

How to maximize research data skills in libraries

Research data is increasingly recognized as a primary research output, complementing established forms such as books and journal articles. The world-wide challenges to curate, publish and sustain access to research data are enormous. Many academic libraries are now extending their century-long track record in the professional management of knowledge resources towards the area of research data and therefore seek to maximize research data skills among staff in their organisations. Training, expert recruitment, learning-on-the-job, online-courses, and degrees have been identified as the five routes to achieve this goal.

In March 2014, the group Libraries for Research Data met in Dublin, Ireland, at the third plenary of the Research Data Alliance, an international organization addressing the challenges of research data management. The group exchanged experiences about research data skills in libraries. The results can be summarized as **five routes for maximizing research data skills** in libraries:

- 1. Training** – A plethora of offers, often with *certificates*, exist for individual staff members or groups to attend specific training events and summer schools or to organize in-house events (exemplary list of trainings^a). Contact your regional or national *professional bodies* and seek admission to *local courses* addressing research data provided by faculty.
- 2. Expert recruitment** – Many libraries hire experts from specific fields of research – information specialists, scientists, or humanities scholars. The selection principle of staff is often not so much the degree but the fit with the *job description* (exemplary list of JDs^b).
- 3. Learning-on-the-job** – Engaging in collaborative *projects* with researchers or providing institutional research data support are common measures for libraries to get in touch with research data. Involving existing staff

with specific pre-qualifications, for example subject librarians, provides opportunities on the job. Related possibilities with a ‘real-world’ experience are *internships* and *secondments* embedded in research departments or other libraries.

- 4. Online-Learning** – In the free time or as staff development, *MOOCs* and other courses are available online to get acquainted with subject specific research topics and methodologies as well as with specific questions of data curation and data science.^c
- 5. Degrees** – *iSchools*^d and *faculty* of universities offer specific curricula addressing research data management that result in degrees. These can be primary or additional degrees, and might contain online components to allow for professional development during the job

These five routes are not mutually exclusive but rather complement each other. Please seek advice from relevant organisations in your region or field and make sure that staff actually have the skills to deal with research data before engaging in concrete activities: research data are often touching sensitive points in the research process and require diligence and professional knowledge. The library’s role often is to support metadata, publishing and longevity for research data.

^a <http://www.digcur-education.org/eng/Training-opportunities>

^b <http://www.iassistdata.org/resources/jobs/all>

^c e.g. <https://www.coursera.org/specializations>, <https://www.edx.org/course->

<list/allschools/statistics-data-analysis/allcourses>, <http://www.mooc-list.com/categories/statistics-data-analysis>

^d <http://www.ischools.org>

For further information please browse the resources list as provided below!

Engaging with the group Libraries for Research Data is simple: Just register at the RDA website and subscribe to the group: <https://rd-alliance.org/group/libraries-research-data.html>

Resources for research data skills in libraries

IDCC www.dcc.ac.uk

- Developing RDM Services www.dcc.ac.uk/resources/developing-rdm-services
- Data Management Plans, including DMPonline www.dcc.ac.uk/resources/data-management-plans
- Data management and curation education and training www.dcc.ac.uk/training/data-management-courses-and-training
- Research Data Management training for librarians www.dcc.ac.uk/training/rdm-librarians

University of Edinburgh

- Research Data Management Training (MANTRA) <http://datalib.edina.ac.uk/mantra/libtraining.html>

Research Data Netherlands www.researchdata.nl/en/

- Essentials for Data Support, an introductory course for people who (want to) support researchers in storing, managing, archiving and sharing their research data. <http://datasupport.researchdata.nl/en>

IASSIST www.iassistdata.org

- Jobs repository www.iassistdata.org/resources/jobs/all
- IASSIST Annual Conference www.iassistdata.org/conferences
- Xia, J.; Wang, M. (2014): Competencies and Responsibilities of Social Science Data Librarians: An Analysis of Job Descriptions, *College & Research Libraries*, vol. 75 no. 3 362-388, <http://crl.acrl.org/content/75/3/362.short> – a study based on records in the IASSITS jobs repository

