

Title: Restructuring for relevance: a paradigm shift for academic libraries

Purpose – the primary purpose of this paper is to report on the development of a flexible and robust academic library structure that meets the demands of an ever changing user community and remains relevant and fit for purpose in a technology-driven age. The new structure makes provision for the delivery of new and innovative services responding to the need for a paradigm shift in 21st century academic librarianship. The move away from subject librarianship, which has been the bastion of South African academic librarianship, is significant.

Design/methodology/approach

This paper used the exploratory method to gain new insights into library structures that have restructured for the 21st century. The exploratory study was used to gain new insights into functional librarianship. Despite the short comings of the exploratory method, the method was deemed most appropriate as UCT Libraries was not seeking definitive answers but a process that would provide opportunities to explore possibilities for subsequent processes.

Findings

The move from subject librarianship to functional librarianship has given the library the opportunity to restructure. The restructured library can now offer new and/or radically expanded services to meet the demands of a 21st century academic library.

Originality/value

This paper will be of interest and value to library managers and staff wanting to develop a library structure that responds positively to the redefinition of the professional roles and functions of the library and to strategically position the academic library for the future. It will also be of interest to library and information science academics who may want to re-examine their curricula for the incorporation of new trends.

Practical implications

The development of new and future roles and responsibilities commensurate with a robust and ‘future-driven’ structure, will consolidate the library’s role as a collaborator in the teaching and learning, and research agendas of a higher education institution.

Keywords

Library restructuring, Subject librarianship, Functional librarianship, Systematic reviews, Clinical librarianship, Scholarly communication, Library as publisher

Introduction

Higher education institutions in recent decades have been subject to a tsunami of change, much of which has impacted directly on the role and function of academic libraries. The growth of the interdisciplinary approach to teaching and learning and research, the pedagogical shift of education from domesticator to liberator (Raju and Schoombie 2014), the ‘massification’ and ‘universification’ or globalisation of higher education and such has driven institutions of higher learning to realign their new research production profile, which

would include research production at the undergraduate level. These changing trends in higher education must be viewed against the backdrop of reduced government support for the sector and the consequent intensifying competition for limited resources, the quest for flexible modes of delivery of education aided by modern technology and the proliferation of educational resources and resource formats (Sputore, Humphries and Steiner 2015: 5). At the epicentre of this higher education paradigm change is the rapid development of relevant technology. The swift development of commensurate technology has significantly influenced the shaping of the higher education landscape: the academic library is not exempt from the influence of technology, in fact, it ought to be adding a new layer in support of the changing higher education landscape.

These technological developments have added a new dimension to academic librarianship. At no time in the history of academic librarianship have libraries been so vulnerable with regard to becoming redundant. Paradoxically, there is so much potential to becoming noteworthy partners or collaborators in the evolving teaching and learning and research processes of the sector. As pointed out by Cooke et al. (2011), the increasing ubiquity of electronic resources has extended the library beyond its four walls. Metaphorically, the library has two doors, one for the physical entity and the second for the virtual or ubiquitous access to resources be it via libraries' websites or Google.

Academic libraries, in the main, have been very receptive to change. However, the extent of change has always been a tweak here and a tweak there. Like an oil tanker, libraries readily accept that a turn needs to be made but the turn is slow and prolonged, ensuring that 'risk' is kept to an absolute minimum if not eliminated altogether. Given the trends in higher education and academic libraries, the University of Cape Town (UCT) Libraries has taken the bold step to restructure to remain relevant through becoming partners to principal stakeholders in contributing to the University's teaching and learning and research agenda.

Ellis et al. (2014) posits that the University of Kansas (KU) Libraries restructuring was influenced by the need "to redefine professional roles and functions to strategically position the Libraries for the future". UCT Libraries' decision to restructure was along similar lines to that of KU Libraries. The primary purpose of this paper is to report on UCT's experiences in developing a flexible and robust academic library structure (KU calls it an adaptive and agile structure (Ellis et al. (2014)) that meets the demands of an ever changing user community and remains relevant and fit for purpose in a technology-driven age. The new structure makes provision for the delivery of new and innovative services responding to the need for a paradigm shift in 21st century academic librarianship; UCT Libraries is looking at what the Library Change Steering Group (2010) calls "academic revitalization". At the core of this academic library revitalization is the move away from subject librarianship – this has been the bastion of South African academic librarianship (and academic librarianship internationally).

