Designing Instruction Activities to Guide Students Through the Research Lifecycle: A Science Librarian Approach

Li, Ye

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Designing Instruction Activities to Guide Students through the Research Lifecycle: A Science Librarian approach

Ye Li, Chemistry Librarian, liye@umich.edu
Shapiro Science Library, University of Michigan, Ann Arbor, MI 48109

Trends in Instructions Provided by Librarians in Research Institutions

- Collection Centered
- Research Focused
- "Research Literacy"
- Information Literacy

Information/Literacy Research Methodology

Research Lifecycle Overview

- Orientation to Library Resources and Services
- Research Lifecycle Overview
- Identify Expertise on Campus and Beyond

Using the Research Lifecycle (RLC) to Guide Instruction Design

Mapping instruction activities to the RLC can guide librarians to identify gaps in supporting research and opportunities to collaborate with other units on campus for instruction development.

Instructions Provided by Chemistry/Science Librarians Now

- Chemical Abstracts
- Data Citation (DataCite and Re-Use)
- Data Preservation, Sharing and Licensing (Repositories)
- Data Storage, Backup and Security
- Data Processing and Visualization
- Using Electronic Labnotebooks
- Data Documentation, Organization, and Metadata
- Data Management Plan
- Data Lifecycle and Your Data Story

For Undergraduate Students

Undergraduate Courses
- UC 174 - 1 Credit Hour
  First/Second Year
- UC 270 - 2 Credit Hours
  Junior/Senior

Graduate Workshops

- Green: UC 174 - Digital Research: Critical Concepts and Strategies
- Orange: UC 270 - Digital Research in the Sciences
- Blue: Graduate workshops taught by subject specialist
- Dark Grey: Graduate workshops to be developed in collaboration with other librarian colleagues

For Graduate Students

Support for graduate students can be provided as workshop series. Designing the workshops to guide them throughout the RLC allows us to identify the following types of sessions:

- The sessions subject specialists can teach
- The sessions to collaborate with other librarian colleagues, such as data librarians, metadata librarians, copyright librarians, and grant librarians etc.
- The sessions to collaborate with other units on campus, such as the writing center, IT departments, Office of Vice President for Research, Lab Safety Officers, data visualization experts, and Tech transfer etc.

The two-tiered for-credit courses help undergraduates get started with conducting research independently. Comparing to writing projects often assigned to Students in other subject classes, these two courses will provide a guided experience and allow students to find, digest, manage, synthesize, and disseminate scholarly information with clear cues and more conscious.

The challenges we learned from the trial of UC 270 includes:
- The course load may be more appropriate for 3 credit hours
- The instructor needs to be familiar with various subjects or able to learn about a specific research topic together with the students

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