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## Board of Directors Cover Form

To: ACRL Board of Directors

Subject: ACRL Action-Oriented Research Agenda FYI Progress Update to the ACRL Board

*How far have we come and what do we do next? An agenda for action-based research on student learning and success*

Submitted by:

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Stephanie Mikitish, Doctoral Student

Date submitted: August 31, 2016

### Background

In late April 2016, ACRL issued a request for proposals (RFP) for the design, development and delivery of a new ACRL “Action-Oriented Research Agenda on Library Contributions to Student Learning and Success.” Proposals were due June 2 and OCLC Research was selected to carry out the work.

The agenda clearly will identify actions academic libraries can take now based on both existing scholarship and practice-based reports, and it will include 10-15 future-focused key inquiry questions that the literature and interview data suggest are essential for academic librarians to explore. In addition, the project will include an interactive visualization dashboard to help librarians understand and make use of existing literature for studies most relevant to their research interests. It also will contain a visualization component that highlights the major themes in the report, enables data entry based on local projects, and produces a graphic that can be shared with campus stakeholders.

Work began in late July 2016 and, per the timeline in the RFP, the attached report is an update on the OCLC Research project team’s progress on the agenda for action-based research on student learning and success.

*Electronic submission is preferred for all Board forms. If electronic submission of the entire document is not possible, please send the Discussion Form to ACRL Program Officer Allison Payne electronically at [apayne@ala.org](mailto:apayne@ala.org) and the remainder in hard copy.*

As described more fully in the attached, the project team has conducted a literature search in academic library journals and conference proceedings for scholarly and practice-based literature that addresses library contributions to student learning and success. Literature published after the Values report timeframe has been included. Keyword searches were conducted in higher education journals to identify studies related to academic libraries or outcomes assessments. The team analyzed the studies using content analysis to portray the current state of library value studies in an institutional context. The content analysis has identified the themes to be used in the project deliverables.

While a comprehensive timeline is attached, here are a few highlights: a first draft of the agenda will be due to a VAL committee task force by November 7, 2016, for public review and feedback. A revised draft and advice memo will be submitted to the VAL committee and ACRL Board in advance of ALA MW. The memo will contain ideas on how to encourage practitioners and scholars to work collaboratively to investigate the key outstanding research questions.

Read more about project deliverables, advisory group members, and timeline in an excerpt of the successful proposal on the [VAL website](#). For more on ACRL expectations, see the [RFP](#).

## Stakeholders

Letters have been sent to Advisory Group members requesting re-confirmation of participation, announcing proposal acceptance, as well as arranging the specific dates and times for the Advisory Group fall 2016 video meeting and the brainstorming session at the ALA 2017 Midwinter Conference. Both meetings will be digitally audio recorded for content analysis and comparison to other collected data. The initial meeting will be conducted as a focus group interview to identify how these academic librarians communicate the impact of library services on student learning and success to their academic institutions. Interview data will be analyzed using content analysis to identify themes that will inform the project deliverables. The focus group interview and brainstorming themes will be compared to the themes identified in the background resources and literature.

Kara Malenfant, Staff Liaison to the Value of Academic Libraries Committee, has been consulted prior to submitting this report.

## Strategic Goal Area Supported

Please add additional sheets as needed to explain. Select the goal area that will be affected most by this action.

Value of Academic Libraries

Goal: Academic libraries demonstrate alignment with and impact on institutional outcomes.

Student Learning

Goal: Advance innovative practices and environments that transform student learning.

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Research and Scholarly Environment

Goal: Librarians accelerate the transition to more open and equitable systems of scholarship.

New Roles and Changing Landscapes

Goal: Academic and research library workforce effectively navigates change in higher education environments.

Enabling Programs and Services

ACRL programs, services, and publications that target education, advocacy, and member engagement.

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### Update to the ACRL Board

The work of the ACRL “Action-Oriented Research Agenda on Library Contributions to Student Learning and Success” team began on July 19, 2016 after the contract between OCLC and ACRL was signed. On this day, the team had a call to discuss deliverables due at the end of the month. These deliverables included:

1. Performing content analysis of documents included with RFP
2. Searching for relevant literature in higher education and library and information science (LIS) journals
3. Creating the preliminary report bibliography
4. Performing preliminary content analysis on relevant literature found in higher education and LIS journals

