RESEARCH DATA STORAGE AND MANAGEMENT: LIBRARY STAFF PARTICIPATION IN SHOWCASING RESEARCH DATA AT THE UNIVERSITY OF ADELAIDE

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ABSTRACT

Moving into a digital world, libraries need to identify new ways in which library services and expertise can be delivered to a more diverse community of users.

The ‘Research Data Storage and Management’ project conducted by the University of Adelaide in 2011-2012, took library services out of the library and into the faculties, placing library staff in direct contact with members of the research community.

The project had a twofold objective: to identify collections of research data that could be described through Research Data Australia\(^1\); and to elicit researchers’ requirements for a University of Adelaide research data repository and metadata store.

Over a period of 8 months, the project team prepared and conducted a total of 91 interviews with 100 researchers.

The findings from these interviews highlighted the need to provide a solution for the University of Adelaide’s research community in developing a research data repository and metadata store. The project involved people with a mix of library skills and qualifications, working in different areas of the library. This paper illustrates the involvement of library technicians in the ‘Showcasing Research Data’ project and their contribution to the overall success of the interviewing process.

\(^1\) Research Data Australia is a national data registry; the leading service of the Australian National Data Service (ANDS), providing connections between data, projects, researchers and institutions, and promoting visibility of Australian research data collections in search engines such as Google and Yahoo.

Contributing to Research Data Australia provides opportunities for raising the research profile of the University of Adelaide, as well as creating more opportunities for data reuse and further collaboration.
INTRODUCTION

The Showcasing Research Data project, officially named Research Data Storage and Management, was a twelve month project, managed by the University of Adelaide Library and funded by the Australian National Data Service (ANDS), as part of the Seeding the Commons program.

The purpose of this paper is to illustrate the involvement of library staff in the Showcasing Research Data Project with emphasis on contributions of library technicians. It also aims to capture the complexity of the project from the national context and the changing roles of university libraries, to work flows and strategies involved in working with virtual teams.

RESEARCH DATA: A NATIONAL PERSPECTIVE

Australia has funded e-research development programs since 2005 (Burton & Treloar 2009). The Australian National Data Service (ANDS) was established in 2008, as part of the government’s National Collaborative Research Infrastructure Strategy (NCRIS) initiative.

In order to increase the visibility and the discoverability of Australian research data collections, ANDS created the Research Data Australia (RDA) service, which describes data collections produced by or relevant to Australian researchers (Wolski & Richardson 2011).2

ANDS engaged in projects with most Australian Universities, using three main programs:

- Seeding the Commons – to encourage the systematic collection of research data records to populate Research Data Australia.
- Data Capture – to simplify the process of researchers capturing and depositing their data and the related metadata into well-managed stores.
- Metadata Stores – to support universities in the development of research data management solutions, including the creation of institutional metadata stores (Porter, De Vine & Rebollo 2010).

THE ROLE OF THE UNIVERSITY LIBRARY IN THE MANAGEMENT OF RESEARCH DATA

Managing research data is an emergent area of activity (Corrall 2012) where libraries have an opportunity to assume a leading role.

Corrall (2012) highlights the connection between research data management and existing library roles and responsibilities. The management of research data resonates with library values such as open access and free flow of information and can be related to current library practice in collection management, institutional repositories, systems development, reference services and information literacy.

Swan and Brown (2008) recognise the new role of the library in data-intensive research as an important and strategic repositioning of the library with respect to research support. They perceive three main potential roles for the library in research data management:

- increase data-awareness amongst researchers,

2 Here we need to mention that RDA does not provide data storage services, because of financial restraints and also because under the Australian Code for the Responsible Conduct of Research, storing data is viewed as an institutional responsibility (Burton & Treloar 2009).
• provide archiving and preservation services for data through institutional repositories,
• develop a new professional strand of practice in the form of data librarianship.

As university libraries take up the challenge of research data management, they become more digital and less defined by their physical spaces. These libraries develop collaborative relationships with the research community and assume more active roles within their parent institutions: “Just as researchers are being enticed into the library, library employees may be being sent out of the library.” (Childs, Matthews & Walton 2013)

SHOWCASING RESEARCH DATA: THE PROJECT

The interviewing process

The interviews were conducted in four stages. In the initial phase of the project, the project team concentrated on the creation of a suitable interview template, which was achieved with the help of library staff from the University Library’s Rare Books and Special Collections and University Archives. The project team continued to work on the interview template, beyond the test phase, making significant refinements to the interview questions (Australian National Data Service 2012).

