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# Empowering Data at Leeds Beckett University: Understanding Institutional Needs and Applying Best Practice

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## 1 Introduction

Whilst historically a teaching-focused institution, research output is growing exponentially at Leeds Beckett University (LBU). Therefore, LBU's Library and Student Services (LSS) must be ambitious in developing the breadth and quality of its support to researchers, whilst pragmatically recognising curtailing factors such as budgets and staff capacity. Many university library services recognise the challenge of meeting the changing needs of their institution and will develop strategies to adapt.

Open Data is the latest frontier of Open Science but detailed understanding of existing LBU researcher knowledge on research data has been absent. Meanwhile, research-intensive institutions have greater experience of delivering Research Data Management (RDM) support compared to LBU, so gaining an understanding of best practice from them would be beneficial for shaping future services.

As part of an Arts and Humanities Research Council and Research Libraries UK (AHRC-RLUK) Professional Practice Fellowship, this study aimed to conduct a literature review on RDM support, research LBU researcher knowledge and support needs regarding Open Data, gain best practice from other UK universities on supporting RDM, and then make recommendations on university RDM service development.

## 2 Literature Review

Research Data Management (RDM) describes activities which manage research data through the lifecycle of a project and in the last decade it has become a strategic priority for universities (Cox and Pinfield 2013; Oo et al. 2021; Andrikopoulou, Rowley, and Walton 2021). Open Data is data made freely available for anyone to use under licence and is based on the principal that publicly funded research should be made publicly available.

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Open Data has practical, methodological, and potentially ethical issues, requiring detailed consideration by researchers even prior to starting a research project. Therefore, good RDM training is essential for “maximising the potential of Open Data” (Childs et al. 2014, p.154).

Parsons et al. (2011) suggest socio-cultural factors pose a greater barrier to Open Data than technical issues, and Chen et al. (2018, p.113) echo the need for a cultural shift towards the “...pursuit of reusability...” in researcher practice. Although funder mandates have galvanised academic libraries to promote and support Open Data, incentivising researchers to share their data requires both cultural change at institutional level and discipline-specific support (Woods and Pinfield 2022). This suggests publishers, funders and research institutions should seek to normalise data sharing behaviour and support the development of communities of practice where researchers share skills, mentor each other, and collaborate with Open Data (see Levine et al. 2020).

Librarians require a proactive approach to Continued Professional Development and managerial support to access relevant training to be both competent and confident when delivering RDM training and influencing researcher behaviour (Rachlin 2022). Best practice in RDM training has been identified (see Oo et al. 2021) and implementing it has the potential to not only increase Open Science behaviours, but also build a new identity for library services (Andrikopoulou, Rowley, and Walton 2021; Childs et al. 2014).

### 3 Methods

This mixed-methods study had two elements:

- **Open Data Questionnaire:** To understand Open Data knowledge and identify training and support needs, an internal, online questionnaire was promoted between Aug-Oct 2022 to all LBU researchers. 11 quantitative questions were asked, plus opportunity for participants to add qualitative detail to responses.
- **Best Practice in RDM Support Interviews:** To gain an understanding of best practice in supporting research data across the sector, online and in-person meetings were held between Oct-Nov 2022 with library teams supporting Research Data Management at four UK Higher Education institutions: University of Leeds, University of Sheffield, De Montfort University and Edge Hill University.

## 4 Results

### 4.1 Open Data Questionnaire

51 responses were received from all but one of Leeds Beckett’s nine academic Schools. Whilst most researchers knew what Open Data was (67%), the majority had not used it for their own research (57%). Most researchers said they required further guidance or support, with the most popular types being “Practical guidance on how to make data

open”, “A named person/service to go to for support” and “Practice guidance on the potential risks to making data open”.

