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# Transforming library research services: towards a collaborative partnership

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## **Background**

Charles Darwin University (CDU) is located in the Northern Territory of Australia. It is a comparatively small regional university. More than half of its 21,236 students are engaged in external study mode and are dispersed over its wider region and beyond, both interstate as well as overseas. Of the total student population, 78% are part-time and 22% are full-time (CDU, 2010, p. 14). The main campus, Casuarina Campus, is based in Darwin in the Top End of the Northern Territory with a number of smaller campuses and centres scattered throughout the 1.4 million km<sup>2</sup> land mass.

The changing research landscape in Australia in recent years has propelled universities to realign their focus in tandem with nationwide developments. From the mid-2000s and onwards, the Australian Government introduced a number of initiatives to assess the quality of research being carried out at universities. These initiatives were regarded as being significant as they in turn played a part in the level of funding universities would receive from the federal government for research activities.

Change was therefore signalled in the level and extent of services being provided by those offices of the University providing research support. As far as the Library was concerned it presented both a challenge as well as an opportunity.

## **In the beginning**

CDU had already starting making moves in the right direction having set up the Institute of Advanced Studies (IAS) in 2004. In establishing the Institute, it was envisaged that the University would become the regional leader in research into the areas of social, cultural, environmental, intellectual and economic development of northern Australia and surrounding areas, particularly in the so-called 'near north' – the islands of eastern Indonesia, and Timor Leste. The research was heavily focused on issues to do with Indigenous Australia, the unique environment and ecology of the wet tropical north and the dry arid centre. CDU's aim was noted as being to "increase and focus research activities within the institution to maximise the benefit to both the region and the wider academic community" (Mamtora, 2011, p. 88).

At about the same time the Federal Government's Research Quality Framework (RQF) – an exercise to measure the quality and impact of research being carried out in Australia – was in the process of being set up and at the end of 2006, funding was made available to universities for the implementation of the RQF. A year later with a change in government the RQF evolved into the Excellence for Research in Australia (ERA) initiative, a new method of assessing research quality using metrics and expert review (DIISR, 2008).

Ultimately university incomes as well as their academic reputations were to become reliant on the productivity of their researchers. The focus in universities therefore, even more than before, was on increasing the quality and quantity of publications. Parker (2012) described this as being a "surrogate metric for Australian universities' research intensity". It became imperative for the Library to make a concentrated effort to work with the various research groups of the University – the research office, research committees and other similar groups as part of the response to provide increased support and develop a platform for collaboration.

An important study carried out by the Research Information Network in the UK showed that there was a need for greater collaboration between libraries and the research community and highlighted “the importance of better communication and dialogue between libraries and researchers”. The report noted, “researchers rely on effective information services, more than they often realise. Ensuring that libraries provide the services that researchers need, and that researchers can make the most effective use of those services, are critically-important priorities” (RIN, 2007, Foreword, para. 5).

While the Library had long realised the necessity to provide high quality information services to its research staff and students, it was the national trends that provided the catalyst for the Library to look at ways of creating new roles to better provide research support (Mamtora, 2011).

### **A new role was born**

In Australia, there were few library staff dedicated to academic research support at this time. In 2004, Houghton, Steele and Henty had written about the increasing need for improved access to research information and scholarly communication, but without venturing into the new and challenging role that was to be required of librarians in coming years. It was not until 2006 that Genoni, Merrick and Willson reported on a study of scholarly communication practices, and on the changes in the way research was being done, and how this in turn, was likely to influence the role of the academic librarian. Even at that stage, they predicted the relationship of the librarian and researcher changing where librarians would become “fully integrated members of the scholarly communities that underpin research” (p.743). They called on librarians to embrace "research literacy" or “e-research literacy” and start to work more closely with the scholarly community (2006, p. 744). In the same year, following the RQF and ERA initiatives, the University of New South Wales restructured the University Library “to provide flexibility to adapt to changes in the academic and broader information environment” (Drummond and Wartho, 2009, p. 79), and extend support to researchers beyond the traditional library services, particularly in the area of bibliometrics.

CDU Library was not able to immediately hire new and specialised staff to provide the new extended service, as was the case at some larger universities (Borchert and Callan, 2011). In the interim, the team of liaison librarians continued to work with the full range of clients – staff, researchers, and higher education as well as vocational education students.

In 2005, a submission for a new dedicated position to support research was made to the University's new initiatives' fund; but proved unsuccessful. The Library continued its quest to source funding while making use of existing staff and facilities to fill the emerging gap. It was not until more than a year later that an opportunity arose as a result of an internal restructure to create the new position. The appointee, known as the Research Services

Coordinator (RSC), was a professional librarian with a research degree, extensive experience in the liaison area as well as leadership skills, good communications and marketing skills. She had also recently completed a postgraduate teaching qualification. The new role was predominantly still that of a liaison librarian (Parker, 2012) except that the liaison was to be carried out with a specialised group of clientele – the research community of the University. In the case of CDU, the terms "researcher" or "research community" refers to all staff of the University's research schools and institutes whether they be professorial staff, research fellows or research assistants; as well as all higher degree research students. More recently a change in enterprise bargaining (employment contract) conditions has meant that all current academic teaching staff will elect to be teaching only or research-active staff. Research-active staff will continue teaching but will be required to spend a substantial proportion of their time carrying out research. The needs of this group of staff will also need to be equally met. This necessarily implies that "librarians involved in research liaison require a broad overview of researcher needs across disciplines and the scope to design new services for researchers based on the changing landscape" (Parker, 2012).

