Taught and CPD learning materials about Research Data Management
Tailored for Information Professionals

Funded by

JISC

VERSION
January 2013
In a nutshell

- There is recognition of the growing scale and fragility of digital research data; funders and publishers mandate RDM; and a promise of increased impact through open data
- Researchers are currently ill positioned to undertake long term stewardship of data (Pryor 2012)
- Libraries have a part to play in supporting RDM, but librarians need to acquire new skills
- RDMRose has been creating Open Educational Resources on RDM tailored for information professionals
Objectives of the project: RDMRose

• Create and evaluate learning materials about RDM tailored for liaison librarians

• Produce an Open Educational Resource (OER) for self supported Continuing Professional Development and full time Library & Information Management students

• Web site – project progress, and open access materials http://www.sheffield.ac.uk/is/research/projects/rdmrose
The URL...

http://www.sheffield.ac.uk/is/research/projects/rdmrose
Preview of RDM in UK HEI survey results

• 83 UK HEIs responded to our survey (with Stephen Pinfield)

• Low level of service development; high priority for next 3 years
Survey results: challenges

• “The skill set of the library workforce, the costs of RDM and the difficult economic climate.”

• “Capacity and workload in a context of shrinking resources”
Do library staff have right skills to play a significant role in RDM?

• “A few library staff have some of the right skills”

• “Librarians have core skills regarding the organisation of information but these need extending to fully encompass the requirements of data management.”

• “They may not be aware that the skills they have are transferable however”
Where will the skills come from?

• By recruitment

• Through JISC projects

• On the job or self-train or CPD
Why librarians?

• Open access leadership role
• Liaison, negotiation skills and contacts with academics
• Knowledge of information management, collection development, metadata skills and practices
• Understanding of research data management as a form of information literacy (IL)
• Established LIS networks for sharing best practice across the profession
• Librarians are good at explaining things in accessible ways
Challenges

- Librarians are already over-taxed with roles
- They often do not have personal experience of research
- Translating library skills to research data issues
- Will researchers look to libraries for this support? Being taken seriously
- Complexity and scale of issues
- Resources, infrastructure, management structures have yet to be created in most institutions
Areas where libraries can contribute

• Policy
• Teaching appropriate literacies: PIs and early career researchers, PGR, Taught students
• Advisory service on RDM; web sites
  – Awareness of data for reuse; data citation
• Signposting
• Auditing/ asset review of data sets researchers have
• Data curation capacity, e.g. appraisal and collection management policy
A taster: “Are you RDM ready?”

• What exactly is research data? And what does “managing” it mean?
• Why has RDM become a big issue now?
• What do the funders’ mandates actually say?
• How does RDM relate to the open access agenda?
• Has your institution got a policy? What does it say and who owns it? How does it differ from other institutions’ policies?
“Are you RDM ready?”

• How do researchers see RDM?
• How does the computing service OR research office see RDM?

• Are there teaching resources on RDM relevant to the topic I support that I can reuse?
• Are there any national data repositories relevant to subjects you support?
• How do you cite a data source in APA?
“Are you RDM ready?”

• What is a data management plan and what do you need to know to write it?
• What is the case for a data audit?
• What policies and procedures would need to be in place to manage a local repository as a collection?
• What useful resources are there on the DCC web site?
“Are you RDM ready?”

• What does RDM mean to my job?
• Does RDM imply embedded roles for LIS staff?
<table>
<thead>
<tr>
<th>Role</th>
<th>Alignment with existing roles</th>
<th>Competencies required</th>
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<tbody>
<tr>
<td><strong>Policy and advocacy</strong></td>
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<tr>
<td>Lead on institutional data policy</td>
<td>Advocacy role e.g. in the area of open access</td>
<td>Strategic understanding and influencing skills</td>
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<td><strong>Support and training</strong></td>
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<td>Bring data into undergraduate research-based learning, promoting data information literacy</td>
<td>Information literacy training</td>
<td>Understanding of RDM best practices as they apply to relevant disciplines; pedagogic skills</td>
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<td>Teach data literacy to postgraduate students</td>
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<td>Develop researcher data awareness</td>
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<td>Provide an advice service to researchers (and research administrators), e.g.: Advice on writing Data Management Plans, RDM within a project, licensing data, on data citation and on measurement of impact of data sharing.</td>
<td>Reference and enquiry roles; producing print and web based guides; copyright advice.</td>
<td>Reference interview, knowledge of RDM principles</td>
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<td>Provide advice as above through a web portal</td>
<td>Library web site</td>
<td>Knowledge of institutional and extra-institutional resources</td>
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<td>Signpost who in the institution should be consulted in relation to a particular question</td>
<td>Role of library as point of enquiry and the reference interview</td>
<td>Knowledge of institution</td>
</tr>
<tr>
<td>Promote data reuse by making known what is available internally and externally; explaining data citation</td>
<td>Marketing of library resources</td>
<td>Knowledge of researchers’ needs, knowledge of available material</td>
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*Data asset assessment and repository management*