Given the extensive changes affecting academic libraries, it is anticipated that this paper will be of interest and value to library managers and staff wanting to develop a library structure that responds positively to the redefinition of the professional roles and functions of the library and to strategically position the academic library for the future. It will also be of interest to library and information science academics who may want to re-examine their curricula for the incorporation of new trends.

Delimitation of the paper

Due to the constraints of space, the authors will limit their discussion in this paper to the restructuring of the user-facing section of UCT Libraries now referred to as Research and Learning Services (previously known as Client Liaison Services).

Research methodology

The move away from subject librarianship is deemed to be an extremely bold step taken by UCT Libraries. Given that a very small number of university libraries at the international level have moved away from subject librarianship, it was important for UCT to utilize the exploratory method to gain new insights into library structures that have restructured for the 21st century. Babbie (2013: 90) asserts that exploratory studies are typically used:

- to satisfy the researcher's curiosity and desire for better understanding,
- to test the feasibility of undertaking a more extensive study, and
- to develop the methods to be employed in any subsequent study.

Aligned to the assertions made by Babbie (2013) are the comments by Robson (2002) who posits that an exploratory study is a very valuable way of finding out what is happening or to seek new insights, to ask questions and to assess phenomena in a new light. The phenomena of an academic library not structured around subject librarians had to be explored to gain new insights. Exploratory research was initially used to research the theoretical proposition of the Research Libraries UK (RLUK) and that is, deep subject knowledge is not an absolute prerequisite to function as a subject librarian. It is the view of the authors that, in the South African academic library environment, subject librarianship is a misnomer as the majority of the subject librarians have a Social Science or Humanities basic degree. As suggested by Fouche and de Vos (2012), the exploration method was used because the authors lacked basic information on this new area of interest and such exploration was necessary in order to become acquainted with library structures that were to be developed to remain relevant for the 21st century and to maximise the library's contribution to the university agenda. Further, the method was used to lay the groundwork for associated processes (e.g. business process review) that were done subsequently. In the search for new insights, the authors interrogated over 50 academic library structures to get clarification and an understanding on the incorporation of new services *en route* to developing a structure that was relevant for the delivery of a 21st century academic library.

The exploratory research was essential, as posited by Babbie (2013), as UCT Libraries was aiming to break new ground. Despite the fact that Babbie (2013) cautions that a short coming of exploratory study is that it seldom provides satisfactory answers to research enquiries, this method was deemed most appropriate. The method was pursued as UCT Libraries was not seeking definitive answers but a process that would provide opportunities to explore possibilities for subsequent processes.

The paradigm shift

There has been, and continues to be, substantial push from researchers and practitioners for academic libraries to make dramatic changes or face the possibility of being marginalized. Jantz (2012) posits that in a study of innovation in academic libraries there was a claim that

“innovation is no longer an option but a necessity”. The pressure for change comes not “from the potentiality of the new technology, but from the professional paralysis which has now made most of our major libraries largely unusable” (Jantz, 2012: 3).

The authors acknowledge that transforming an institution with long traditions is difficult. However, library users and their expectations for services and collections are changing and libraries need to adapt. Factors such as the exponential growth in networked technologies, growth of powerful search engines and the demand for research support add to the chorus for sweeping change. Academic libraries are ‘keeping current with technology’, ‘using electronic communications effectively’, ‘assisting faculty and students with information resources’ and such. However, as pointed out by Schwartz (n.d.) libraries have not done much with organizational development, restructuring, or organizational decay. Schwartz (n.d.) goes on to quote Carla Stoffle, Robert Renaud, and Jerilyn R. Veldof, as stating that against a backdrop of the new realities of the higher education environment, “academic libraries have to undergo radical, revolutionary organizational change quickly”. This assertion is confirmed by Hoodless and Pinfield (2016: 1) who claim that libraries have arguably “reorganised around the edges instead of completely discarding their old structure and beginning anew.”

Paradigm shift

The bold step taken by UCT Libraries in pursuing an agenda to become relevant and contribute to the strategic agenda of the university is significantly influenced; firstly, by the need to restructure away from subject librarianship and secondly, the need for librarians to move from a reactive provision of support services to proactive partnership with the students and staffing bodies.