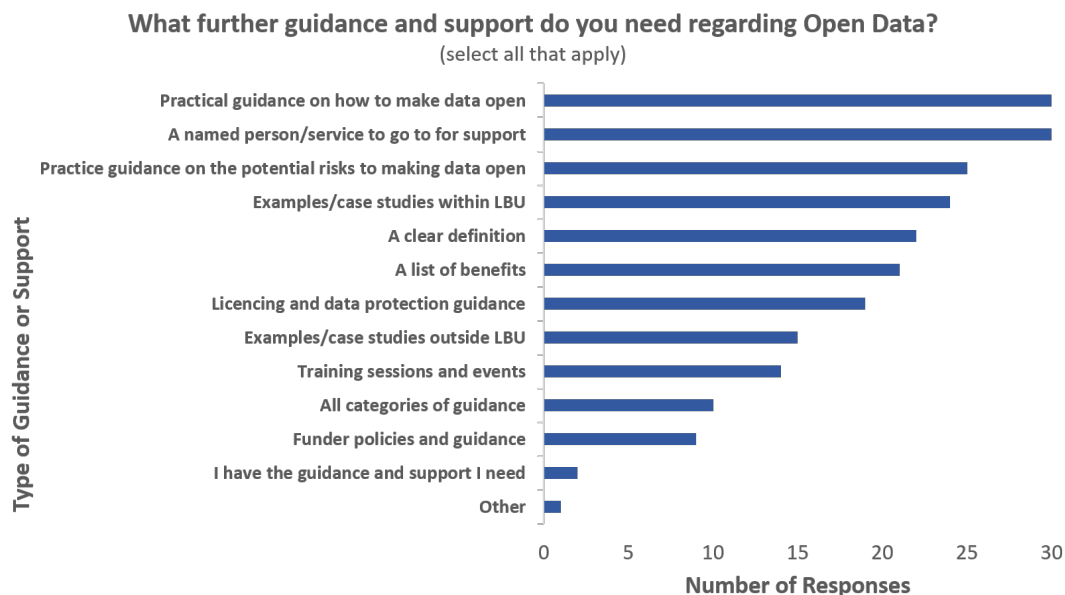


Figure 1: Questionnaire results for question “What further guidance do you need regarding Open Data?”.

The key barriers cited to making data open were “concerns about how my data will be used by others” and “lack of support and guidance”. Other barriers included not knowing who to go to for support and “lack of infrastructure”. Eight respondents were concerned about the “robustness” of their data. Several qualitative responses to this question were received, revealing ethical concerns about making participant details open and beliefs about open data being irrelevant to the Humanities.

Respondents were asked “Do you think open data will increase collaborative research opportunities for you in the next 3 years?” and the majority said they were “Unsure” (49%) although 31% responded “Yes”.

## 4.2 Best Practice in Research Data Management (RDM) Support Interviews

Between the four UK universities interviewed, there were significant differences in RDM team sizes, demonstrating scalability for service provision, dependant on budgets and institutional needs. Removing jargon and “thinking like a researcher” were key recommendations from De Montfort University. Supporting researchers through discipline-specific examples and demonstrating positive outcomes gained buy-in and improved engagement. Online support (e.g. webpages, short videos, tutorials) met most researcher support needs, enabling the single staff member at De Montfort University to focus on complex queries.

The University of Sheffield (UoS) and University of Leeds (UoL), as research-intensive universities, had significantly larger teams to support RDM, but still needed strategies to manage demand. The UoS provided comprehensive RDM training and website guidance. Teaching sessions on Data Management Plans, for example, were considered valuable to reduce future RDM issues, especially for postgraduate and early career researchers. UoS recommend their researchers deposit their data in a discipline-specific repository where possible but use their institutional data repository if necessary. This is beneficial in reducing staff time in processing datasets internally, but means the institution has less knowledge and oversight of data being produced by their researchers.

At UoL, a large and dedicated team support RDM, providing online guidance, training and 1-2-1 sessions. They have multiple repositories for data and other outputs, creating complexity in workflows, processes, and the need for technical skills. Meeting individual researchers to understand their support needs was valuable but time intensive. The institution supports researchers from a wide range of disciplines and a key challenge was ensuring the service was equally supportive of all. Overall, best practice was revealed to include detailed, multifaceted online guidance, training sessions pitched for different knowledge levels, and specialist RDM staff to handle individual researcher enquiries from multiple disciplines.