Herein lay the challenge. From the outset it was envisaged that in this role the RSC would work closely not only with the existing team of liaison librarians, but also with the Office of Research and Innovation and all other areas of the University providing research support.

### **Needs of researchers**

Researchers today need to possess a number of skills and attributes to be successful in their endeavours. Two main components can be identified in this area: the need to be research information literate; and the need to have a good understanding of the research life cycle. Coupled with this is good access to information resources.

#### ***Research information literacy***

Those starting out as new researchers will need to ensure they have the basic but all too important skills of being information literate, or research information literate; of being able to identify the information they need in order to carry out their research. In 2000, the Association of College and Research Libraries in the US first came up with a definition of information literacy as being a state where an individual is able to "recognise when information is needed and have the capacity to locate, evaluate, and use effectively the needed information", a definition endorsed by the Australian and New Zealand information literacy framework (2004).

Therefore it follows researchers will need to know where and how to find information to meet their needs, and once they have found it, to be able to synthesise and analyse it and apply it to their needs. In so doing they will first need to determine the type of resources they will access. For example, at CDU, they will decide whether to begin by using a web discovery tool to search across a number of resources, or to just focus on using online journal databases. They will need to determine whether they are familiar enough with using these tools efficiently and in a timesaving manner; whether they know how to develop and refine search strategies, and set up alerts and RSS feeds. If the answer to any of these questions is no, they will turn to a librarian to assist. They will be able to book a one-on-one consultation with a librarian, tailored to their specific needs and additionally be able to attend library training workshops on searching for information, on setting up alerts or tracking research. Contrary to the findings of the UK study of four universities (Research Information Network 2010), feedback and statistics at CDU show that the range of information skills training

provided by the Library is highly valued and well attended by the research community (CDU 2011).

In the UK, the Researcher Development Framework (RDF) created for researchers rather than librarians, recognised the need for researchers to be information literate (RIN, 2011), and the SCONUL Seven pillars of information literacy: research lens, took this interpretation and extended it to more broadly demonstrate how a researcher “can develop from ‘novice’ to ‘expert’ as they progress through their research life” (SCONUL, 2011). In a very recent initiative, the Research Information and Digital Literacies Coalition (RIDLs) has been set up to “promote the value of information and digital literacies for academic researchers; and to enable activities which help to advance relevant knowledge, understanding and skills” (RIN, 2012). It is therefore important to note the ever-increasing volume of research data, primarily digital, and the onus that places upon researchers to be fully digital literate. This change has a fundamental impact on the needs of researchers and their expectations of services provided by librarians (RIN, 2008). A survey conducted by QUT in 2009 found that there was a digital skills gap to be addressed by the library in cooperation with other stakeholders within the University (Bradbury and Borchert, 2010).

In the Library Research Support Survey (CDU, 2012) carried out at Charles Darwin University in November 2011, all respondents (145) were asked to classify themselves within one of the following four categories: new researchers; early career researchers; established researchers; and "other". The new researchers category targeted HDR students and any staff in a new research role while ECRs included post-PhD researchers with 5 years’ research experience; and Established Researchers were those with extensive research experience. The Other category was introduced to include anyone that wasn’t able to select one of the categories above. Of the total number of respondents to this question, 53 or 36.6% classified themselves as being new researchers; 29% of respondents (42) considered themselves ECRs; and 35 or 24% established researchers. A further fifteen respondents ticked the "other" category and this included mid-career researchers, academic staff and research administration staff.

Researchers were asked if they needed additional support in a number of areas. The results are presented in the table below. Percentages reflect the number of responses to each question.

**Table 1 Research Support Required**

Category	New Researchers	Early Career Researchers	Established Researchers	Other	Total
No of respondents	40	34	28	12	114
Developing effective search strategies	22 (55%)	13 (38.2%)	12 (42.9%)	5 (41.7%)	52 (45.6%)
Filtering search results	17 (42.5%)	14 (41.2%)	10 (35.7%)	5 (41.7%)	46 (40.4%)
Keeping up-to-date with your research topic	25 (62.5%)	26 (76.5%)	17 (60.7%)	4 (33.3%)	72 (63.2%)
Using referencing software	18 (45%)	13 (38.2%)	10 (35.7%)	6 (50%)	47 (41.2%)
Finding journals to publish in	24 (60%)	16 (47.1%)	13 (46.4%)	2 (16.7%)	55 (48.2%)
Finding OA	20 (50%)	10 (29.3%)	13 (46.4%)	0	43 (37.7%)

journals					
Uploading outputs into IR	24 (60%)	14 (41.2%)	10 (35.7%)	3 (25%)	51 (44.7%)

As the table demonstrates, 60% or more New researchers said that they needed help with the following: keeping up with their research topic; setting up alerts in databases; finding journals and uploading their research outputs into CDU eSpace, the University's institutional repository. 76.5% of ECRs said they needed to further develop their skills in keeping up with their research topic. 46.4% of Established researchers needed to develop their skills in finding journals to publish in as well as finding open access journals. Of the Established researchers, 61% also needed help with keeping up with their research topic, while 46.4% needed to improve their skills in finding journals to publish in as well as identify open access journals. 50% of the "other" category needed help with using referencing software, with 41.7% needing help with developing effective search strategies, and 41.7% also needing help with filtering search results. In summarising, no matter the stage of a career a researcher is at, help and assistance is needed; but the nature of that help and assistance can vary.