The RLUK Report

The seminal piece of research that shaped the thinking of UCT Libraries in developing a structure for the 21st century was the RLUK Report. It reports that subject librarians have supported the needs of researchers through traditional services revolving around information discovery and management, collection development and information literacy training. The provision of an excellent information service has always been the bastion of subject librarianship. However, as indicated in the Report, recent studies into the behaviour of researchers suggest that subject librarians will have to work hard to demonstrate that they can add value to the researchers’ searching efforts. This is testimony to the fact that the changing needs of researchers demand that the librarian plays a much greater role in the research process and in particular in the management, curation and preservation of research data, and in scholarly communication and the effective dissemination of research outputs.

The authors accept that the changing needs of the researcher demands a new set of skills. This demand has opened the debate on the level of subject knowledge necessary to provide the support for researchers. Further, it is the full research life cycle that is used as a framework for mapping the current and potential future roles of subject librarians in meeting the changing needs of researchers. The utilization of the full research life cycle model best encapsulates the intersection of researcher needs and subject librarian roles.

The requirement for subject librarians to have a deep knowledge of their subject is one of the most controversial areas in the discourse. The Report states that the ‘scholar librarian’ has long lost favour. Further, an analysis of the literature by the authors who strongly advocate

for deep subject knowledge reveals an admission that it is not always possible to recruit staff that meet the 'deep subject knowledge' requirement. From a pragmatic perspective, the RLUK reports that there is confession that 'very few librarians are likely to have specialist science or medical knowledge'. As a compromise, these advocates will recruit staff who were enrolled for a masters' degree in librarianship. The inference is that librarians skilled in the deep knowledge of librarianship is fast becoming the absolute requirement. This is in keeping with the demand that the librarian of the future be highly skilled in delivering on new roles and responsibilities. The authors have taken a keen interest in the comments in the report that *'the researchers have the subject knowledge – the librarians work with them to find the best database to search and how to construct a search strategy, then how to manage the results and search histories'* (RLUK, 2012: 40-41).

Another significant take-away from the Report for UCT Libraries was the need for librarians to have the skills and knowledge to deliver on new roles and responsibilities with expertise, competency and confidence. Tenopir et al. (2014: 85) reports that there is clear evidence that development of specialized research data services (RDS) is often constrained by knowledge and skills gaps among library staff and the lack of confidence in their expected roles in RDS. The finding of the RLUK study, collaborated by others such as Tenopir et al. (2014), persuaded UCT Libraries to review its structure. The Libraries was of the view that the lack of confidence is a significant negative when trying to deliver a new service that is not only new to the librarians but also to the researchers who are desperately seeking assistance with, for example, research data management (RDM). The fact that the librarian is neither a subject specialist nor has in-depth knowledge of the new services does not engender the confidence of the research community in venturing into utilizing the librarian as a partner in the library-researcher relationship. The stance taken by UCT Libraries is that the librarian needs to become the super expert to deliver on new roles and responsibilities in the new library-researcher partnership.

Subject librarianship versus functional activities

There has been speculation for some time that academic libraries would radically reshape their organisational structures in response to rapid changes in the information environment (Schwartz [n.d.]). Academic libraries have been contemplating replacing traditional structures which incorporate significant subject-based components with ones built around functional teams. Corral (2014) confirms these assertions when she posits that some research libraries decided that traditional structures, such as the subject-specialist information consultant model, are no longer viable, and have reorganized their staffing structure to align with the broad institutional missions of research and teaching, or adopted business enterprise structures, with teams dedicated to service development and innovation.

Hoodless and Pinfield (2016: 1) quote Bains as saying that the University of Manchester Library (UML) "completed what has been described as a radical and ambitious restructuring exercise, where the traditional subject-based organisational structure was effectively abandoned in favour of a structure based on functional teams. This exemplar together with other case studies referred to by Hoodless and Pinfield (2016), against the backdrop of the RLUK Report findings, served to convince UCT Libraries to explore a hybrid model that was deemed workable for a leading research intensive university in Africa.

Some of the other examples given by Hoodless and Pinfield (2016) include the University of South Australia Library which strove for structural change to ensure that it (the structure) was

fully aligned to meet the university's overall teaching, learning and research environment and strategies. The University of Guelph restructured around functional teams as there was an insufficient number of subject librarians. As can be seen from the exemplars, academic libraries have restructured around functional team for reasons peculiar to their institution.

One of the significant drivers is the link to the overall university strategy, a strategy based around the dual aims of research, and learning and teaching, by setting up a functional structure to explicitly provide research support, and learning and teaching support. The move towards functional structures is deemed to be an attempt to '*future proof*' the library.

