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THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION

MEASURING VALUE
USING RESEARCH
PRODUCTIVITY AND
LEARNING OUTCOMES



Correlating Library Services, Expertise, and Resources with Student Learning

IDENTIFYING LIBRARY BEHAVIORS THAT APPEAR TO BE CONNECTED TO POSITIVE LEARNING OUTCOMES IS A REALISTIC RESEARCH GOAL AND A USEFUL MEASURE OF VALUE.

BY MEGAN OAKLEAF, MLS, PHD

The quest to demonstrate academic library value is not new, but it is certainly resurgent. Since the Association of College & Research Libraries (ACRL) published *The Value of Academic Libraries: A Comprehensive Research Review and Report* in 2010, academic librarians have redoubled their efforts to show that their libraries contribute to the missions of their overarching institutions.

Although institutional missions are multifaceted and complex, one goal is emphasized at nearly all institutions: student learning. As a result, academic librarians nationwide have embraced the challenge of connecting their libraries with student learning. Indeed, many librarians have moved beyond *asserting* that their libraries enhance student learning and have started

using data to *correlate* student use of library *services, expertise, and resources* (SERs) with learning outcomes. In other words, librarians are beginning to demonstrate that students who engage more with library SERs may learn more. (see Figure 1)

Although connections between libraries and learning may seem intuitive

In fact, librarians seeking correlations between libraries and learning have a number of challenges to surmount.

Getting the Questions Right

One major challenge many librarians face is the difficulty of designing a workable research question to guide their

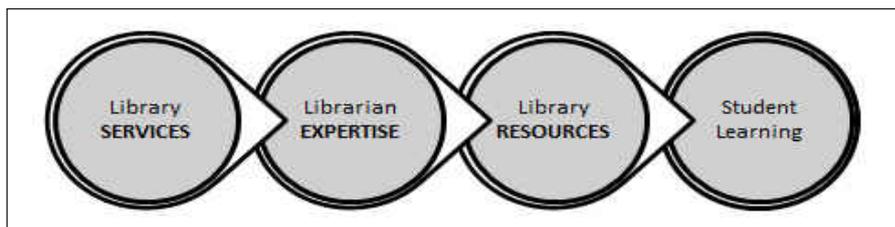


Figure 1: Library SERs Lead to Student Learning

to librarians, using data and statistics to correlate library use and student learning is not easy or straightforward.

correlational investigations. Questions of this nature have three main components: (1) Do library SERs (2) correlate with, contribute to, affect, influence, help, cause, determine, or relate to (3) student learning?

Sample research questions might include the following:

- Does the (1) physical and digital/virtual reference desk (2) contribute to (3) improved GPA scores at graduation?



MEGAN OAKLEAF is an associate professor in the iSchool at Syracuse University in New York. She speaks and writes frequently about assessment, evidence-based decision making, and information literacy instruction. She can be reached at moakleaf@syr.edu.

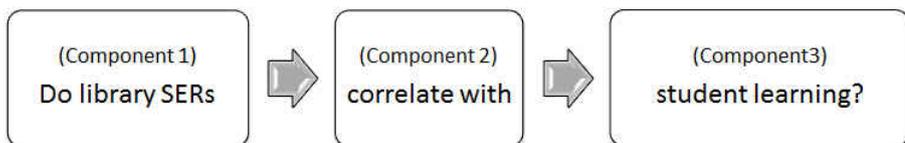


Figure 2. Research Question Components

- Does (1) engagement in library instruction (2) impact (3) students' ability to use information, as measured by student test scores?
- Does the (1) use of interlibrary loan services (2) help students contribute to the (3) use of quality information resources in senior capstone projects and theses?

To build questions with these three components (see Figure 2), librarians need to perform a number of tasks. To address component #1, librarians must identify which library SERs may impact learning. To do so, they need to investigate the mission, goals, and strategic priorities of their institutions and determine which learning goals are most important and valued. Then, librarians need to determine which library SERs align (or could align) with those institutional learning goals. Next, they must identify which students use the SERs under consideration. Finally, librarians need to collect impact-focused data and evidence about those SERs.

For component #3, librarians must identify useful measures of student learning, but finding rigorous and valid measures of learning can be difficult (Oakleaf 2008). Surveys supply self-reported data, and many students dramatically under- or over-report their own learning. Fixed-choice tests are ill-suited for measuring complex and contextualized constructs like information literacy. Performance-based assessments can be difficult for librarians to obtain, since most are submitted directly to course instructors.

Even when librarians have access to performance assessments, they vary considerably from student to student and course to course. As a result, rigorous rubrics are needed to obtain reliable data. Furthermore, students are not always motivated to complete

assessments that are distributed and required by librarians (rather than course instructors). Even when they work with course instructors to collect assessment data, librarians may be confronted with a host of curriculum integration and logistical difficulties.

