TIME TO ADOPT: LIBRARIANS’ NEW SKILLS AND COMPETENCY PROFILES

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Rethinking skills and competency profiles, which enable librarians to support e-research all along the research cycle

Joint Task Force on Librarians’ Competencies in Support of E-Research and Scholarly Communication
Digital transformation & libraries

• A wide range of digital resources and research tools is available to researchers – this involves change in how research is conducted and communicated
• Libraries are well-aware of their curational role for all kinds of research outputs and all research disciplines
• But what changes in the role of libraries?
Charge & scope of TF work

Outline the competencies needed by librarians in an evolving environment

1. Identify the avenues of service for libraries within the context of e-research, repository management, & scholarly communication

2. Map the services & roles to the competencies required by librarians and library professionals
Current and emerging areas

Training activities are abound in various areas:

• **Open science / open access**: benefits for researchers, funder/institutional requirements (e.g. FOSTER, www.fosteropenscience.eu)
• **Research data management**: planning, publishing/sharing data, funder requirements (e.g. Digital Curation Centre, http://www.dcc.ac.uk/)
• **Data science** (e.g. EDISON, http://edison-project.eu/)
• **Disciplinary trainings** on research methods, infrastructures and tools (e.g. driven by European e-Infrastructures)
Competencies & skills

**Competence:** a demonstrated ability to apply knowledge, skills and attitudes to achieve observable results – can be grouped by areas (plan, build, run, enable, manage)

**Skill:** a precise and definite ability, either technical (e.g. conduct a cost/benefit analysis, develop a user interface) or soft (e.g. negotiate a contract)

*European e-Competence Framework, 2014*
Mapping e-research and service areas

- Managing research data
- Scholarly communication and open access
- Digital humanities

Further areas to consider: digital curation, text and data mining, ...

And of course, there are overlaps.
Libraries’ activities in research data management

**providing access to data:**
consultation and reference services, e.g. to identify datasets, provide advice on discovery and analytic tools as well as how to cite/reference data

Image courtesy of [http://aukeherrema.nl](http://aukeherrema.nl) CC-BY
Libraries’ activities in research data management (2)

supporting researchers and students in managing their data:
- promoting the institutional/funder data policy,
- providing support and training, e.g. on how to write a data management plan or how to identify and use data repositories, to publish data, to develop data curation profiles, and to manage software related to data

Image courtesy of [http://aukeherrema.nl](http://aukeherrema.nl) CC-BY
Libraries’ activities in research data management (3)

managing a data collection:
• the preparation of data,
• its preservation,
• sharing and
• publishing

Image courtesy of [http://aukeherrema.nl](http://aukeherrema.nl) CC-BY
Core competencies

Some level of subject knowledge is required. In particular librarians need to have an understanding of the disciplinary landscape, norms, and standards.

Image courtesy of http://aukeherrema.nl CC-BY
Managing a data collection

- Selection and appraisal techniques for datasets;
- Metadata standards and schemas, data formats, domain ontologies, identifiers, data citation, data licensing;
- Discovery tools;
- Database design types and structures;
- Data linking and data integration techniques;
- Data storage infrastructures;
- Digital preservation metadata;
- Forensic procedures in digital curation.
Related service areas and roles

• Open access and institutional repositories
• Collection development
• Advisory services (copyright, policies, etc.)
• Information literacy
• Digital curation, digital preservation, digital collections

To work with: Data Creator, Data Scientist, Research Coordinator/Manager, Data Curator, Digital Preservation Librarian, Repository Manager, Subject Librarian
Scholarly Communication and Open Access

• **Providing consultation and training** that encourages and enables faculty to manage their own copyright and improve the economics of, and access to, published research.

• Developing and contributing to **scientific information infrastructures** for the dissemination and linking of research outputs, e.g. digital repositories and their networks – on institutional, national and international levels (e.g. SHARE, OpenAIRE, LA Referencia, COAR).*

• **Offering OA journal and/or book publishing services** and other value-added services to scholars on their campus (work with the university press if there is any).

• Working with the acquisition department, library consortia and research funders to develop and maintain a **publication fund, OA memberships and OA clauses in licenses**.

• Providing access to services and resources that help **measure quality and impact of scholarship**, from traditional bibliometrics to emerging altmetrics

* Similarly for data infrastructures and communities of practice (disciplinary/institutional/national/international), e.g. PORTAGE/Canada, EUDAT/EU, etc.