### ***Research life cycle***

The research librarian's role has transformed to the extent that it is much more integral to the work of the researcher; that is it is required to provide support at each stage of the research cycle (RIN, 2010; Parker, 2012; Auckland, 2012). Rodwell & Fairbairn foresaw the librarian not just involved from the beginning of the research process, but ultimately "even move to a higher level, with a stronger outward focus ... as an equal professional partner in the research, learning functions" (2008, p. 120).

The research cycle is generally considered to contain four main elements: idea discovery; funding/approval; experimentation; results dissemination. It is critical that librarians are fully familiar with the activities their researchers are engaged in so that they can ascertain the depth and breadth of the role they need to play. QULOC (Queensland University Libraries Office of Cooperation) (2012) has produced a comprehensive research life cycle model that reflects the research librarian's role at each stage. Examples of some of the activities that may require support include:

- Idea discovery: writing the literature review; developing collections; providing research training; enhance information literacy
- Funding/approval: support with grants and funding
- Experimentation: data curation; research data management; metadata
- Results dissemination: institutional repositories; open access; bibliometrics; theses; research assessment; support for publication.

For example, if a researcher is in the category of being an Early Career Researcher (ECR) or a Higher Degree Student (HDR), they will also need to start actively publishing in their field of research. With so many journals in circulation, both in Australia and worldwide, how will they know which journal to start with? Will they target high impact journals or will publication in any scholarly, peer-reviewed journal in their discipline area be adequate? Librarians are increasingly playing a role in guiding researchers towards make a decision to selecting the journals most appropriate to their specific needs by introducing the range of tools available to identify journal titles, their impact and rankings.

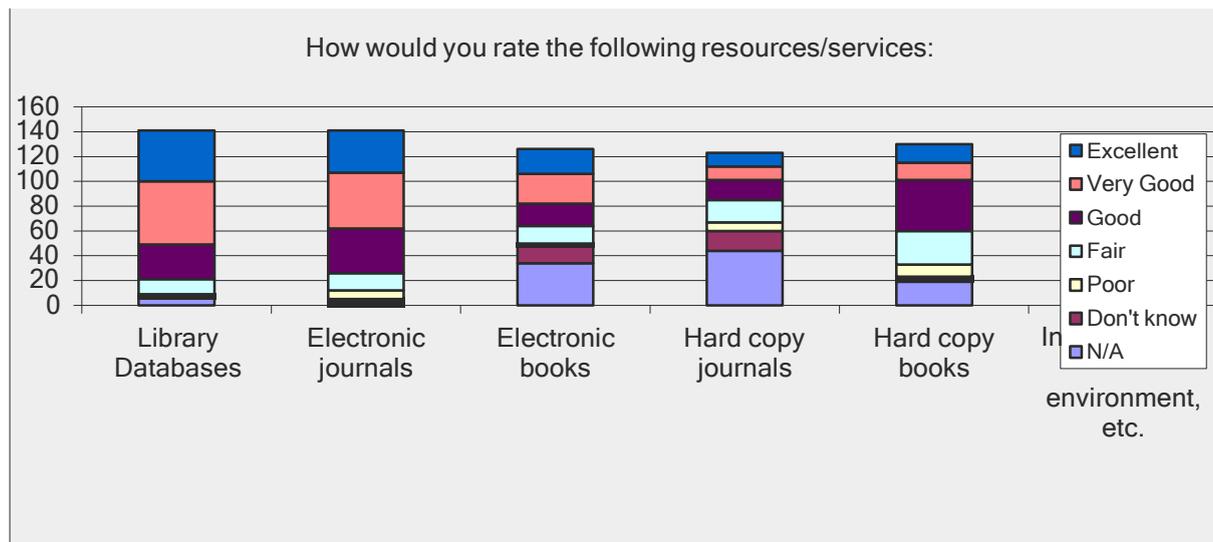
The type of support required by a researcher will depend on the discipline in which they are working. In a comprehensive report produced by Research Libraries UK (RLUK), Auckland (2012) surveyed the information seeking behaviour and information needs of researchers in

23 research-intensive university libraries in three regions of the world – Europe, North America and the Asia-Pacific. The RLUK findings indicate that researchers have varied needs depending both on their discipline as well as stage of their research career; that researchers in the sciences are more likely to use Twitter and digital repositories while those in the social sciences will be less likely to use Twitter and other emerging technologies (Connaway and Dickey, 2008 cited in Auckland, 2012).

**Research resources**

It is imperative that researchers have access to a range of key resources relevant to their discipline area. This area will always present a challenge to a small regional university with a limited budget. The Library strives to ensure it has a balance of resources to meet the needs of the wider research community with a focus on the key research priority areas. Survey results show an improvement in overall satisfaction rates with library resources at CDU in 2011. Although researchers in some areas continue to be dissatisfied with the collection, the average number satisfied increased from 48% in 2008 to 72% in 2011. The results, broken down by type of resource, can be seen in the table below.