The shift from reactive librarianship to partnership or collaborative librarianship

As discussed, the RLUK Report and the growing trend of restructuring around functional activities were key drivers in UCT Libraries' pursuance in restructuring for relevance. Another significant driver was the shift from reactive librarianship to proactive partnership or proactive collaborative librarianship. As pointed out by Tise, Raju and Adam (2015: 2), the transformation from a "reactive service provider to a proactive partner in the research process" has motivated the academic librarians to make the paradigm shift to go beyond traditional services in order to remain relevant. In teasing out this paradigm shift, Monroe-Gulick, O'Brien and White (2013: 384) define proactive library partnership as the "proactive creation and active engagement in the research process and not simply passive support". In this process, the librarians as partners do more than help researchers succeed in completing and disseminating research, they are active contributors in knowledge creation using their specialised knowledge and skills.

This transition from reactive supporter to proactive partner is underscored by the expectations of the subject librarian. Corral (2014) points out that there is greater expectation for subject librarians to be more outward-facing, to build strong relationships and collaborate with staff and students as these expectations will ensure that library services remain relevant, with the intent that the subject librarian becomes 'an equal partner in the research, teaching and learning functions'. This repositioning of the librarian is corroborated by Giesecke (2011: 59) who says that "by creating meaning [essentially being in their space] for users and developing relationships, librarians become an essential part of the community". In this changing paradigm, librarians are harnessing their learning and knowledge to loosen their attachment to buildings and collections and developing themselves as collaborators in ways external to the physical space.

In a transforming higher education environment, there is a need, as suggested by Delaney and Bates (2015: 1) for academic libraries "to continue to adapt their roles and develop stronger relationships across the university in order to maintain and promote their relevancy to all stakeholders...an embedded existence through collaboration and outreach will strengthen the academe". The library's contribution to the academe is acknowledged by Raju, Raju and Johnson, (2016: 167) who contend that the provision of 'new research support services' such as bibliometrics, research data management, digital preservation and curation, open access, and open journal publishing is starting to come to the fore, albeit not at the desired pace. Raju, Raju and Johnson, (2016: 167) go on to point out that in the South African academic library environment there is a conscious effort in making these 'new' services available to their research communities – to contribute to the academic mission of the institution. An exemplar demonstrating the librarian-research partner relationship is the introduction of

evidence-based medicine. This is a collaboration between medical educators and librarians. There is a growing awareness of the importance of using librarians to conduct systematic searches of literature in the health sciences especially for systematic reviews. Librarians are being acknowledged as co-authors of these systematic reviews as they actively contribute to the research output (Delaney and Bates, 2015: 33). Another exemplar is that of medical informationists. There are a number of academic institutions that have successfully expanded librarians' roles to include information consultant services for patient care. This demonstrates the value that intensively trained librarians provide to informatics and clinical care teams in contributing to high quality healthcare delivery (Giuse et al., 2005: 250).

The move away from 'subject librarianship' to 'functional librarianship' was deemed to be an extremely bold step taken by UCT Libraries. Despite the inevitable lack of in-depth insights into library structures that delivered on 21st century service, the need to provide relevant, effective and efficient services at one of the leading research intensive institutions on the African continent was a key driver in this move. UCT embraced the findings of the seminal research of the RLUK and used the Report as the founding document for a 'future proof' academic library structure. Embedded in this 'future proof' structure is the need to move from reactive librarianship to proactive partnership or proactive collaborative librarianship.

The restructuring at UCT Libraries

Due to the constraints of space, this paper will engage in a very brief discussion on the processes followed in the restructuring of UCT Libraries. A business process review was embarked upon when the principle decision was taken to restructure UCT Libraries. The guiding principle in this decision was the provision of a suite of services that kept pace with new trends and, in some instances, be among the leaders in setting trends for relevant library services. A team representing a cross section of staff from those whose primary function was engaging with user communities spent many months evaluating current services at UCT. This team also investigated new trends in academic librarianship. Periodically, there were report back meetings to the broader user services team.

In the second phase, members of the Library Management Team (LMT) met to expand on the findings of the 'research team'. They conducted further investigation and consolidated their thinking based on major trends shaping the future of library services. What was gleaned from the literature was that "subject/liaison librarians have traditionally provided research services as part of their academic support role, but libraries are increasingly identifying research support as a specific area requiring additional co-ordination and strategic development...."(Corrall, 2014:18).