The two parts of the interview template were designed to meet the main objectives of the interviewing process:
• Part A - to identify collections of research data that could be described through RDA.
• Part B - to elicit researchers’ requirements for a University of Adelaide research data repository and metadata store.

Part A of the interview template was created using similar templates from other ANDS-funded Seeding the Commons projects, including Griffith University, Monash University and the University of Wollongong. Due to the specific requirements of the Showcasing Research Data Project, Part B of the template used an original design, specifically created by the project team (Miller 2012).

Following the test phase, the interviewing process was completed in three stages. Each stage of the project followed the same interview workflow (Appendix 1). When interviewed on 21 August 2013, Cathy Miller, the Research Data Project Officer, stated that during each phase of the interviewing process, a number of researchers were contacted, interviewed, and their research datasets catalogued. Subsequently a new round of interviews would start and a new group of researchers would be interviewed.

Project outcomes and further developments

Between June 2011 and February 2012, the project team made contact with 322 individuals, conducted a total of 91 interviews with 100 individuals (Miller 2012) and contributed (manually) a total of 38 research data collections and associated Party and Activity records to RDA (Australian National Data Service 2012).

The project had three main tangible deliverables: to identify data collections, to elicit requirements for a research data repository and metadata store and to publish information and guidelines on research data management.
Based on interview findings, the project team published a final report: “Responses to interviews: University of Adelaide research data repository and metadata store”. This report reflects the broad needs of the University’s research community, indicating a strong support for the development of a repository and metadata store (Australian National Data Service 2013).

The LibGuide created by the Showcasing Research Data project’s team constitutes a central point for research data management information and services and provides “a public face to the University of Adelaide’s research data management practices and services” (Australian National Data Service 2012).

Following the Showcasing Research Data project, in April 2012, the University of Adelaide started a new project: the Research Metadata Store project. Jointly funded by the University and the Australian National Data Service, this project accomplished the creation of an institutional research metadata store: DataConnect (Australian National Data Service 2013).

The most recent library initiative to support researchers and to encourage proper management of research data is DataConnect3D: a series of events and training sessions aiming to provide assistance in the management of research data and to bring together “communities of researchers from around the University to share knowledge and opportunities” (Miller 2013).

LIBRARY STAFF PARTICIPATION IN THE SHOWCASING RESEARCH DATA PROJECT

In May 2011, the University Libraries’ Staff Development & Training Co-ordinator sent an email to all library seeking expressions of interest staff to express interest for a new project organised by the Library: the Showcasing Research Data project.

Library staff were invited to contact the Research Data Project Officer with a formal expression of interest indicating their personal reasons for participating in the project and the areas of the project they would like to become involved in. These included:

- providing support in the interviewing process,
- documenting requirements for a metadata store and repository,
- identifying suitable data collections for inclusion in the national repository,
- creating and entering metadata records into RDA,
- maintaining project documents and records,
- developing LibGuides web pages for research data management.

The Working Group

The working group of the project varied in structure and number of people involved. As Cathy Miller, the Research Data Project Officer, mentioned in the interview on 21 August 2013, some Research and Reference Librarians joined the working group later in the project, being interested to assist in interviews of researchers from their subject areas.

Also, some library staff contributed more, while others contributed less; either due to location and work load restraints, lack of interest, or because they were required to participate in some tasks and not in others.

In total there were seventeen library staff members involved with the Showcasing Research Data project, not including the Project Manager, the Research Data Project Officer and the Special Collections staff who provided help during the test phase of the project.
The project team consisted of five Library Technicians, two Campus Librarians, two Metadata Librarians, six Reference and Research Librarians and two other staff members, who performed distinct roles in the project. For example, the Library Systems Specialist provided technological support by offering expertise on XML formats as well as providing a web based tool to manage local metadata store records uploaded or downloaded from the ANDS metadata store (Loose, personal communication, 20 August 2013). Similarly, the Staff Development and Training Coordinator organised information and feedback sessions for staff, as part of the Staff Development Program had assisted during research interviews (Pamment, personal communication, 16 August 2013).

Library technicians’ participation in the project

Five library technicians took part in the Showcasing Research Data project, contributing through a variety of administrative and metadata support tasks, as well as participating in research interviews and contributing research data records to RDA.