**Figure 1 Ratings on Resources**



**Skills required by librarians**

Research librarians themselves will need to try and understand, and address, the disparate support needs of their respective research communities. As mentioned earlier, the role of the research librarian as it is generally known, is relatively new in Australia, and it is continuing to metamorphose. The University of Sydney is quoted in the RLUK report as saying, "Librarian roles are constantly evolving as the client demands evolve, so we evaluate and create new services to better support these demands" (Auckland, 2012, p.16).

Going by the CDU experience, research librarians will need to have a series of core skills in the area of communication, training and evaluation. Being able to communicate with the range of researchers whether they are professors, senior research staff or PhD students will be a crucial skill to have. They will need to be able to address forums; have good writing skills

as well as listening skills to fully comprehend the needs of their clientele. Another key skill is that of information literacy training and helping build capacity, either on an individual basis or by delivering workshops. A formal teaching qualification is of enormous benefit as it contributes to workshop planning, implementation and evaluation. Evaluation skills in the broader sense would help to first assess the impact and quality of support services being provided, and to review and improve upon them. The use of new technologies to create online workshops to supplement the face-to-face training is also important especially important for a university like CDU with a large cohort of students studying by distance including research students.

The primary role of the librarian to provide support remains unchanged; what is changing is the way in which it is delivered (Bains quoted in Anyangwe, 2012). As mentioned, in order to meet the needs of researchers, librarians need to familiarise themselves with the various stages of the research life cycle, and the range of activities that researchers are engaged with, so that they can play the new and vital supporting role. Whilst research librarians will work with subject or liaison librarians for the provision of discipline-specific support and will be "discipline agnostic", they will need to be aware of disciplinary differences as far as research practice goes (Parker, 2012). They will also play a part in developing the collection in key research priority areas. In addition to generic training sessions on searching journal databases and using referencing software, they will embrace the range of new roles including supporting researchers with literature reviews, with identifying journals in which to publish, with tracking research impact, and with grant applications (Parker, 2012; Auckland, 2012).

Increasingly librarians need to "become effective marketers" (Bains quoted in Anyangwe, 2012), to successfully relay the advanced level of support now available to them. In a sea of choice, librarians have to become islands worth visiting. Another potential area of support is in the use of social networking tools for online collaboration. James et al (2009 cited in Auckland, 2012) particularly recommend the use of social media for research collaboration purposes, but found that 72% of ECRs were not aware of some of the tools that were available to them. Given that social media is a fast-moving area, the library will keep track of any new developments, and bring those that are relevant and appropriate to the attention of the researcher.

The 2011 Survey (CDU 2012) also investigated the knowledge and use of a number of social media tools by CDU researchers. With particular reference to the social media tool, Twitter, 55.3% or 26 researchers claimed to have knowledge of what it was; however none were using it for research purposes. Although 48.9% (23) said that other tools such as YouTube or LinkedIn contributed to their research process, on further investigation it became apparent that only 32% (15) were actually using one or more tools for research purposes. On being asked if they would like to learn how to use them if they weren't already doing so, just 10 or 34% indicated that they would be interested now or in the future. The benefits of research collaboration using this range of Web 2.0 tools is an area that is being investigated at CDU along with better promotion of the usefulness of these tools for research endeavours. The Library has taken advantage of this opportunity and two workshops focusing on the use of a number of social media for researchers have been held in quick succession, with both being fully subscribed. The seed has been sown and is germinating quickly. It is evident that some of the tools are beginning to be used.

### **Skills gap versus CDU**

As noted at the start, CDU is a relatively small university based in a remote part of Australia. In recent years, it has been successful in developing some specific areas of research intensity as the ERA 2010 and ERA 2012 exercises have demonstrated. The success has been remarkable in spite of CDU's size and location. It has taken advantage of the uniqueness of its surroundings and focused on the research priority areas of Indigenous and tropical knowledge, particularly in the areas of health and the environment. At the same time, the Library has endeavoured to keep up to meet the needs of researchers in the face of a number of challenges. CDU's location inhibits easy access to training and education to develop the specific skills required to provide research support; and its small size means there are limited funds for what is a costly exercise. Nevertheless, CDU Library staff have, over time, done well in trying to bridge the gap and acquire the appropriate requisite skills.

The RLUK survey of 22 libraries conducted in 2010 (Auckland 2012) identified nine skills as being critical (at the time of the survey), and for the two to five years following:

- Excellent knowledge of **bibliographic and other finding tools** in the discipline/subject
- Excellent skills to **design information literacy training** (both face to face and online) to meet the identified needs of different types of researchers
- Outstanding skills in **information discovery**, literature searching etc.
- Knowledge to advise on **citing and referencing, and the use of bibliographic management software**
- Ability to pro-actively **advise on and market appropriate library services** to researchers
- Good knowledge of **data sources** available in the discipline/subject
- Excellent knowledge of **content** available in the discipline/subject
- Awareness of current and changing **local research interests**
- Ability to gain an appreciation of **individual researcher/project needs**, including effective listening skills

It can be said that the research librarian at CDU has all of these skills to a greater or less extent, while the liaison librarians have many of them. How these skills have been acquired is discussed in the next section on professional development.