There is significant evidence in the literature demonstrating that new posts had been established to provide enhanced library services, beyond, or in greater depth, than those traditionally provided by subject librarians. In the study of 24 academic libraries in the UK, Corrall found there to be an "... expansion of specialist positions, with new functional roles *complementing traditional subject liaisons....*" (Corrall, 2014:17).

However, UCT Libraries, with severe constraints on staffing, had to persevere with delivering on a strong expectation of high level of research support: a research support service from a proactive/collaborative perspective. This expectation meant that hard choices had to be made between maintaining traditional services and adopting new ones. As the

Libraries embarked on engagement on proposed structural changes, the change which caused the greatest consternation among librarians was that to the traditional role, and even the *term*, of 'subject librarian'.

The rationale for changing the term and the roles and responsibilities had to be clearly articulated to the staff. With regard to the term, the LMT was of the opinion that it was a misnomer as most librarians had a background in the Social Science or Humanities. Despite their personal academic background, librarians functioned across various subject areas which included medicine, engineering, science and commerce. Even within the Humanities discipline, librarians provided support for a number of subjects, not necessarily related to areas in which they had qualified.

A study conducted by Johnson (2016), found that it was not feasible, in the South African academic library environment, to have a librarian specifically qualified in each of the subjects areas. The study also found that in-depth knowledge of the subject was not required, as librarians picked up sufficient basic knowledge of a subject to guide users. There were also concerns that librarians were working on developing their subject knowledge base at the expense of continually growing their library-discipline skills. The lack of growth in library-discipline skills was deemed to be making librarians redundant as they were not in a position to provide the high-end services that came with unique library-discipline skills (Johnson 2016).

One of the most pressing concerns with regard to the roles and responsibilities of the subject librarian was an increasing trend towards interdisciplinary or transdisciplinary research among academics at UCT. This trend exposes the limitations of subject-bound librarianship as it does not make provision for the functioning of more than one discipline (e.g. no provision is made for the interdisciplinary support for health sciences and law).

Of all the arguments for proposed changes, the one that most excited the existing subject librarians, and led to the highest level of buy-in to the restructuring, was the opportunity to learn new skills and practices required of the new roles.

After considerable discussion, it was felt that, while the 'subject librarian' role would change greatly, there were instances where a link should nevertheless be maintained between individual librarians and particular academic departments. A typical example of such an exception is the music library. The music library is physically located in the School of Music, on a separate campus, away from the central library. The LMT was of the opinion that it would be counterproductive to impose a system where the music librarian no longer provided a services to a specific discipline.

Unbundling of tasks

A fundamental principle for the continued engagement between the LMT and staff was to get agreement on the need to shed or reduce old tasks in order to take on the provision of new services or provide greater support for specific services, e.g. bibliometric services were always provided, but at a very rudimentary level. The expectation from LMT is that the bibliometric service will become highly sophisticated and that would include, *inter alia*,

advising researchers on the most appropriate index to use when seeking funding, and explanatory reports on why an academic's index rating (e.g. h-index) is as it is.

This 'freeing-up' of the librarian is in line with the views posited by Keller who reports that:

In order to free-up liaison librarians to achieve this new and expanding service portfolio, they are by and large released from desk-duty (formerly reportedly 20 –50% of their time), from information literacy tuition for undergraduate students and from collection development tasks (Keller, 2015: 81).

At UCT, reference desk activities and a number of other tasks have been cascaded to junior colleagues. Job descriptions have been written to formalise the transfer of roles and responsibilities: more importantly, the number of job descriptions to cover all of the roles and responsibilities within the Research and Learning Section had been reduced from around fifty to seven. These new job descriptions allow for greater flexibility and agility.

The authors will discuss three of the many new services that are intended to transition the relationship between the librarian and the user communities – a transition from a support service to one of partnership.

Open scholarship and publishing

In 2010, scholarly communication was one of the top ten trends in academic libraries (ACRL Research Planning and Review Committee, 2010). This trend was viewed by UCT Libraries as critical in facilitating the sharing of African scholarship with the rest of the world. Given the importance of this trend, 'open scholarship and publishing' became one of the new functional suites of services in the Library's restructuring process. The Libraries invested in developing experts in this area who are to be seen as 'superspecialists'. These experts provide institutional leadership to drive change in this service area. In the restructuring process, a further layer of library staff are to be developed in open scholarship and publishing, with a basic knowledge in this area for support in the creation and dissemination of scholarly output.

