Using Backward Design to Create Research Data Management Professional Development for Information Professionals

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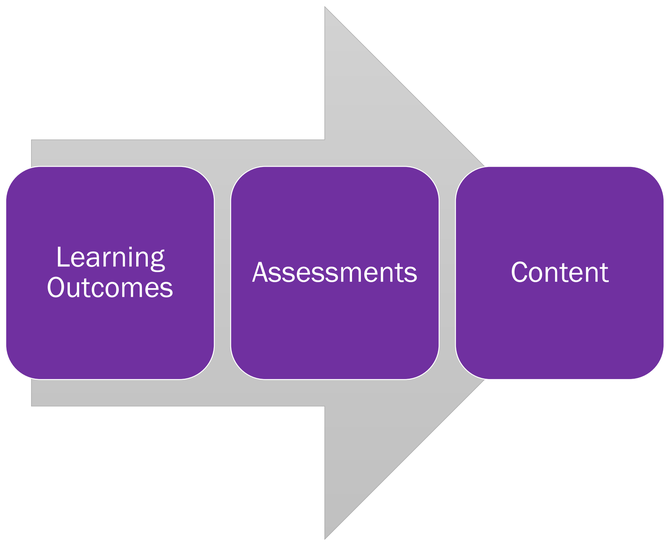
Project Outline:

The purpose of this project was to design a full day professional development workshop to educate liaison and subject librarians on Research Data Management (RDM) for the Association of College and Research Libraries (ACRL). A simultaneous research project was created to evaluate the engagement of liaison and subject librarians in RDM and to identify growth and changes of self-educational RDM needs surrounding attendance of the ACRL Research Data Management Roadshow.

Backward Design Methodology:

Based upon the work of Wiggins and McTighe, backward design is an instructional philosophy where the courses and educational materials are derived logically from the intended results. Therefore the results are articulated as learning objectives first, then the means of measuring whether the objectives has been achieved, and finally the materials are derived based upon the initial work. (Wiggins and McTighe 2004)



Process:

- Create overarching learning outcomes for RDM Road Show and for individual sessions
- Identify relevant assessments for learning both during the workshop and over a following six month period
- Hone content details over the evolution of the individual sessions after initial presentations

Road Show Learning Outcomes:

- LO1: Participants will identify data within the research process and lifecycle in order to articulate the role of the libraries in the management of data to researchers.
- LO2: Participants will learn how to develop expertise in the nuances of disciplinary requirements for data management in order to educate their faculty and students about data best practices for their discipline.
- LO3: Participants will articulate specific existing skills that they already possess as librarians which transfer to data services in order to begin building a toolkit of research data management skills.
- LO4: Participants will identify campus partners in research data management in order to create an environment of research data management support for their faculty.
- LO5:Participants will articulate the parts of a data management plan in order to describe its role as a living document within a research project.
- LO6: Participants will apply their relevant prior knowledge of their disciplines in order to create a research data management interview plan in order to facilitate faculty engagement.

Assessments:

Initial Survey Assessment

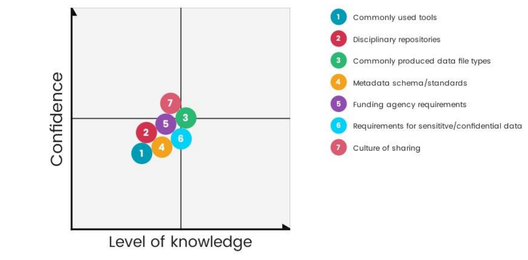
Prior to their attendance at the RDM workshop, all participants receive a voluntary anonymous survey which helps to gauge attendee backgrounds and learning expectations. This allows the presenters to tailor activities and address any misalignment of objectives.

Assessments During the Workshop

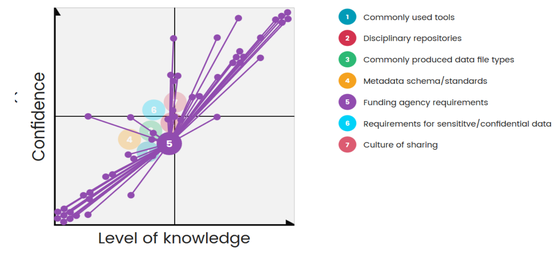
- Each session has interactive activities including brainstorming, critiquing, and think/pair/share techniques
- Polling software is used throughout the day to allow for immediate feedback and to allow anonymous engagement
- Conclusions from discussions includes popcorn-style reporting out, documenting on large post it notes, and brief presentations
- Self-assessments are shared anonymously through poll software or only voluntarily

Sample Formative Assessment – LO3:

Poll Question: *I am confident that I know the disciplinary norms for the RDM for the disciplines I serve.* (Using Mentimeter polling software.)



Group Answers about Disciplinary Knowledge & Confidence



Individual Answers about Disciplinary Funder Requirements

Sample Summative Assessment/Formative Assessment – LO4:

Developing an Elevator Pitch

Research Data Management

Session 5: Partnership and Collaborations
Elevator Pitch

- Who is your audience for this elevator pitch?
- Give a brief description of their role related to RDM?
- What challenges or opportunities are they facing?
- What would you like to partner with them on?

Post Workshop Assessments

Following their participation in the workshop, attendees are invited to respond to surveys at 1 and 6 months to identify any changes in RDM knowledge, behavior, and attitudes.

Assessment Outcomes:

- Data from the preliminary surveys is immediately used to inform presenter expectations. Assessments during the workshop allow participants to more fully engage with peers and to identify colleagues or regional peers for collaboration in the future.
- The preliminary survey and workshop assessments have identified minor changes to the curriculum based on participant feedback in order to continue to strengthen the content.

Future Research Plans:

The data from the three surveys is being aggregated over several years in order to identify the self-identified RDM educational needs of liaison librarians; identify any transition of individuals along a scale of engagement; and to provide feedback of the effectiveness of the ACRL Research Data Management Road Show. The results will be used to inform further educational opportunities and make revisions to the workshop curriculum. The anonymized aggregate datasets and survey instruments will be published in an open repository after analysis to encourage validation and use of the data to create further engagement opportunities.

References:

1. Tenopir, C., Sandusky, R. J., Allard, S., & Birch, B. (2013). Academic librarians and research data services: preparation and attitudes. *IFLA Journal*, *39*(1), 70-78.
2. Wiggins, G. P., & McTighe, J. (2005). *Understanding by Design (Expanded Second Edition).* Alexandria, VA, USA: Association for Supervision & Curriculum Development (ASCD).
3. Goben A, Sapp Nelson M. (2016) Building Your Research Data Management Toolkit: Integrating RDM into Your Liaison Work. Association of College and Research Libraries. http://acrl.libguides.com/scholcomm/toolkit/RDMWorkshop

This work describes the workshop "Building Your Research Data Management Toolkit." Association of College and Research Libraries funded the development of this workshop and supports the ongoing presentation of the roadshow.

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