Auckland also looked at the role of university libraries in research data management (2012). While many university libraries both in Australia and the UK have taken on the role of research data management, Auckland found little evidence of liaison or subject librarians specifically taking on this role; that is, it was handled by IT staff rather than library staff. Drawing on additional data from an international survey as well as the 2010 UK one, the RLUK study devised a list of nine key areas where a skills gap appears to exist in the skills of librarians (Auckland 2012, p.43):

- Ability to advise on **preserving research outputs** (49% essential in 2–5 years; 10% now)
- Knowledge to advise on **data management and curation**, including ingest, discovery, access, dissemination, preservation, and portability (48% essential in 2–5 years; 16% now)
- Knowledge to support researchers in **complying with the various mandates of funders**, including open access requirements (40% essential in 2–5 years; 16% now)

- Knowledge to advise on potential **data manipulation tools** used in the discipline/subject (34% essential in 2–5 years; 7% now)
- Knowledge to advise on **data mining** (33% essential in 2–5 years; 3% now)
- Knowledge to advocate, and advise on, the use of **metadata** (29% essential in 2–5 years; 10% now)
- Ability to advise on the **preservation of project records** e.g. correspondence (24% essential in 2–5 years; 3% now)
- Knowledge of **sources of research funding** to assist researchers to identify potential funders (21% essential in 2–5 years; 8% now)
- Skills to develop **metadata schema, and advise on discipline/subject standards and practices**, for individual research projects (16% essential in 2–5 years; 2% now)

A gap in these nine areas also exists in the skills levels of the CDU research and liaison librarians. At CDU Library, the Digital Collections Coordinator (DCC) currently carries out the work of data preservation and management, and is also responsible for CDU eSpace. The DCC was first appointed in 2009 with ASHER (Australian Scheme for Higher Education Repositories) funding provided to educational institutions to develop institutional repositories. This Australian Government initiative was set up to help institutions develop their data systems in preparation for the ERA and communicate their research outputs more widely.

With support from the CAUL (Council of Australian University Librarians) Australasian Institutional Repository Support Service (CAIRSS), many of the above activities are being addressed, or are in the early stages of being implemented. Now in 2013, with CDU Library having become a member of ANDS (Australian National Data Service) the RSC has started to work closely with the DCC and the newly appointed ANDS Project Officer in establishing a dialogue with the academic research community about data management. As part of the Library's newly established Research Data Working Group, the RSC will gain many of these skills during the course of the year. It is envisaged that the liaison librarians will gradually participate in upskilling activities in this area so that they can help with the process. For example, at QUT cross-skilling of liaison librarians was first considered in 2010 as a way of redeploying existing resources toward new research support services (Borchert and Young, 2010).

Garritano and Carlson (2009) suggest that the base knowledge that a liaison librarian possesses can prove useful for specialised research roles such as those of data management and data curation. Traditional library skills in doing reference work, collection development and information management can all contribute to the undertaking of this new role.

### **Formal and informal methods of professional development**

Over a period of time a series of formal and informal methods of professional development have been devised in order for the RSC to gain and improve knowledge in new areas. Undoubtedly additional skills will continue to be required in order to provide a tailored service based on user needs.

The first step for the new RSC at CDU was to identify the community and their needs, while at the same time raise awareness of the new support service available. The needs of researchers at a small university can inevitably be quite different to the needs of those at large, well-funded universities. At the time CDU Library had a small resources budget that had not increased in many years, so the challenge was to find workarounds that weren't predicated on substantial resources.

Initially, introductory appointments were made with heads of schools or institutes, and key research office staff; presentations on Library research services available were made at school meetings, faculty research committees and to various other research teams. This process contributed to familiarity with the job, promotion of services and an understanding of the specialised needs of the research community. Websites of other universities were scoured to assess the type of services being provided by other research institutions in Australia and overseas. Furthermore a collection of readings was gathered to garner knowledge about the various aspects of research support that could be provided.

In addition to these informal, ad hoc ways of gaining knowledge, formal avenues were also pursued as much as possible. As well as learning by communicating with colleagues working in research areas, a number of vendor training sessions were organised primarily for library staff but which were also opened out to researchers. Learning how to use the increasing number of specialist tools such as the Web of Science citation indexes; Journal Citation Reports; the Scopus database; the ScienceDirect Freedom Collection; the Australian Digital Theses database; and the ProQuest Dissertations and Theses Database to name a few, proved invaluable.

Support has been available through the QULOC (Queensland University Libraries Office of Cooperation) Research Support Working Party to its member institutions. Although CDU is not based in the state of Queensland, membership is extended to interested institutions beyond its immediate region. This is a valuable partnership where, through the various working parties, member institutions share resources and advice, and smaller university libraries such as that of CDU benefit enormously. Meetings are held bimonthly face-to-face for those that can make it, and by video/teleconference for the rest. Workshops and forums are organised based on need and staff of member institutions are charged a fee for attendance. A wiki is used to share resources including institutional reports and minutes of meetings.