## 5 Discussion and Recommendations

The Open Data questionnaire findings provide the first ever insight into LBU researchers' knowledge and needs. They suggest that whilst there was a good, general awareness of Open Data amongst participants, Library and Student Services (LSS) should provide practical guidance on making data open, as recommended in the systematic review by Oo et al. (2021).

Interestingly, respondents from all academic Schools gave a variety of answers, suggesting knowledge and interest was uneven regardless of discipline. Providing tailored sessions for different levels of understanding (e.g. beginners/intermediate/advanced) would be beneficial to meet institutional needs and as suggested by Oo et al. (2021), likely successful at increasing knowledge. The best practice interviews also showed this to be beneficial for RDM support. The challenge for library staff in any institution, and as discussed in Rachlin (2022), is to provide this breadth of training within staff resources and ensuring those staff feel confident and competent to provide training.

LBU implemented an instance of the Figshare repository platform in Autumn 2022, providing institutional infrastructure for research data, but the Open Data questionnaire results revealed participants were often unaware of it. Meanwhile, best practice interviews suggested discipline-specific data repositories were often preferable to institutional repositories. Therefore, a challenge for library services is to develop the knowledge and skills to support researchers to deposit data in the most suitable place for their specific needs. Furthermore, findings of this study suggest that practical guidance on identifying repositories and depositing data is essential. This study highlights the need for increased

Table 1: Recommendations for Research Data Management (RDM) service development at Leeds Beckett University.

<b>Recommendation Theme</b>	<b>Recommendation Description</b>
1. Training and Support	<p>1.1. Create practical RDM guidance that covers the whole research lifecycle for the Library service’s webpages e.g.</p> <ul style="list-style-type: none"> <li>• FAIR principles</li> <li>• Writing a DMP</li> <li>• Benefits of Open Data</li> <li>• How to identify and use discipline-specific data repositories</li> </ul> <p>1.2. Run training sessions pitched at different levels of knowledge for staff and Postgraduate Research students</p> <p>1.3. Create short videos of the above practical guidance</p> <p>1.4. Offer Schools tailored RDM training sessions</p>
2. Institutional Relationships	<p>2.1. Partner with Schools to:</p> <ul style="list-style-type: none"> <li>• Identify and recruit data ‘champions’</li> <li>• Understand discipline-specific needs</li> <li>• Identify potential case studies of good practice</li> <li>• Recruit researchers to review Library support and guidance</li> <li>• Develop links with administrative staff to aid communication and knowledge-sharing</li> </ul> <p>2.2. Engage with the senior University staff on Open Science research culture</p>
3. Communication	<p>3.1. Position the Library as the key source of research data support using the improved guidance and training:</p> <ul style="list-style-type: none"> <li>• Utilise internal newsletter to communicate support</li> <li>• Write up case studies and promote</li> </ul>

emphasis on ethical issues in research data, including guidance and training on how to consider Open Data prior to gaining ethical approval and when writing DMPs. This needs to be relevant and tailored to all disciplines where feasible.

Surprisingly, findings demonstrate there are potential benefits to being a smaller, less research-intensive institution. Compared with some universities interviewed, LBU has fewer systems to manage and a smaller number of disciplines to support. Therefore, for LBU and similar universities, there may be opportunity, for example, to identify key researchers in different Schools to have in-depth conversations to understand their challenges and concerns around RDM. This would develop a library service's existing role of providing holistic support to the research community. For LBU, this deeper knowledge would build on the results of the Open Data questionnaire and further inform the support provided.

In conclusion, the literature review, Open Data questionnaire results and best practice interviews enable a clear set of recommendations on RDM service development to be made. These are grouped under themes of Training and Support, Institutional Relationships, and Communication. Key recommendations are provided in Table 1.

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