*Weeks of July 19th to July 31st:* Following the outcome of the team discussion, team members Vanessa Kitzie and Stephanie Mikitish worked on the first deliverable. They imported the documents into qualitative analysis software, NVivo, and worked iteratively to develop a list of trends in higher education to which libraries are responding. Project Lead Lynn Silipigni Connaway then reviewed and approved the proposed thematic coding scheme (see codebook, Appendix A, pages 1-2). Kitzie and Mikitish then searched for relevant literature from 2010 to present that focuses on measuring academic library value and/or demonstrating this value to higher education stakeholders in higher education and LIS databases. These databases included:

- LIS databases
  - Library and Information Science Abstracts (LISA)
  - Library Literature & Information Science Full Text (H.W. Wilson)
  - Library, Information Science & Technology Abstracts (LISTA)
- Higher education databases
  - Academic Search Premier
  - ERIC - Education Resources Information Center
  - ProQuest Education Journals
  - Teacher Reference Center

Kitzie and Mikitish searched these databases using a search strategy derived from their content analysis of documents included in the RFP. The selection criteria for relevant works are:

- Conducted in US (with some notable exceptions from Australia since the universities in Australia have addressed student assessment and outcomes)
- Address student outcomes
- Mention libraries
- Align with the higher education trends identified in the LIS and higher education literature.

All relevant works were then imported into Mendeley citation management software and the citations were formatted. The actual documents were imported into a team Dropbox folder. Connaway, reviewed the citations and suggested the addition and removal of certain sources. A total of 207 documents were retrieved. From this list of documents, Connaway, Kitzie, and Mikitish designated each as: key thematic piece (n=49), key study (n=52), other thematic piece (n=44), or other study (n=62). These designations were based on the alignment of each piece with the thematic coding scheme. Thematic pieces identify a higher education trend or a library response to that trend, but no research or study was conducted. Connaway, Kitzie, and Mikitish decided on a total of 93 key works (both thematic and study) on which to perform an initial round of content analysis (see Appendix B for a bibliography of the selected documents and their designations).

*Week of August 1st to August 14th:* Using the proposed factors of inquiry listed in the ACRL proposal submitted by the team in response to the RFP, Kitzie and Mikitish created a demographic master in Excel

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containing a list of all documents included in the bibliography, their designations (i.e., key study, key thematic, other study, other thematic), and the factors of inquiry that corresponded to each document (see codebook, Appendix A, page 3). The team intends to import this master into NVivo, where each category will become an attribute of its related source document. The team will then be able to perform cross-comparison queries between the attributes and thematic nodes.

Kitzie and Mikitish coded an overlapping 20% of the key study documents (n=10) for factors of inquiry and attained an inter-coder reliability (ICR) score of 95% agreement.

Kitzie and Mikitish then coded an overlapping 20% of key thematic documents (n=10) in NVivo using the thematic coding scheme generated in vivo codes to augment the scheme as appropriate. They obtained an ICR score of 99% agreement.

Based on high levels of agreement for both the thematic and factors of inquiry coding schemes, Kitzie and Mikitish coded an additional 20 documents each. The team coded a total of 60 of the 93 total key studies by August 28.

Per a request from Mary Ellen Davis on behalf of ACRL, a revision was made to the contract to include a visualization component that highlights the major themes in the report, enables data entry based on local projects, and produces a graphic that can be shared with campus stakeholders. This added 40 hours to Harvey's allocated time, meaning additional funds were requested of ACRL and granted. OCLC Legal signed off on the ACRL contract and it was subsequently signed off by all parties.

*Week of August 15th to August 30th:* Kitzie and Mikitish generated some sample coding queries that allow cross-comparison between thematic codes, between factors of inquiry and other document attributes (e.g., the year the work was published), and between thematic codes and factors of inquiry. Kitzie and Mikitish then sent the results of sample coding queries to the team for discussion and review.

Kitzie and Mikitish's Subcontractor Requisition paperwork was completed by OCLC Legal and signed, officially hiring them.

Hood (Project Manager) and Connaway drafted a letter to the Advisory Group members announcing the selection of the team's submission, reminders of their agreement to participate, and requests for available dates for the focus group interview and the ALA 2017 Midwinter Meeting brainstorming session. Connaway sent the letter to all Advisory Group members via email on August 29.

Harvey conducted a broad survey of existing visualization toolkits and grammars for deriving a set of "building blocks" for combining factors, themes, and data with user actions and visualization primitives to yield interactive visualizations. The Vega and Vega-Lite visualization grammars (<http://vega.github.io/>) developed by the University of Washington Interactive Data Lab were chosen as a solid foundation for the visualization dashboard.

