

ACRL-STS Liaison Conference Report

2014 American Society for Engineering Education Annual Conference Engineering Libraries Division June 15-18, 2014, Indianapolis, Indiana

Submitted by Daniela Solomon | Research Services Librarian | Case Western Reserve University

ASEE/ELD Conference Sessions

Submitted presentations are available online on [ELD website](#)

SUNDAY June 15 – Pre-conference workshops

➤ **Encouraging Information Rich Engineering Design**

Workshop based on the book “Integrating information into the engineering design process” and was presented by some of the book’s authors: Michael Fosmire, Jon Jeffreys, Amy Van Epps, Jay Bath, David Radcliffe, and Ruth Wertz.

Design is the core problem-solving process for engineers, and within design process, engineering professionals consider “seeking information” one of the most important design activities. Despite this, engineering students tend to spend the least amount of time on information gathering; instead, they tend to dive into a design problem without a clear plan or direction for how to solve it and early lock on a single solution and not exploring alternatives. The book is introducing a new model of engineering design, I-RED, that stands for Information-Rich Engineering Design and identifies information activities corresponding to each stage of the engineering design process. The workshop focused on six chapters from the book, specifically addressing: team building & information management (chapter 6); understanding the broader context of a design project (chapter 7& 8); solution selection and refinement (Chapter 11 & 12); best approaches in teaching information literacy skills to engineering students (chapter 15).

Chapter 6 uses RefWorks to help with team building, design planning, and reference tracking. Chapters 7 & 8 underline the importance of taking the time to understand all stakeholders’ needs as the basis for the project design. Chapters 11 & 12 deal with information evaluation and use.

➤ **Data Information Literacy Workshop**

Presenters: Michael Fosmire, Jon Jeffreys, and Jacob Carlson

The workshop focused on data management and curation competencies that have been identified by Data Information Literacy (DIL) project. With financial support from NSF, four university libraries (Purdue University, University of Minnesota, the University of Oregon, and Cornell) partnered in developing and implementing DIL instruction programs for graduate students. The project ended in 2013 with a symposium that explored how can practicing librarians teach competencies in data management and curation. More information on the program is available on the DIL webpage <http://www.datainfolit.org>.

The identified DIL competencies are listed below. Interesting fact is that faculty and students ranked them differently.

- Data processing and analysis
- Metadata and data description
- Cultures of practice
- Data conversion and interoperability
- Data curation and reuse
- Data management and organization
- Data preservation
- Data quality and documentation
- Data visualization and representation
- Databases and data formats
- Discovery and acquisition
- Ethics and attribution

During the first part of the workshop, we were asked to discuss about our observations / experiences with these data competencies at our institution; roles for librarians in teaching them; and additional skills needed to be acquired by librarians in order to support these services.

During the second half of the workshops, we were given specific scenarios and asked to discuss in groups the best approach in developing and assess a specific DIL program. We were asked to consider questions as: what data competencies would we focus on; what additional information would we want to collect and how would we collect it; initial learning objectives of the program.

All participants agreed that:

- There is a strong need for educating faculty, students, and librarians alike;
- Basic discipline based DIL standards are needed;
- Data visualization and representation is considered critical
- There are many opportunities in teaching DIL.

MONDAY June 16

➤ **Welcome Session and Lightning Talks**

- Tony Aponte – talked about a new approach for engineering graduate student orientations that replaces previous lecture style. Students choose their own “adventure” visiting a variety of library stations.
- Susan Boyd – reported on digitizing senior design theses project and its assessed value
Kevin Drees – talked about planning to create an On-demand Service for Industry Codes and Standards
- Julia Gelfand and Lydia Fletcher - observed an increased interest in using video resources in engineering education and increased availability of such sources
- Jody Hoesly - talked about her involvement with First Lego League competition and the opportunities to teach IL to children
- Jon Jeffryes - announced the initiative to offer Data Management workshop Series in a Flipped Classroom format at his institution as well as the availability of the workshop curriculum as open access
- Paula C Johnson – talked about the benefits of adopting ResearcherID at her institution

- Chelsea Leachman - presented on her experience as a First-Year Engineering Librarian
- Tara Mawhinney and Jennifer Zhao - talked about their approach to needs assessment and how it helps with customizing library workshops
- Debbie Morrow - talked about using an Instruction Plan that brings together Information Literacy, ABET Lifelong Learning, and the Engineering Curriculum requirements
- Florence Mugambi - reported on Digitizing Senior Design Project and the high usage of the new collection
- Jill Powell - reported about her visit at NASA Library at Goddard
- Anne Rauh - presented the results of a survey on STEM Faculty Perceptions of Open Access Author Fees
- Sara Samuel - talked about the evolution of the DMP workshop and influencing factors
- Robert Schwarzwaldner - announced the availability of a new free online resource Revs Digital Library (<https://revs-lib.stanford.edu/>)
- Daniela Solomon - talked about Info Fair as an outreach method and the observed benefits and challenges
- Alice Trussell - talked about efficiency of a customized Laptop Checkout station
- James Van Fleet – talked about increased library use after library remodeling
- Patricia Watkins - reported on the success of imbedding library instruction for Humanities courses in a technological/STEM university program with Blackboard with a Flipping the Classroom approach