One QULOC member, the Library of the Queensland University of Technology (QUT), recognised the need to fill their skills gap and in partnership with other areas of the University, developed a formal program of research support skills for its staff "as library staff need to acquire new knowledge and skills themselves in order to be able to support researchers and help build university capability" (Borchert and Callan, 2011). The program, first implemented in 2009 and 2010, included a series of workshops and seminars on topics ranging from research data management, intellectual property issues, liaison for research, bibliometrics, research grant cycle, and many others. It presented a valuable opportunity for staff to upskill and meet the changing needs of their researchers.

In comparison, CDU is a much smaller university with just five liaison librarians working with the RSC in providing research support. It has therefore just not been possible to formulate a tailored training program for Library staff such as that of QUT. In a research project on the pattern of staff development activity in Australian university and research libraries, Ian Smith (2002) reported on the commitment in universities to staff development despite the "pressure of contracting budgets". Duncan Smith (2001) had earlier identified Continuing Professional Education as the key to "provide practitioners with current information, knowledge and skills, increase their performance in their present positions and prepare them for new challenges and responsibilities in the future". Being based in the remote and regional capital city of Darwin has meant that distances, and therefore costs, to access these continuing professional development activities interstate are always considerable. This

is understood to be the norm, and generally managers accept the inevitability of this and agree to provide support as much as is possible in spite of limited budgets.

Opportunities for the RSC to attend conferences, workshops or seminars continue to be taken up with great enthusiasm whenever the opportunity arises but it is not very frequent. Such gatherings are invaluable not only in terms of learning from papers presented but also the tangible benefits of networking with colleagues from other institutions and visiting local libraries and seeing how others are providing support. Attending workshops on bibliometrics for example, has played a notable part in supporting researchers involved in the ERA exercise, and providing support with applications for research grants. More recently, the RSC has been instrumental in working with five other Australian research librarians to organise a national event targeting research librarians. The Research Support Community Day will be held as a pre-conference event to the Information Online 2013 Conference in Brisbane and will be open to all delegates as well as anyone else interested.

### **RSC and liaison librarians**

While the RSC focuses specifically on supporting the CDU research community, the small group of liaison librarians continue to work with the full range of students and staff at the University. Essentially, the RSC concentrates on developing specialist services and resources for researchers, such as: a research induction service; a tailored program of workshops; a bibliometrics service; and a suite of specialist tools such as a series of libguides and online workshops. Although the liaison librarians focus primarily on liaison for teaching, they all contribute to the half-day Advanced Information Skills Workshop for researchers, and provide subject-specific support to them, as they are knowledgeable about subject-specific databases. Generally though, the RSC remains the first point of contact for researchers.

The CDU research community is still relatively small but as it grows, the liaison librarians will increasingly become more involved and will start to provide support beyond basic information literacy. The changing role of liaison librarians is discussed by Rodwell & Fairbairn (2008) who propose a deeper engagement between faculty liaison librarians and researchers. For example, it is planned that the liaison librarians will work with the RSC and DCC in helping promote the value of open access journals and research data management within their own schools.

At CDU, the liaison librarians often attend the research workshops as part of their own upskilling process, and equally take advantage of one-on-one support from the RSC, as well as the online workshops that are created predominantly for external and off campus researchers. When required, the RSC runs workshops for library staff whether they are interlibrary loan staff, liaison librarians or service desk staff.

### **Personal PD planning**

At CDU, all staff, including library staff, are required to complete the annual professional development planning exercise (CDU, 2012). The plan allows individuals to define their personal goals and align them with the goals and priorities of the University. It further allows the opportunity to identify training and development needs in order to be able to better carry out the tasks and duties against each of their personal goals. Many of the PD activities outlined in the above section have been defined and completed through this activity. A

review of the plan towards the end of the year helps the individual staff member and supervisor, ensure they are on track, and if not identify why not.

The professional association for members of the library and information community in Australia is called ALIA, the Australian Library and Information Association. ALIA membership entitles participation in the ALIA PD Scheme (ALIA, 2012). It is not a mandatory scheme but it is points-based and allows the member keep track of their PD activities over a 12-month period. An online database allows the recording of the details of each activity completed, number of points gained and the learning outcomes. Once the member has participated in the scheme for 12 months and collected a minimum of 30 points, they are eligible to use the Certified Practitioner post-nominal (CP) after their name. After three years of participation they can apply for a CP certificate in recognition of that achievement. It demonstrates the commitment to professional development and proves particularly useful for job applications.

Both these PD programs contribute to help keeping track of any professional development activities that are required to better carry out one's duties. They also serve as a reminder that the PD program needs to be balanced and that acquiring skills in other areas of emerging interest is equally valuable.

### **Current support to researchers**

Gradually, in tandem with the new skills and knowledge gained by the RSC, the number of services offered to the CDU research community has been increased, based on needs and specific requests from staff and supervisors. Specifically, a series of tailored on-campus workshops was developed and supported by a suite of technological tools. As well, a research consultancy service was developed for individual support. New researchers or those new to CDU and its range of services, are offered a research induction opportunity – a one-on-one-session where they are introduced to the range of online and print resources available to them through the Library. Particular attention is given to the needs of international students who may not previously have been exposed to the type or range of resources available to them at their new institution, nor to the particular research–learning culture in Australia.