When asked: “What was your contribution to the project? What tasks were involved?” in the email sent on 7 June 2013 (see Appendix 3), the library technicians responded:

**Narelle** (Roseworthy Campus Library, Library Assistant): “I helped with Researcher background and pre-interview preparation. I also asked Researchers for feedback after their interviews. My tasks included searching different databases for information, recording data, sending e-mails to researchers and adding data to spread sheets”.

**Vicky** (Roseworthy Campus Library, Library Assistant-Journals): “My contribution to the project was collecting background information about researchers prior to their interview. This was done through various sources - University Website, RDA and ANDS. I also sat in on one interview with a researcher/lecturer as a scribe (Cathy Miller conducted the interview)”.

**Allison** (Barr Smith Library, Digital Services Officer): “I attended some of the interviews and also catalogued some of the data. Before each interview I spent time reading about the work that the researcher had done. During the interviews I generally just took notes, rather than ask the questions. When cataloguing the data, I had to come up with a summary and decide the best way to catalogue the data. The data was catalogued using the scheme RIF-CS (Registry Interchange Format - Collections and Services)”.

**Joanne** (Elder Music Library, Services Desk Supervisor): “I would attend the interviews with Cathy Miller and take notes during the interview that we would compare once we had completed the interview”.

**Alexandra** (Barr Smith Library, Digitisation and Metadata Support Officer): “I helped in the pre-interview preparation by adding background information to researcher profiles and occasionally I helped with data cleaning and other minor project data maintenance tasks”.

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3 RIF-CS (Registry Interchange Format - Collections and Services) is a metadata exchange format for collections registries. It is the format required by the ANDS Collections Registry; used to describe Collections, Services, Activities and Parties within the Australian Research Data Commons. Find out more on ANDS website: [http://ands.org.au/training/rif-cs/index.html](http://ands.org.au/training/rif-cs/index.html)
Researcher backgrounds: the process

Researcher backgrounds were documents created during the project to help interviewers in the preparation of their research interviews (see Appendix 2). The information contained in researcher backgrounds was also used by metadata contributors when creating data records for RDA.

Compiling researcher backgrounds required library technicians to search various databases, find information on a researcher’s professional background and then enter that information into a template, found in the “researcher background” folder on the project’s shared drive.

The first resource the library technicians used, and the one that provided most background information about researchers, was the University of Adelaide staff directory (accessed from the University’s website). The information provided by the staff directory included contact details (email, work phone number and address), position title, faculty, staff directory URL, qualifications, research areas, particular professional interests, and publications.

To find the staff identification number (ID) of a researcher and the Research Master Enterprise Project Identification Number (RME ID) of a relevant project the researcher worked on, the library technicians would search the name of the researcher in the Operational Research Business Information Tool (ORBiT); a web-based information system containing data about research at the University of Adelaide.

Additional information relating to researcher’s publications was found using the University of Adelaide institutional repository, Adelaide Research and Scholarship (AR&S) and Trove, the National Library of Australia search service.

Lastly, RDA would provide links to catalogued data sets and projects to be used as examples during the interviews.

On some occasions, finding information about researchers proved to be difficult, especially when researchers did not have staff directory webpages. Some researchers preferred to have their home pages hosted on their school website, while others had no webpages at all.

In instances where there was not enough information listed in the staff directory, library technicians used Google and social networking sites such as LinkedIn, Facebook and Twitter to identify researchers and provide more information in their background work sheets. For example, one of the library technicians wrote in her answers to the question: “Is there an experience that stands out?” in the questionnaire in Appendix 3: “I remember being asked to find out the gender of one of the researchers. I was able to do this when I found a photo online.” (Presser, personal communication, 7 June 2013).

THE VIRTUAL TEAM: CHALLENGES AND OPPORTUNITIES

“Virtual teams are groups of geographically and/or organizationally dispersed coworkers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task. Virtual teams rarely, if ever, meet in a face-to-face setting.” (Townsend, DeMarie & Hendrickson, cited in Lovelace, Neck & Manz 2001)
The Showcasing Research Data project team performed as a virtual team, as well as a traditional team. While geographically dispersed and most often assembled by the means of electronic (email) communication, the project group was allocated time for face to face training, consultations, and information sessions.