Harvey formulated and prototyped a technique for coupling data with these building blocks and user actions to yield interactive visualizations. He began with foundational work by McBride and Paterson<sup>1</sup>, which provides a foundation for modeling certain kinds of data translation problems as combinations of primitive elements and operations. Harvey extended this technique to allow for interactive data manipulation using structures called "free profunctors," which provide precise bidirectional and interactive coupling between data, user actions, and visualizations.

Harvey implemented this extended technique and used the resulting building blocks to successfully encode the Vega visualization grammar. The prototype software provides a complete implementation of Vega and provides visualization editing and manipulation capabilities. This prototype will evolve into the visualization dashboard, and will display the factors and themes identified in the LIS literature. The

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<sup>1</sup>Mcbride, Conor; Paterson, Ross (2008-01-01). "[Applicative programming with effects](#)". *Journal of Functional Programming*. **18** (01): 1–13. [doi:10.1017/S0956796807006326](#). [ISSN 1469-7653](#).

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mathematics and techniques used will be of interest to the information science and computer science communities.

Harvey began to review the coding queries to start planning for the visualization component of the project. The team then prepared the update report for the ACRL Executive Board meeting.

**Project Plan and Schedule Through Next ACRL Board Report**

<b>Event</b>	<b>Responsible Party</b>	<b>Deadline</b>	<b>Total Work Hours</b>	<b>Notes</b>
Plan and Conduct <b>Virtual Focus Group Interview</b> with Advisory Group	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	October 21, 2016	<b>18</b>	
Prepare and Present at <b>ARL Library Assessment Conference</b> , Arlington, VA, October 31- November 2, 2016	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	October 31, 2016	<b>15</b>	Connaway presenting and attending with ACRL VAL cmte leader. Kitzie and Mikitish will assist with preparation.
<b>Code and Analyze</b> the Focus Group Interview	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	November 4, 2016	<b>36</b>	
Write <b>First Draft and Submit</b> to VAL Cmte Task Force	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	November 7, 2016	<b>30</b>	This draft will include the content analysis of the ACRL resources and the literature.
Prepare for and Participate in ACRL <b>Online Open Forum</b> (To Share Progress Update with Broader Community, Solicit Feedback)	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	Mid November, 2016	<b>6</b>	Share the themes from the content analysis of the ACRL resources and the literature and well as completed analysis of the focus group interviews with Advisory Group.
Plan and Conduct 12 <b>Semi-structured Interviews</b>	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	November 23, 2016	<b>30</b>	Each of the three project team member will conduct 4 interviews.
Feedback to Researcher(s)	VAL Cmte Task Force	December 1, 2016	<b>0</b>	
<b>Complete Coding and Analysis</b> of Semi-structured Interviews	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	December 16, 2016	<b>45</b>	
<b>Compare Themes from Content Analysis</b> of Documents and the Content Analysis of Semi-structured and Focus Group Interviews	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	December 31, 2016	<b>50</b>	
Submit revised draft and advice memo to VAL committee and ACRL Board (ideas on how to encourage practitioners and	Project Lead (Connaway), 2 Doctoral Students (Kitzie and Mikitish)	January 10, 2017	<b>15</b>	

scholars to work  
collaboratively to  
investigate the key  
outstanding research  
questions)

Appendix A Codebook

Codebook for ACRL Research Agenda Literature

Thematic coding scheme

Identify the appropriate library response (collection, service, or space) discussed and that can be inferred based on the codebook definitions.

All trends and studies in this report deal with student outcomes. However, trends may involve other stakeholders as indicated below:

Yellow	Students
Green	Students/Faculty
Blue	Faculty
Red	Institution (administration)
White	Other

Higher education trend	Trend defined	Example of library responses to trend
Learning in college (and beyond)	Outcome was focused on the less objective concepts of learning, such as critical thinking. Usually not tied to a specific graded assignment or graduation.	Service: Library instruction Space: Collaborative working space for students Collections: Repository of online tutorials not linked to a specific class
Success in college (for multiple student groups)	Outcome was focused on the more objective indicators of learning, such as GPA or grades. Usually tied to a specific graded assignment or graduation.	Collections: Physical collections Collections: Digital collections Space: Study spaces Service: Library instruction Service: Collection discovery
Research support	Outcome was tied to research outside of a class.	Collections: Physical Collections: Digital Service: Data storage Service: Consultation Service: Teach data management Service: Teach data mining methods