Workshops and consultations are run at the Casuarina Campus (in Darwin) as well as at the Alice Springs Campus and occasionally overseas, in Indonesia. Notwithstanding face-to-face support being provided to researchers and research students and increasingly at the suggestion of research supervisors and research program leaders, the use of email and telephone have also proved to be critical communication media. As well, the Collaborate online classroom environment and Skype technology are starting to play a role in the increasing support being provided to external research students and staff as well as those based at other campuses or centres.

The workshop program is supplemented by a range of online tools: podcasts using Adobe Audition software on topics such as *Journal Impact Factors* and *EndNote*; subject guides on Research Support, Research Methods and the Literature Review; online tutorials on topics such as *Finding Theses* or *Setting up Alerts* using software such as Captivate, Camtasia, Screenflow and Adobe Presenter; and *MyResearch*, a web site for research students which guides them through the research process. Sometimes learning how to use the particular software program was a voyage of self-discovery; at other times it was a matter of

collaborating with colleagues in the Library or in the Web and Multimedia team of the University to learn how to use it.

The aim of both the group and individual support is predominantly to help the researcher become more research information literate, and in this way to work more independently and thus achieve success in their research endeavours. In rising to meet this challenge library staff themselves have to ensure they continue to upgrade their own skills and competencies.

### **Evaluation exercises**

In the last five years, a number of evaluation exercises have been carried out to assess impact and identify any gaps that exist in the support that is available. The Library regularly carries out biennial client satisfaction surveys of its client group; however it was apparent that there was a need to carry out targeted evaluation of the research community to further provide direction in an area that is of vital importance to the University and its standing nationally.

Online surveys of researchers were conducted in 2008/9 and 2011/12 using SurveyMonkey. Focus group discussions followed the 2008/9 survey to provide an additional opportunity to identify strengths and weaknesses of the support provided, and unmet needs. In addition, all workshop participants are given the opportunity to give feedback by completing an evaluation form. The results from this series of evaluations have been, and continue to be, used to improve the products and services on offer to the research community.

There was a total of 116 responses to the **2008/9 survey**, which at the time was a 39 per cent response rate; overall, the survey results indicated that the Library was on track, with an acceptable satisfaction rate. Nearly 90 per cent were happy with staff support; 67 per cent found the research workshops good to excellent; of those that have undertaken a research consultation, 84 per cent found them good to excellent; and both the interlibrary loan service (70.3%) and off-campus Library support (38.3%) was considered good to excellent. In terms of usefulness, 84.2 per cent of those replying found one or more of the workshops useful.

As far as Library resources are concerned, 77 or 69.4% of respondents rated the electronic journals good to excellent; 32 or 29.1 per cent rated the electronic books good to excellent; 49 or 45.8% rated the hard copy journals good to excellent; 52 or 47.7% per cent rated the hard copy books good to excellent; and 58 or 53.7% rated the infrastructure good to excellent.

Based on the survey results and taking into consideration the comments made, there were a number of recommendations, the ones of particular interest to this paper were:

- Continue to promote Library services, especially the online tutorials, to the research community
- Provide more support for researchers based off campus
- Provide more support for research staff in Alice Springs both at the Campus and at the Menzies School of Health Research site
- Offer additional workshops targeting small specialised groups
- Make the Library web page more user friendly.

There were a total of 145 survey responses to the **2011/12 survey**; 104 or 96.3 per cent of respondents who had used the staff support service considered it good to excellent; 100 or

97.1 per cent of respondents who had attended a research workshop considered them good to excellent; 41 or 97.6 per cent of those using the research consultation service considered it good to excellent; 40 or 97.6 per cent of respondents who had attended a research induction considered it good to excellent; 33 or 91.7 per cent provided with off-campus support considered it good to excellent; and 96 or 94.1 per cent using the interlibrary loan service rated it good to excellent.

In terms of Library resources, of those respondents actually using them, 92 or 90.3 per cent thought the Library databases good to excellent; 115 or 84.6 per cent rated the electronic journals good to excellent; 62 or 79.5 per cent rated the electronic books good to excellent; 38 or 60.3 per cent rated the hard copy journals good to excellent; 70 or 65.4 per cent rated the hard copy books good to excellent; and 52 or 91.2 per cent rated the infrastructure good to excellent.

The recommendations from the survey included:

- Widen and deepen the range of resources whenever possible
- Provide hard copy materials in some disciplines
- Promote services widely to the research community using a number of different mediums
- Target the external research community, HDR students in particular, and offer support through the mediums of Collaborate and Skype in addition to email and telephone
- Introduce a workshop on the different types of social media available and their usefulness for research.

Many of the recommendations from the survey and the focus groups have now been addressed. More targeted workshops are being offered for special groups including those based in Alice Springs, and a series of online workshops have been developed for external and off campus researchers. The Library web pages have been revitalised and positive feedback has been received on their usability. Links with the Office of Research and Innovation have been further strengthened with a more coordinated approach to providing support being developed.

The evaluation exercises are critical in ensuring successful and targeted delivery of services to the community. The 2011 survey identified areas of need that have implications for further continuing professional development.