Although challenging at times, working with virtual teams gave the opportunity of engaging with a greater number of individuals, living across multiple locations. Virtual communication allowed the project management team to engage effectively with more staff, across greater distances within the University. This in turn created the "indirect benefit of providing a professional development component that allowed staff who might not ordinarily engage in the project activities to play an active role" (Barrett, personal communication, 19 June 2013).

Also, having more library staff involved in the project spread the workload, minimising impact on the existing roles (Barrett, personal communication, 19 June 2013).

Sometimes, taking up opportunities can lead to more challenges. As Vanessa Barrett, the Project Manager, explained, having more people involved in project tasks “meant less efficiency when it came to creating metadata records as rather than only one person dealing with all records this load was spread over several people and consequently so was the training and education required to support these staff members (Barrett, personal communication, 19 June 2013).

In the interview on 17 May 2013, talking about the open approach of the project, Cathy Miller, the Research Data Project Officer said: “Resource-wise, this approach, allowed us to take a more in-depth approach, which necessitated a more in-depth preparation; thorough project processes (spread sheets, templates), strict and thorough processes, which in turn provided more in-depth information on people. [This] forced the project people to be better prepared; made the project very organised.”

For the library technicians involved in the project, the challenges of working as part of a virtual team consisted of being able to manage their daily duties and accommodate the extra project work on a tight schedule. Library technicians usually perform rostered duties and have set times to accomplish particular tasks.

When I participated in the Showcasing Research Data project, I worked on a roster, in two departments, sharing my time between Metadata and Digital Services. As agreed between supervisors, I could perform project work in the Digital Services and not in the Metadata department. On some occasions, I would miss the opportunity to complete researcher backgrounds due to work arrangements. On other occasions, the emails with requests arrived late in the afternoon and by the next morning all the requests were completed by the other two library technicians. The project officer would then send me separate emails with requests that I could work on. As the project advanced the email communication between the project officer and library technicians improved; it was better timed, faster and more efficient.

CONCLUSION

The Showcasing Research Data project raised the profile of the library within the university community. The project also emphasised the importance of research data management and the role of the Library in supporting researchers in the proper management of their data collections. In addition, the project facilitated further developments in the management of research data at the University of Adelaide (DataConnect and DataConnect3D).
The interviews engaged library staff outside of the “physical library” and placed them in direct contact with members of the research community. Through the interviewing process, the library staff acquired a better understanding of the research data management practices within the University.

Library technicians made an important contribution to the Showcasing Research Data project. Assuming various roles, they performed administrative tasks, catalogued data sets and participated in interviews.

As a result of their involvement with the project, library technicians learned new skills, gained professional and teamwork experience and developed an insight into the world of research and research data management. Their work added to the dynamics and the complexity of the project and allowed the project management team to take a more thorough, in–depth approach in research interviews.

ACKNOWLEDGEMENTS

I wish to say thank you to all of my colleagues who responded to my emails and completed the questions in Appendix 3. I wish to express my appreciation for the help received from Vanessa Barrett, the Project Manager, Cathy Miller, the Research Data Project Officer and Terri Pamment, the Staff Development and Training Co-ordinator, who supported me in writing this paper.

REFERENCES


Childs, S, Matthews, G & Walton, G 2013, ‘Space, use and University Libraries – the future?’ in G Matthews & G Walton (eds), University libraries and space in the digital world, Ashgate Publishing Limited, United Kingdom, p. 211.


Miller, C 2012, *Responses to interviews: University of Adelaide research data repository and metadata store*, University of Adelaide Library, Adelaide, pp. 4-5.


APPENDIX 1

Showcasing Research Data: Before the interview workflow

Showcasing Research Data: After the interview workflow
# APPENDIX 2

## Researcher background and pre-interview preparation

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<td>Interview location and special instructions</td>
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<td>Interviewers</td>
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## Researcher details

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## Data collection

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## Comments/Notes

Insert any extra information that might be relevant here. For example, are there projects in ORBIT that I haven’t listed above that might be useful to know about? Or FOR codes from ORBIT that might be useful?
APPENDIX 3

Questionnaire

What was your work position at the time of the project?

What motivated you to volunteer for the Showcasing Research Data project?

What was your contribution to the project? What tasks were involved?

How did you find working within a team i.e. with library staff, researchers etc.?

What have you gained from your experience with the project, both professionally and personally?

Is there an experience that stands out?