Appendix A Codebook

		Service: Collection discovery Space: Research (as opposed to learning) commons
Teaching support	Outcome was viewed from an instructor perspective, and it deals with a specific course.	Service: Library instruction Service: Help instructors manage pedagogical and curricular changes Collection: Online repository of syllabi Space: Faculty development center
Accreditation	Accreditation related student outcomes	Service: Help institutions meet federal guidelines/requirements
Assessment (driven in part by affordability of higher ed)	Institutionally identified student outcomes (can be co-coded with learning and success)	Service: Educate library and other employees Service: Align with institutional mission
Provision of technology	Outcome also dealt with technological infrastructure that affect student outcomes	Service: Provide expertise for data management Space: Provide hardware and software in Makerspaces

**Other thematic coding scheme** (does not have to align with library service, space, or collection)

Code name	Code definition	Example
Inclusivity	(Possibly) marginalized groups	First generation college students; People of color; Commuters; Distance learners; English as a second language; Lower socioeconomic level
Collaboration	Librarians work with other institutional departments to impact student outcomes or with other institutions	Collaboration could be intra-institutional (e.g., with institutional planning unit; faculty) or inter-institutional (e.g., with multiple institutions)
Communication	Librarians communicate impact or other aspects of value with stakeholders	

Appendix A Codebook

Factors of inquiry coding scheme

Code name	Code definition	Values
Year	Year study was published	2010 - 2016
Geographic location	Major geographic regions as defined by census at: <a href="http://www.census.gov/econ/census/help/geography/regions_and_divisions.html">http://www.census.gov/econ/census/help/geography/regions_and_divisions.html</a> or outside of the US where the study was performed; Do not code if institutions were in different regions	Northeast; Midwest; Outside the US; South; West
Type	Type of institution where the study was performed; Do not code if multiple institution types were studied	College; Community college; University
Sector affiliation	Whether institution was public, private, secular, or non-secular; Do not code if multiple institutions are not the same	Private; Public
Multiple institution	Code if study involved multiple institutions	Multiple institutions
Outcomes	Specific student outcomes that are specific in that they are tied to a more objective qualitative or quantitative indicator of learning for a specific assignment, class, or graduation	Enrollment; Graduation; Learning; Retention; Student engagement; Student success
Library service	Library service studied	Collections; Discovery; Instruction; Reference; Space (physical or digital)
Library measurement	How the library service was measured	Usage; Attendance
User measurement – Qualitative	How the user data were collected via qualitative methods. Interviews include individual and group interviews. Can choose up to 2.	Interviews; Surveys; Other
User measurement – Quantitative	How the user data were collected via quantitative methods. Interviews include individual and group interviews. Can choose up to 2.	GPA; Persistence; Pre/post test; Retention; Survey; Rubric; Other
User measurement – Student type	Status of participants. Can choose up to 2.	Undergraduate; Graduate; Other
Analysis method – Qualitative	How the data were analyzed via qualitative methods. Can choose up to 2.	Content analysis; Other
Analysis method - Quantitative	How the data were analyzed via quantitative methods. Can choose up to 3.	ANOVA; Regression; X2; Descriptive statistics; Correlation; Other

## Appendix B

### Bibliography of selected documents and their designations for ACRL Research Agenda

#### Key studies

- Beard, C., & Bawden, D. (2012). University libraries and the postgraduate student: Physical and virtual spaces. *New Library World*, 113(9), 439–447. doi:10.1108/03074801211273911
- Belanger, J., Zou, N., Mills, J. R., Holmes, C., & Oakleaf, M. (2015). Project RAILS: Lessons learned about rubric assessment of information literacy skills. *portal: Libraries and the Academy*, 15(4), 623–644.
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- Cox, B. L., & Jantti, M. H. (2012, July 18). Discovering the impact of library use and student performance. *Educause Review*, 1–9.
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- Fister, B. (2010). Critical assets: Academic libraries, a view from the administration building. *Library Journal*, 135(8), 24–27.
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- Gann, L. B., & Pratt, G. F. (2013). Using library search service metrics to demonstrate library value and manage workload. *Journal of the Medical Library Association*, 101(3), 227–229. doi:10.3163/1536-5050.101.3.015

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- Guo, S. (2015). Grade trend analysis for a credit-bearing library instruction course. *portal: Libraries and the Academy*, 15(2), 251–265. doi:10.1353/pla.2015.0018
- Haddow, G., & Joseph, J. (2010). Loans, logins, and lasting the course: Academic library use and student retention. *Australian Academic and Research Libraries*, 41(4), 233–244. doi:10.1080/00048623.2010.10721478
- Hagel, P., Horn, A., Owen, S., & Currie, M. (2012). “How can we help?” The contribution of university libraries to student retention. *Australian Academic & Research Libraries*, 43(3), 214–230.
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