| Audit to identify data sets for archiving, create a catalogue of materials or to identify RDM needs | Metadata skills | |

| Develop and manage access to data collections | Collection development, digital library management and metadata management | Audit interviews, knowledge of RDM principles, metadata, licensing |

| Develop local data curation capacity | Open access role. Preservation role. | Knowledge of RDM principles, relevant technologies and processes, metadata |
Design approach to learning materials

• Learning needs analysis: Use of literature, existing curricula, focus groups
• Participatory design process
Learning approach

• Open ended context demands exploration of issues, with individual professional reflecting on how issues relate to their own role
• Not simply about lists of competencies/knowledge, also about identity
• Need to understand perspective of researchers
• Need to understand perspective of other professional services: especially research office, computing, archives and records managers
Institutional Stakeholders

Extra-Institutional Stakeholders

Individual professional perspective

The Researcher

Research Project

Department

PVC research

Research Office

Human resources

Records unit and university archive

Library

Data repository manager

Computing services

Other Researchers in the discipline

Researchers in other disciplines

Commercial Partners and Customers

Other HEIs

Funding councils

The public and wider Society

Perspectives on RDM
The learning materials

• Desire for practical hands on experience needs to be balanced by a grasp of strategic issues
• Problem Based Learning (PBL)
• Inquiry Based Learning (IBL)

• Slides
• Readings
• Learning activity ideas
• Audio files of interviews with researchers
• A fictional case study
Learning outcomes

• Explain the diverse nature of research across academic disciplines and specialities and discuss different conceptions of research data
• Analyse the context in which research data management has become an issue
• Discuss the role of a range of support services, including libraries, in RDM
• Reflect for themselves as individuals and for information professionals in general on the role and priority of supporting research data management
• Explain and apply the key concepts of research data management and data curation to real world case studies and professional practice
• Understand how to keep knowledge acquired on the module up-to-date
Session 1 – Introductions, RDM, and the role of LIS

• RDMRose module introduction
• RDM basics
• The LIS role in RDM
• Reflection and reflective writing
Session 2 – The nature of research and the need for RDM

• The social organisation of research
• Research, information practices and data
• The RDM agenda, including Funders’ mandates and university policies
• The research data interview and audit, and investigating a researcher 1
• Reflection on research
Session 3 – The DCC curation lifecycle model

• Exploring the lifecycle
• Data Management Plans
• Advocacy of Data Management Plans
• Reflection
Session 4 – Key institutions and projects in RDM

• Mapping the DCC website
• Designing Library web pages with RDM support for researchers
• Investigating a researcher 2
• Reflection on the learning process
Session 5 – What is data?

- Researchers and their data: investigating a researcher
- Looking at data
- Open data
- Reflecting on research and research data
Session 6 – Managing data

• Practical data management
• Institutional data repository policies
• Subject repositories
• Metadata and data citation
• Reflection on Library organisation
Session 7 – Case studies: Research Projects

• Case studies of researchers and research projects
• Reflection on RDM and your role as an LIS professional
Session 8 – Case study: Institutional Context, and Conclusions

- Institutional case study
- Reflection on the Library role in RDM
- Evaluation of the RDMRose module
How can you use the learning materials?