Image source: [http://www.drew.edu/library/wp-content/uploads/sites/70/Puzzly_sharing_from_licensing_tutorial.svg-300x197.png](http://www.drew.edu/library/wp-content/uploads/sites/70/Puzzly_sharing_from_licensing_tutorial.svg-300x197.png)
digital humanities
research
Digital Humanities

Evolving specialization in librarianship, that requires a combination of a strong academic background in the arts and humanities (domain expertise), technical grounding in technologies and tools to support computational models of research and teaching in the Humanities, and project management:

– advisor,
– advocate, and
– partner for special collections curators.

Image source: http://blogs.getty.edu/iris/files/2013/03/digital_humanities_future2.png
Digital Humanities (2)

• Directly related to scholarly communication and data management.
• The library’s organizational structure will affect the services offered and roles played by digital humanities librarians, but across various models, the digital humanities librarian will likely work in a team environment, making collaboration and the ability to perform in a changing and dynamic role core competencies for this specialization.

https://americanstudiesmediacultureprogram.files.wordpress.com/2013/11/photo.jpg
Digital Humanities services and responsibilities

- Engage in scholarly communication and publishing, technical services (in particular related to interaction with digital resources and collections);
- Partner with faculty and student for digital humanities research and consulting;
- Provide teaching and training activities; and
- Develop and manage spaces (labs, collaboratories) for digital humanities work.
Digital Humanities librarians competencies and skills

• Advanced academic subject expertise and professional training in library and information science, particularly in scholarly communication and data management.

• Technical skills and competencies: general competencies such as “demonstrated ability and interest in exploring and evaluating emerging technologies in support of digital humanities,” and a “willingness to remain current with changing technology and its applications”, e.g.
  – data visualization, text mining, metadata standards and schema, text markup and encoding, semantic web technologies.

• Essential for direct involvement and/or consultation with research activities are also project and program development and collaboration skills, e.g. grant writing and the development of technology-rich work spaces.
OTHER NEW AREAS: TEXT AND DATA MINING (TDM)

Plays a key role in digital humanities research, e.g. allowing new views on texts, but other research areas such as economical and social sciences will benefit as well.
How librarians acquire the skills and competencies

Strategies will vary depending on institutional and personnel resources and range from

• attending workshops or conferences and/or
• joining working groups,
• the development of institutional training programs for individuals and/or groups,
• participation in online learning course (e.g. MOOCs), etc.
How librarians acquire the skills and competencies (2)

Most beneficial might be to combine newly hired experts and long-term staff in new teams which dedicate their efforts to developing and delivering new types of services. Such teams will often

• combine staff with different backgrounds, and
• bring new skills sets to the institution, e.g.
  – from the publishing industry to build up / enhance a publishing unit, or
  – from research disciplines or
  – technology experts to develop and promote specialized data infrastructures and digital work environments.
How librarians acquire the skills and competencies (3)

Not surprisingly, involvement in collaborative projects, national and internationally, are a good instrument to contribute own expertise and learn from others to build up prototypical services. However, additional effort will be needed to assess the results of these efforts and for sustaining both personnel and infrastructures.
Conclusions

Job descriptions can be excessively demanding in terms of experiences and skills. Therefore, individuals and employers should consult the task force’s competency profiles with some caution. Typically it will be a group of individuals that bring together these competencies and skills, a collaborative work force which strengthens the library’s capacities and which may also be an element of new organizational structures.

Librarians' Competencies for E-Research and Scholarly Communication

The aim of this task force is to produce a number of competency profiles that will help to build capacity in libraries for supporting new roles in the area of scholarly communication and e-research. The profiles will enable library managers to identify skill gaps in their institution, form the basis of job descriptions, enable professionals to carry out self-assessments, and act as a foundation for the development of training programs for librarians and library professionals. In addition, the toolkit will provide an outline of new organizational models that are evolving in this dynamic environment.

We are pleased to announce the publication of several profiles in June 2016:

- **Librarians' Competencies for Research Data Management**: Research data management encompasses a wide array of activities across the research data lifecycle. Generally, it requires a high level of interaction with researchers and also working with other support services including technical services and research officers.

- **Librarians' Competencies for Scholarly Communication and Open Access**: Library activities in scholarly communication and open access typically fall into one of four categories: scholarly publishing services, open access repository services, for copyright and open access advice, and assessment of scholarly resources.
Thank you! Questions?

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