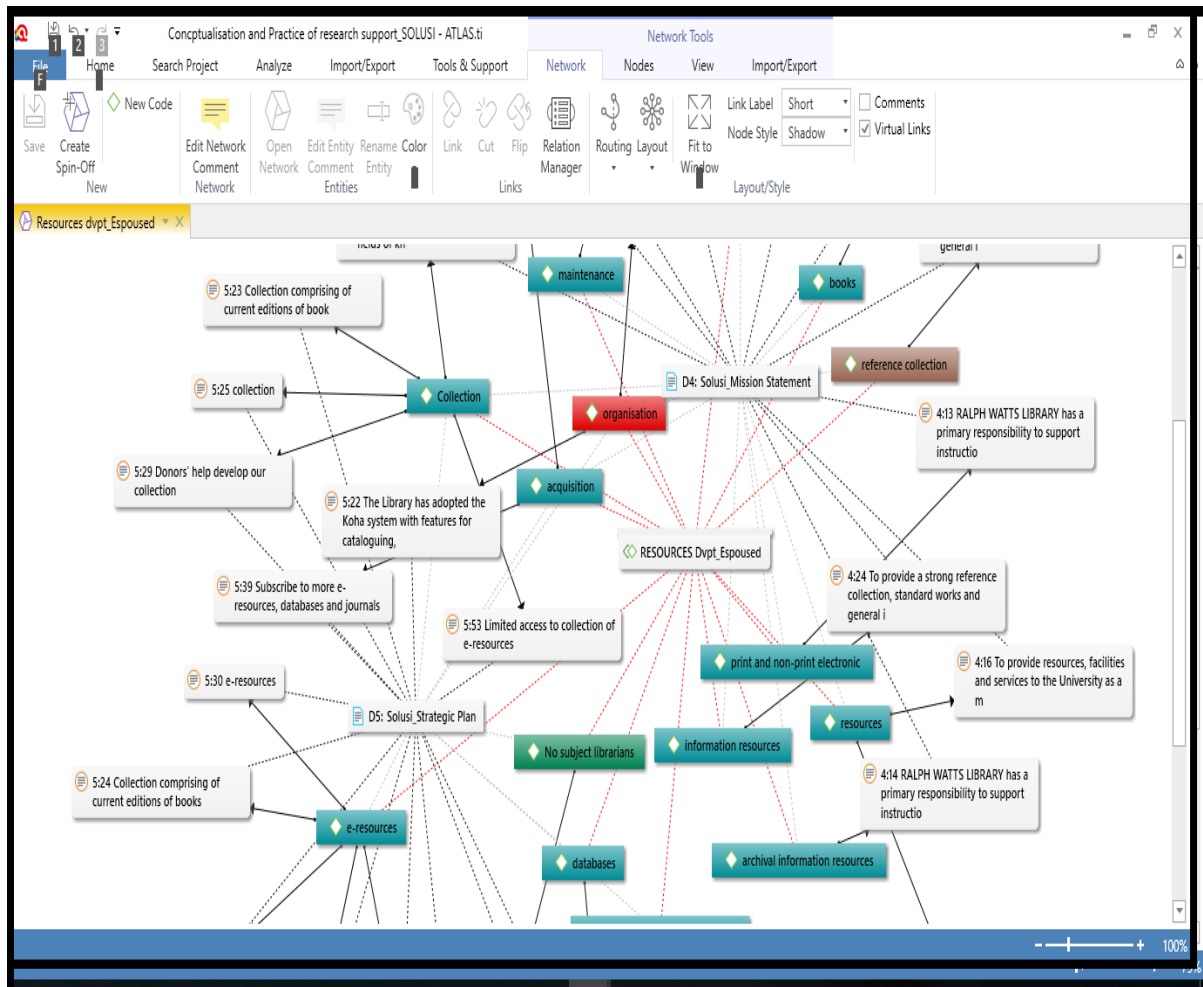


Code G	Name	Grounded	Density	Groups	Owner	Author	Created
Acc	acquisition	2	0	[RESOURCES Dvpt_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:51
App	administration	1	0	[Primary targets_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:33
Ass	app: measures taken to support reserachers	1	0	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/14 07:27
Chc	App_Resource: books	2	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 09:39
Cor	App_engagement_No partnering	1	0	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 08:58
Def	App_Liaison: information literacy	2	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 09:14
Dis	App_Liaison: no faculty librarians	1	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 10:28
Esp	App_Resource Model: capturing end products	1	0	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 09:52
Infr	App_resource: electronic resources	3	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 09:40
Pri	App_Shared service: collaboration~	7	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 08:53
Res	App_Shared service: cosortia	1	1	[Approaches_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 08:37
RES	archival information resources	1	0	[RESOURCES Dvpt_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:30
Ser	Assumption	1	0	[Assumption & Beliefs_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 10:32
Tec	Belief:	6	0	[Assumption & Beliefs_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/14 07:20
Too	belief: measuring success of services to researche...	5	0	[Assumption & Beliefs_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:31
Val	books	1	0	[RESOURCES Dvpt_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:31
	CCTV	1	0	[Infrastructure_Espoused] [Technology_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:50
	CD-ROM,	1	0	[Infrastructure_Espoused] [Technology_Espoused]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/10 16:34
	Challenge: funding	2	0	[Challenges_In-Use]	Notice Pasipamire (...)	Notice Pasipamire (...)	2017/04/11 10:37

Comment: No item or more than one items selected.

122 Codes

Appendix P: Network developed for one of the categories



Caveat: The red lines connect codes from the category RESOURCES development under espoused theories. Solid black lines link quotations to the codes. The dotted black lines link quotations with documents.