ICPSR

- Guidance and tools for data management and curation www.icpsr.umich.edu/icpsrweb/content/datamanagement/index.html

CODATA

- Early Career Data Professionals Working Group www.codata.org/working-groups/early-career-data-professionals

LIBER www.libereurope.eu

- Scholarly Communication and Research Infrastructures Steering Committee <http://libereurope.eu/committee/scholarly-research/>

COAR www.coar-repositories.org

- Task Force on Librarians' Competencies in Support of E-Research and Scholarly Communication, joint effort by COAR, ARL, CARL and LIBER www.coar-repositories.org/activities/support-and-training/task-force-competencies/

iSchools www.ischools.org

- For projects see for example DigCurr below and the publications under CLIR.
- Proceedings of the iConferences www.ideals.illinois.edu/handle/2142/14872/search

ANDS www.ands.org.au

- Guides and other resources www.ands.org.au/guides/index.html

ARL www.arl.org

- Data access, management and sharing www.arl.org/focus-areas/e-research/data-access-management-and-sharing
- E-Science Institute <http://escience.washington.edu/education>, <http://escience.washington.edu/blog/teaching-data-science-instead-databases>

CARL www.carl-abrc.ca

- Data Management Sub-Committee www.carl-abrc.ca/en/scholarly-communications/data-management-sub-committee.html

- DMP Builder, based on DCC's DMPonline, <https://dmp.library.ualberta.ca/>
- Training resources <http://data-carl-abrc.ca/project-arc/project-arc-national-resource-for-data-management-planning/training-resources/>

University of Alberta

- Discussion paper "Developing Liaison Librarian Roles in Support of Data Management Plans" <https://cancoprmd.files.wordpress.com/2014/07/liaisonlibrariansdmpps.pdf>

CLIR/DLF www.clir.org

- Postdoctoral Fellowship Program www.clir.org/fellowships/postdoc/info
- Data Curation www.clir.org/initiatives-partnerships/data-curation
- Research Data Management Principles, Practices, and Prospects, November 2013, report, www.clir.org/pubs/reports/pub160
- Data Curation Education: A Snapshot, August 2012, www.clir.org/pubs/reports/pub154/education

DataONE www.dataone.org

- Training Activities www.dataone.org/training-activities
- Education Modules www.dataone.org/education-modules
- DataONE outreach kit, specifically targeted at librarians www.dataone.org/for-librarians
- DMP Tool <https://dmp.cdlib.org/>
- Best Practices and Primer on Data Management www.dataone.org/best-practices

DigCurv www.digcur-education.org

- Training registry www.digcur-education.org/eng/Training-opportunities
- Curriculum Framework for Digital Curation www.digcurv.gla.ac.uk

DigCCurr

www.ils.unc.edu/digitalcurationcurriculum

- DigCCurr Professional Institute: Curation Practices for the Digital Object Lifecycle, May 11-16, 2014 & January 5-6, 2015, University of North Carolina at Chapel Hill, <http://ils.unc.edu/digccurr/institute2014.html>
- Publications and documentation <http://ils.unc.edu/digccurr/products.html>

DJORUM www.jorum.ac.uk

- Jorum hosts a sub-collection on RDM,

www.jorum.ac.uk/blog/post/69/research-data-management-a-new-route-for-jorum and <http://dSPACE.jorum.ac.uk/xmlui/handle/10949/18267>

- RDM collection on JORUM <http://find.jorum.ac.uk/>

e-Science Portal for New England Librarians

- List of courses for students & researchers <http://esciencelibrary.umassmed.edu/courses-for-students/>

United States Department of Health and Human Services, Office of Research Integrity

- Guidelines for Responsible Data Management in Scientific Research <http://ori.hhs.gov/images/ddblock/data.pdf>

Literature

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