To improve the partnership role of the library in the lifecycle of the research and teaching and learning processes of the researcher and student, the open scholarship and publishing functional team will provide advanced repository and publishing services. To ensure continued cutting-edge open scholarship and publishing services, especially in the area of open access publishing, experts will continuously improve efficiencies and build new expertise across the Libraries, ensuring that there is a 'veneer of skills' to support the entire lifecycle of the research, teaching and learning processes.

Some of the core services that the open scholarship and publishing functional team offer include repository management, advice about copyright and open access scholarly publishing. Even though the university was a late comer to open access, the functional structuring has ensured that there are dedicated expert scholarly communication staff to fast track the growth of the institutional repository as well as offer an open access publishing service. The publishing service includes working with the developers of Open Journal Systems and Open Monograph Press, the Public Knowledge Project from Simon Fraser University, to customise the two platforms to publish academic journals and monographs that are tailored for the UCT research community. The service has recently been extended to provide open access

textbooks, thus the agile and flexible restructuring continues to meet the every changing needs of research within higher education.

Systematic Reviews

Another service that is in a steep upward curve, at UCT, is systematic reviews. This is the review of literature associated with a clearly formulated research question that uses systematic explicit methods to identify, select, and critically appraise relevant research from previously published studies related to the question at hand. It employs an exhaustive, systematic search of the literature that is well-documented and replicable. Rigorous standardised methods are used to screen the literature in accordance with explicitly stated inclusion and exclusion criteria. As much as it uses the basics of time honoured literature review methods, ten Ham-Baloyi and Jordan (2016) claim that, in South Africa, there is a poor understanding of the use systematic review as an acceptable research method in post-graduate nursing education. They go on to assert that this lack of understanding results in research supervisors not being able to guide masters and doctoral students in using the systematic review methodology in the completion of an academic qualification.

Systematic reviews, as a services that is relatively new and evolving service at UCT, demands an increase in the librarians' skills to identify and search for sources. In 2010, the need for the service was formalised when the Health Professions Council of South Africa published new requirements for a Master of Medicine (MMed) degree. The requirements included a research component consisting of, *inter alia*, a collective review and a systematic review of a topic. This meant that librarians were required to sharpen their knowledge of databases and understand structured research. In addition, academic staff were increasingly conducting systematic reviews, in smaller and larger teams. Once again, the librarians' expertise was pivotal to the whole process.

Initially, the role of the librarian was supportive, generally assisting with the research question, search strategy and reference manager. The partnership role was confirmed with the commendation for one of the health sciences library staff in published papers. As the expertise of the librarians matured, the role of librarian became more central, leading to co-authorship. This co-authorship confirmed the librarians role as a research partner. Currently, the librarians involvement has expanded to include the screening of records, which uses a predetermined set of inclusion and exclusion criteria.

Clinical Librarianship

Clinical librarianship is the provision of an information service to physicians and other members of the health care team at the point of health care delivery. Essentially, as pointed out by Lipscomb (2000) and Winning and Beverley (2003), clinical librarians 'take the library to the user' be it in the hospital ward, in the out-patient clinic, and in the medical school teaching areas. In doing so, the librarian conducts medical literature reviews to questions relating to patient care and management. The distinguishing characteristic of the service as purported by Roper (2015) is the review of the material for appropriateness as opposed to the provision of a bibliography or a list of citations in response to a question. It is this distinguishing characteristic that consolidates the transition from a support service to a partnership as the medical librarian is a valid member of the health care team.

Evidence based healthcare service emerged in the 1990s and was one of the drivers in clinical librarianship. Roper views clinical librarianship as a profession within a profession and proposes that more attention be given to the education and training of the clinical librarian for the future. In the current technology era where there is widespread ownership of mobile devices and widespread Internet connectivity, the tools to support the service can be carried in the 'librarian's pocket'.

In August 2015, UCT Libraries launched the clinical librarianship pilot project at Red Cross Children's Hospital, a first for South Africa.

The most important factor influencing the launch of the clinical librarianship was the embedding of the librarian in the multidisciplinary clinical team. The librarians participated in ward rounds once a week and the clinical librarianship service was focused on a particular medical ward. The project's value was assessed in December 2015 and the decision was made to continue the service. This was based on the positive feedback and the acknowledgement that the clinical librarians were adding value to the work of the clinical team. In addition to enhancing patient care, clinical librarians provide continuing education and have an important role to play in improving the information seeking skills of both practitioners and students alike.

This innovative service has highlighted the clinical librarian's collaborative role at point-of-care, teaching, research and professional development in a clinical setting.