➤ **Measuring Impact: Libraries, Librarians, Instruction and Institutions**

- *(In)Visible Me? An Empirical Study of Engineering Librarian Online Profiles*
Michael White from Queen's University presented his study of engineering librarians' public profiles on library websites and libguides. He concluded that librarians could do more to market themselves online.
- *The CARE (Center for Academic Resources in Engineering) Program at Illinois*
William H. Mischo , Ivan Favila, Dana M. Tempel, and Elisandro Cabada (University of Illinois, Urbana-Champaign) talked about the CARE center within the library – organization, funding, staffing, services, benefits, etc.
- *The Writing Style of Predatory Publishers*
David Matthew Markowitz, Jill H. Powell, and Jeffrey T.Hancock from Cornell University have presented on the results of a computerized text-analysis of known predatory publishers in comparison to authentic publishers. They discovered that predatory publishers are more likely to use more affect language and positive emotions; use less complex language; and that the content on their websites will be less readable.
- *Content Analysis of Engineering LibGuides*
Nestor L. Osorio from Northern Illinois University analyzed the content of select electrical and mechanical engineering libguides and assessed them based on technical design and pedagogical criteria presented in Whitfield and Clemens chapter of the book [Using LibGuides to Enhance Library Services: A LITA Guide](#)

TUESDAY June 17

➤ **ELD Poster Session**

- *Speed Training: Library Instruction in 30 Minutes or Less*
Kari Kozak and Darlene Kaskie from University of Iowa presented about a new program at their library, Xpress Class series, offering short (15-30 min), drop-in library instruction sessions on a variety of topics. These seem to be popular among the graduate students.

➤ *Embedding Video-Based Learning Modules for Library Research Methods in an Online Graduate Engineering Program**

Jeffery L. Loo, Lisa T. Ngo, Cody K. Hennesy, Brian D. Quigley, Jean McKenzie, all from University of California, Berkeley presented about the new online instruction environment designed to support the new online master's degree program in integrated circuits. The poster includes approaches, guidelines, and challenges.

* **Best Poster Award**

➤ **Hot Topics Roundtable: New Roles for New Times**

The session started with three panelists talking about new roles for engineering librarians observed at their institutions: embedded librarianship and data librarianship. The session continued with discussions on topics of interests among participants at different tables.

➤ **Invited Panel: Data Driven Collection Development**

- *Data Driven Collection Development at mathematical Sciences Library of Purdue University*
Natasha Johnson talked about reorganizing the Mathematical Sciences Library at Purdue Libraries based on collections analysis and users studies. She concluded that compromising is very important in this type of project. To increase the likelihood of success for this project she used "rightsizing" instead of "downsizing."
- *Benchmarking Mechanical Engineering Collections Using the WorldCat Collection Analysis Tool*
Bruce Neville (co-author David Hubbard) talked about their experience in analyzing collections using WorldShare Analytics Tool, including challenges and best practice guidelines.
- *Content Analysis Using Citation Data in Three Large University Libraries*
Tara Mawhinney (co-authors Eugene Barsky, Michelle Spence) talked about the citation analysis project looking at articles from the civil engineering departments of three large Canadian universities and the implications for collection development.
- *Content Overlap and Replacement Cost Analyses: Tools to Evaluate Abstracting/Indexing (A&I) and Full-Text Databases in Science and Engineering*
To answer "how many databases do we really need?" at a time of budget cuts, Hema Ramachandran used JISC ADAT Tool to compare a variety of databases. One of the conclusions is that databases with full text-access are preferred to A&I databases.

WEDNESDAY June 18

➤ Session: Evidence Based Librarianship

- *Gauging Workplace Readiness, Using Evidence to Support Library Instruction*
Jon Jeffryes and Meghan Lafferty (University of Minnesota, Twin Cities) sent a survey to coop students to discover the informational needs of new professional, and then, adapted library instruction based on the discovered needs.
- *Identifying Return on Investment Metrics for an Institution*
Christine Wiley (University of Illinois at Urbana-Champaign) talked about the effort of determining engineering library ROI.
- *Dissertations and Discussions: Engineering Graduate Student Research Resource Use at New Mexico State University*
Paula Johnson looked at citations included in dissertations to answer a series of question related to the use of library collections and discover implications for collection development, and library instructions offerings.

➤ Student Centered Information Literacy

- *First Year and Junior Engineering Students' Self-Assessment of Information Literacy Skills*
Dr. Kerrie Anna Douglas, Ruth E.H. Wertz, Michael Fosmire, Dr. Senay Purzer, Prof. Amy S. Van Epps (Purdue University, W.Lafayette)
The authors used the Self-Assessment of Problem Solving Skills to look at how first and second year students assess their info skills in relation to engineering design. The results might indicate that students over-estimate what they do in the information search process.
- *Identifying Challenges Faced by Chinese Undergraduate Engineering Students in Acquiring Information Literacy Skills-A Report on Survey Findings*
Jennifer (Cong Yan) Zhao & Tara Mawhinney (McGill University);
The authors presented on their study on challenges in acquiring information literacy skills by the Chinese-speaking students. Some of the challenges are access to fulltext, sources evaluation, and knowing when to cite.
- *The 360 Degrees of Information Literacy Fluency Delivery to Freshman Engineering Students*
Marian G. Armour-Gemmen, Dr. Robin A.M. Hensel, Mary L. Strife (West Virginia University)
The authors reported on the information literacy program for engineering freshman students at West Virginia University. Using a variety of delivery methods to teach information literacy, plagiarism, and intellectual property, the program proved efficient in increasing students' information literacy skills.