• A systematic grounding in RDM, through self-directed CPD

• Targeted learning about an RDM topic that is key for your role

• Reuse material or ideas for your own teaching library colleagues or others

• Come to Sheffield to take RDM as a module
THE PROJECT
About the partnership

• White Rose libraries:
  – Leeds, Sheffield and York,
  – iSchool, University of Sheffield

• Advisory Board
  – Neil Beagrie – expert on digital preservation
  – D. Scott Brandt (D2C2) - Associate Dean for Research, Purdue University
  – Sheila Corrall – University of Pittsburgh, formerly Sheffield
  – Martin Lewis – Director of Library Service, University of Sheffield
  – Liz Lyon - Director of UKOLN and Associate Director, DCC
  – Andrew Thompson (DMSPsych) University of Sheffield
  – Madeleine de Smaelen (3TU.Datacentrum)
Project Management Team

- Led by the iSchool, University of Sheffield
  - Research Associate/Curriculum Developer – Dr Eddy Verbaan
  - Lecturers from the iSchool, Andrew Cox, Barbara Sen, Information School, University of Sheffield.
  - Denise Harrison, Head of the Learning and Research Services Team, Library, University of Sheffield.
  - Carmen, O’Dell, Faculty Librarian for Science, University of Sheffield
  - Liz Waller, Deputy Director Information and Head of Information Services, University of York.
  - Brian Clifford, Deputy University Librarian (Head of Learning and Research Support), University of Leeds and Project Director, RoaDMaP
Project

• Starting July 2012– ending Summer 2013
• Focus groups (White Rose libraries) will scope the knowledge base, skills gaps, and training requirements
• Development of a core of material built round existing work
• Case study material
• Delivery and evaluation with Sheffield librarians (Autumn Semester 2012-13)
• Iteration with Leeds and York and FT Sheffield masters students (Spring semester 2012-13)
• Dissemination via website, blog and publications and event for LIS educators
Deliverables

• A module within Sheffield’s taught masters courses (but also available for stand alone study)
  – MSc Digital Library Management
  – MA Librarianship
  – Also MSc Information Management, Information Systems

• Curriculum material (lesson plans, case study, assignments etc) for other Information Departments as OER in Jorum

• A self study CPD version, with support forum
Strengths of the Project

• Addresses a real need
• Brings together practitioners, researchers, experts, teaching staff, managers, students
  – Sharing expertise, and promoting communication and understanding
• Draws on expertise across organisations exploiting the strengths within the consortium and beyond
• Participative curriculum development tailored for librarians
• Provides outputs to support best practice, teaching, and research
• Supported mutual learning, and engagement with reflective techniques
• Continuous evaluation built into the project design
• The resources will be made openly accessible
Evaluation and quality control

• Participating learners’ qualitative and quantitative formative and summative evaluation:
  – Is the material suitable in terms of content, level and approach?
• Tutors’ reflections: success of learning, also impact on personal practice
• Interviews with project stakeholders: wider expectations and impacts
• Response of wider LIS community
• Advisers to check quality against pedagogic principles
Timeline

• Current status: Designed and delivered half day sessions @ Sheffield
• Version 1 of CPD material launch January 2013
• Second iteration with Leeds and York, Jan-Mar 2013
• Workshop for LIS educators
The URL...

http://www.sheffield.ac.uk/is/research/projects/rdmrose

RDMRose Learning Materials

On this page:

- Session 1: Introductions, RDM, and the Role of LIS
  - Session 1.1: Introduction to the RDMRose module
  - Session 1.2: RDM basics
  - Session 1.3: The LIS role in RDM
  - Session 1.4: Reflection and reflective writing
- Session 2: The Nature of Research and the Need for RDM
  - Session 2.1: The social organisation of research
  - Session 2.2: Research, information practices and data
  - Session 2.3: The RDM agenda
  - Session 2.4: The research data interview and audit
  - Session 2.5: Reflection on research

RDMRose is a JISC funded project to produce taught and continuing professional development (CPD) learning materials in Research Data Management (RDM) tailored for Information professionals.

GIVE US FEEDBACK
If you have used any of the RDMRose learning materials, be it for your own use as self-supported CPD or as an educator, we would greatly welcome your feedback. Please fill out this evaluation form. It will help us further enhance the learning materials!
Sources and further reading

- JISC. URL: [http://www.jisc.ac.uk/](http://www.jisc.ac.uk/)
- Jorum. URL: [http://www.jorum.ac.uk/](http://www.jorum.ac.uk/)