Skills development

Library schools or programmes acknowledge that the role of the LIS professional is evolving, which necessitates a wide range of new skill requirements. This assertion is confirmed by Mutula (2013) who says that "the transformation in librarianship is increasingly being reflected in the curricula of LIS schools". While the curricula has responded by tweaking, however, it has thus far not addressed radical new trends. Hence, librarians in practise acquire the skills through means other than formal study. Reliance on vendors and learning through trial and error has now become a commonplace at those academic libraries, such as UCT Libraries, that are pushing the boundaries. In new areas such as library publishing, there had to be, at UCT Libraries, considerable self-learning and engagement with the developers of the software.

To ensure that the UCT staff are at the cutting edge of respective trends, the Libraries identified the services (excluding time honoured services) that it would like to deliver to the user communities. Each service had a team with a team leader. The team leader was chosen based on interest displayed by the member of staff, e.g. the team leader for bibliometrics is an individual who is pursuing a PhD focusing on metricises. It is the responsibility of the team leader to keep abreast of the growth within that particular service and that would include conducting research and engaging with experts nationally and internationally. The library would biannually hold training sessions and the team leader would then share learnt skills with the rest of the team. The team leader would frequently bring in vendors to support the up-skilling of fellow colleagues. Essentially, all staff (especially those engaging with users) would have a generic skill level to support the service with the team being the experts and the team leader being the super expert.

Conclusion

Higher education is experiencing a tsunami of change that is directly impacting academic libraries. This wave of change that is beyond the control of libraries include budget cuts, change in pedagogy, increased need to produce interdisciplinary research and internationalisation of teaching and learning. Academic libraries, such as UCT Libraries, are positively responding to these changes through transforming or revolutionising roles and responsibilities. In rolling-out these new or radically expanding roles and responsibilities, librarians are getting into the realm of a partnership with the research and teaching and learning processes. These partnerships/collaborations require/ entail regular re-skilling, flexibility and openness to change.

In the restructuring process, UCT Libraries have left behind the bastion of the traditional subject librarian role and are venturing into the role of specialisation in functional teams that offer new services that are much closer aligned to the agenda of the university. By embracing services such as scholarly communication and publishing, bibliometrics, clinical librarianship and systematic reviews, the librarian has shifted the focus from offering reactive support services to proactive collaborative partnerships. This fledgling partnership is envisaged to set the benchmark for a revived role of the academic library in South Africa.

References

ACRL Research Planning and Review Committee. (2010). 2010 Top ten trends in academic libraries: a review of the current literature. *College and research libraries news*, 71.

Babbie, E. (2013). *The practice of social research*. Wadsworth, Cengage Learning: Canada.

Cooke, L., Norris, M., Busby, N., Page, T., Franklin, G., Gadd, E. and Young, H. (2011). Evaluating the impact of academic liaison librarians on their user community: a review and case study. *New review of academic librarianship*, 17:5–30. DOI: 10.1080/13614533.2011.539096.

Corrall, S. (2014). Designing libraries for research collaboration in the network world: An exploratory study. *Liber Quarterly*, 24(1): 17–48. http://d-scholarship.pitt.edu/21993/4/Corrall_%282014%29_LIBER_Q.pdf

Delaney, G and Bates, J. (2015). Envisioning the academic library: a reflection on roles, relevancy and relationships. *New review of academic librarianship*, 21 (1): 30-51. <http://dx.doi.org/10.1080/13614533.2014.911194>

Ellis, E., Rosenblum, B., Stratton, J. and Ames-Stratton, K. (2014). Positioning Academic Libraries for the Future: A Process and Strategy for Organizational Transformation. *Proceedings of the IATUL Conferences*. Paper 13. <http://docs.lib.purdue.edu/iatul/2014/plenaries/13>

Fouche, C. and De Vos, A. (2012). Formal formulations. In De Vos, A., Strydom, H., Fouche, C. and Delpont, C. *Research at grass roots*. pp. 89-100. Van Schaik: Pretoria.

Giesecke, J. (2011). Finding the Right Metaphor: Restructuring, Realigning, and Repackaging Today's Research Libraries. Faculty Publications, UNL Libraries. Paper 253. pp 54-65. DOI: 10.1080/01930826.2011.531641

Giuse, N., Koonce, T., Jerome, R., Cahall, M., Sathe, N. and Williams, A. (2005). Evolution of a mature clinical informationist model. *Journal of the American medical informatics association*, 12(3): 249–255. <http://doi.org/10.1197/jamia.M1726>

Hoodless, C. and Pinfield, S. (2016). Subject vs. functional: should subject librarians be replaced by functional specialists in academic libraries? *Journal of librarianship and information science*, 1– 16. DOI: 10.1177/0961000616653647.