### **Survey results and CPD**

In attempting to address the concerns raised by researchers in the surveys, naturally there are implications for further professional development activities. As previously reported, the needs of researchers and the particular CPD needs of the librarian continue to be addressed. Many of the CPD activities undertaken as a result of the 2008/9 evaluation are reported on in the PD section above. The results of the more recent survey indicate that overall, researchers are satisfied with the range of workshops and support available. However there are a few implications for professional development, predominantly in the area of providing training in different types of referencing software and the use of social media for collaboration. These were highlighted in the annual PD plan of the RSC and addressed in 2012.

Strong links have emerged between the survey results and the implications for CPD. For example, the findings from the 2011/12 survey showed that few researchers were using social media for research communication. It was established that this was because of a lack of awareness on the part of researchers as well as a skills gap. Given that an objective of the ERA is to communicate research outputs more widely to a broader cross-section of the community, this presented an opportunity for the RSC to respond to this issue. The RSC undertook background research into social media for researchers, enhanced her own understanding and competencies sufficiently and worked with a liaison librarian to develop a training product for researchers. The workshop was piloted with two groups of researchers and was very successful. It is now a part of the regular training program for researchers.

The results of the various evaluation exercises will feed into the Library's staff development program for 2012-2013 on an ongoing basis. Contrary to the findings of the UK study into academic research support (RIN, 2010), the findings clearly indicate that it is well worth while investing in CPD activities in order to be able to respond to the needs of researchers. These activities will then be incorporated into the PD plan of library staff members.

A key issue this article raises in looking at the CPD requirements of research librarians is that of qualifications. With the increasing changes in the role of librarians in the research process and their relationship with researchers, the qualifications they need to have to be able to competently carry out their duties are coming into question.

In the US and in some parts of Europe, research librarians generally have a research degree and therefore speak the same language and are on a more even footing at the outset. Walker (2012) carried out a survey of research librarians at five South African universities and recommended the establishment of a postgraduate program that would incorporate on the job learning with researchers. This would give professionally qualified research librarians the additional grounding to work with researchers and thus gain better recognition from them. MacColl and Jubb (2011) suggest that it is difficult for librarians to make the case for a closer involvement in research but were more research librarians to demonstrate research experience, in addition to harnessing their librarianship skills, the research community would more readily accept them as equal partners. Although this is currently not the case in Australia, it is beginning to be discussed by LIS providers. If it were to come about, this would further contribute to the transformation of the role of the research librarian, and help consolidate the partnership with the researcher.

## **Conclusion**

Despite continuing challenges and budgetary constraints faced by the Library, it is evident that the University is doing well in terms of research quality and output. The results of the recent ERA 2012 exercise saw the University's research strengths in the areas of Ecological Applications, Environmental Science and Management and Medical Microbiology, all receive performance rankings as above world standard. CDU's research strength was ranked at or above world average on 71 per cent (10 of 14) of the research disciplines for which it was assessed (CDU 2012).

From 2005 to 2011 CDU's external research income increased from \$18.7 million to \$44 million, and the 2010 SCImago Institutions World Report ranked CDU at the top of the Australian university sector in terms of quality of publications, "with 63.41% of CDU's outputs (2004–2008) appearing in the top quartile of ranked journals" (CDU, 2011). Furthermore, an international survey ranked CDU fourth in Australia and 123rd worldwide

for environmental and ecology research based on research quality (Top institutions in Australia and New Zealand for research in environmental sciences and ecology, 26 May 2011).

At CDU, challenges notwithstanding, a concerted effort is being made to marry the needs of the user community with the skills and attributes of library staff. The research arena is in a state of flux and will continue to be so for years to come; librarians will need to be able to keep up with, and more precisely comprehend the needs of their research communities. In order to be able to respond more effectively, in turn they will ensure their skill levels and qualifications are updated accordingly. Monitoring and evaluation of services will need to be undertaken continually to maintain pace with changing needs.

The Research Information Network in the UK, in its advocacy work with vice-chancellors and senior institutional managers, concluded, “good library and information services are an essential underpinning for research, just as they are for successful teaching and learning” (RIN, 2008, p.3). It is conceivable then, that the efforts of the Library in providing support to the research community have contributed towards the impact and quality of the research being carried out at CDU. The evaluative exercises have provided evidence that this is the case, and have presented opportunities to improve the products and services offered by the Library. As a consequence, CPD needs and objectives are measured in the context of how these products and services will be designed, delivered and evaluated. For CDU, the surveys have shown that there is a direct link between the relevance and usefulness of the Library's research services. Therefore there has to be value in ensuring that the Library staff have the skills, competencies and confidence necessary to undertake this work.

It is intended that the research community will continue to be surveyed on a regular basis in order to respond to new or changing needs, ameliorate any problems and identify new opportunities. Scholarly communication trends will continue to change and academic and research priorities shift as a result. Regular communication with researchers and continuous assessment of their needs will help the Library keep track of changes happening in the research landscape both nationally and globally, and play a critical role in the success of their endeavours.

As a result of these changes, the research librarian's role is itself in a state of continual transition, and is changing from a supportive relationship to a collaborative partnership, from one that is on the periphery to one that is being embedded within the research community (Auckland, 2012; Potter quoted in Anyangwe, 2012).

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