Jantz, R. (2012). Innovation in academic libraries: An analysis of university librarians' perspectives. *Library and information science research*, 34: 3-12. Available: http://web.simmons.edu/~weigle/MGMT_INNOVATION/Jantz_InnovationAcademicLibrarians.pdf

Johnson, G. (2016). A study of the knowledge and skills requirements for the humanities librarian in supporting postgraduate students. MPhil., Library and Information Studies Centre (LISC), Faculty of Humanities. University of Cape Town. Available: <http://hdl.handle.net/11427/22774>

Keller, A. (2015). Research support in Australian university libraries: An outsider view. *Australian Academic & Research Libraries*, 46(2), pp.73-85.

Library Change Steering Group. (2010). *Restructuring action plan Queen's University Library*. Queen's University: Ontario, Canada

Lipscomb, C. (2000). Clinical librarianship. *Bulletin of the Medical Library Association*, 88(4): 393–396. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC35263/>

Monroe-Gulick, A., O'Brien, M. and White, G. (2013). Librarians as partners: moving from research supporters to research partners. *Association of College and Research Libraries Conference Proceedings*, 10-13 April. Indianapolis Indiana. 382-387. Available: http://www.ala.org/acrl/sites/ala.org.acrl/files/content/conferences/confsandpreconfs/2013/papers/GulickOBrienWhite_Librarians.pdf [2017, April 7].

Mutula, S. (2013). The changing face of library and information science profession. *African journal of Libraries, Archives and Information Science*, 23(2): 89-92.

Raju, R. and Schoombee, L. (2014). Research support through the lens of transformation in academic libraries with reference to the case of Stellenbosch University Libraries. *South African Journal of libraries and information science*, v. 79 (2). DOI: 10.7553/79-2-155.

Raju, R. Raju, J. and Johnson, G. (2016). Research support services in South African academic libraries. In *Quality and the academic library: reviewing assessing and enhancing service provision*. J. Atkinson, Ed. Cambridge, MA: Chandos Publishing, an imprint of Elsevier. 167-177.

Research Libraries UK (RLUK). (2012). Reskilling for research: an investigation into the role and skills of subject and liaison librarians required to effectively support the evolving information needs of researchers. <http://www.rluk.ac.uk/wp-content/uploads/2014/02/RLUK-Re-skilling.pdf>

Robson, C. (2002). Real world research. A resource for social scientists and practitioner researches. 2nd edition. Blackwell: Oxford.

- Roper, T. (2015). The impact of the clinical librarian: a review. *Journal of the European Association for Health Information and Libraries*, 11 (4): 19-22. <http://eahil.eu/wp-content/uploads/2015/12/Tom-Roper-19-22.pdf>
- Schwartz, C. [n.d.]. Restructuring academic libraries: adjusting to technological change. <http://www.ala.org/acrl/publications/booksanddigitalresources/booksmonographs/pil/pil49/sc hwartzintro>
- Sputore, A., Humphries, P. and Steiner, N. (2015). Sustainable academic libraries in Australia: exploring 'radical collaborations' and implications for reference services. Paper presented at IFLA WLIC, 15-21 August, 2015, Cape Town, South Africa. <http://library.ifla.org/1078/1/190-sputore-en.pdf>
- ten Ham-Baloyi, W. and Jordan, P. (2016). Systematic review as a research method in postgraduate nursing education. *Health SA Gesondheid*, 21: 120-128. <https://doi.org/10.1016/j.hsag.2015.08.002>
- Tenopir, C., Sandusky, R. J., Allard, S. and Birch, B. (2014). Research data management services in academic research libraries and perceptions of librarians. *Library and information science research*, 36: 84-90.
- Tise, E., Raju, R. and Adam, A. (2015). From research support to research partners. In Raju, R., Adam, A., Johnson, G., Miller, C. and Pietersen, J. Eds. 2015. *The quest for deeper meaning of research support*. Cape Town: University of Cape Town Libraries. DOI: 10.15641/0-7992-2522-8.
- Winning, M. and Beverley, C. (2003). Clinical librarianship: a systematic review of the literature. *Health information and libraries journal*, 20(s1), 10-21.