Finally, librarians must consider component #2—the relationship between library SERs and student learning. Librarians posing research questions may be derailed by the desire to demonstrate that the use of library SERs and learning are not simply correlated—i.e., when one factor (library SERs use) increases, the other one (learning) does as well—but rather are causally linked. For example, instead of seeking to show that students who participate in library instruction obtain higher grades on a course assignment, librarians may try to prove that the library instruction *causes* the student to earn a higher grade.

When librarians seek to show that library SERs cause learning—and that there is no other factor contributing to that learning than those SERs—they place themselves in a very difficult position. Educational assessment does not occur in a closed environment, and the randomized control trials used in other disciplines to prove causality are not typically possible. In an open environment, it is difficult or impossible to account for all other possible influences and explanations for a change in learning, and it is likely that additional, uncontrolled factors are at play.

Instead of seeking to establish causal links, librarians should consider the *identification of correlations* a worthy goal. Finding correlations enables librarians to identify behaviors that appear to be connected to positive outcomes. When librarians know that a particular set of student behaviors is associated with learning outcomes attainment, they can encourage students to emu-

late more of those positive behaviors, which in turn should result in increased achievement of learning outcomes.

Thus, it is enough for librarians to know that students who use more library SERs attain higher grades. Of course, there may be other factors contributing to the higher grades, but determining that increased use of library SERs is part of a successful formula for students is both a realistic research goal and a useful result for librarians seeking to support students' academic achievement.

Acquiring the Necessary Skills

In addition to posing good research questions, librarians must possess additional skills in order to correlate library SERs and student learning. First, they should develop their ability to think at a macro-level rather than confining themselves to a narrower, more traditional, library-centric vision. They must be mindful of higher education conversations taking place nationwide and globally, particularly those focused on the role of higher education and the importance of student learning. They need to understand how these conversations shape the missions, goals, and strategic priorities of their individual institutions. And they should make conscious connections between those institutional missions, goals, and priorities and the SERs offered by their libraries. By adopting a macro-level perspective, librarians will be better prepared to see the “big picture” necessary to conduct and communicate the results of correlation research.

In addition to macro-level skills, librarians also need micro-level skills. Because impact occurs to one student at a time, impact data must be recorded at the individual level, not in the aggregate. Thus, librarians should develop the skills required to document individual student use of library SERs and link that use to individual student learning outcomes, all the while using secure data practices and keeping personally identifying information private. Although the use of individual-level data is sometimes daunting, librarians must

overcome the challenge of gathering and analyzing micro-level data while upholding strict privacy standards.

After acquiring macro-level and micro-level skills, librarians seeking to conduct correlation studies also need to learn a number of practical research and assessment skills. Librarians should learn the rules and requirements of human subjects research as well as strategies for partnering with other campus units and individuals interested in student learning (including educational assessment and institutional research professionals). Other important skills include a facility with assessment tools and techniques as well as the technical ability to manage data, conduct statistical analyses, and interpret the results. A more detailed skills list is included in *Academic Library Value: The Impact Starter Kit* (Oakleaf 2012).

Communicating with Research Stakeholders

Communication is a third significant challenge for librarians engaging in correlational research. Librarians need to include their stakeholders (students, faculty, administrators, resource allocators, assessment professionals, parents, employers, and others) as research partners who are integral to each stage of the process.

Early on, librarians should elicit information about stakeholder priorities. Stakeholders should also be included during the research process, as participants if possible. Most importantly, librarians must communicate the results of their research (as well as the actions taken based on those results) to stakeholders in ways that are appropriate and of interest to each group.

Addressing the Usual Barriers

Of course, correlational research is not immune from the challenges that plague many other library initiatives. Common challenges include too little time and too few resources to conduct desired projects. Other difficulties may arise, such as a paucity of support structures like acknowledged assessment experts

to act as “point” people or an assessment committee to provide guidance or advice. Additional barriers might include a lack of clear expectations, mandates, or rewards for conducting correlation research. In some cases, there may not be enough support for the risk-taking required to investigate linkages between library SERs and student learning.

Learning from the Past

To deal with these challenges, librarians should familiarize themselves with past correlational research and use that knowledge to inform future research efforts.

The Value of Academic Libraries: A Comprehensive Research Review and Report (ACRL 2010) lays the groundwork for the correlational research currently being conducted in libraries. The report summarizes existing library value research in all types of libraries, including academic, special, public, and school libraries. It also provides a research agenda outlining “next steps” in library value research and numerous ideas for possible correlations between library SERs and institutional missions, goals, and outcomes.

Since the report’s publication, correlation research has proliferated. In the United Kingdom, the Library Impact Data Project was an early effort linking student library use with student achievement. In Australia, the “Library Cube” connected library use with student performance. At the University of Minnesota, librarians correlated library use with both student success and retention. Additional examples of research correlating library SERs with student learning are listed in Appendix A.

The rapid increase of correlational research focused on student learning is matched by similar investigations of faculty productivity. The publications listed in Appendix B are also relevant to librarians seeking to engage in correlational research.

In addition to published research, librarians planning to correlate library SERs and student learning can participate in professional development supported by ACRL and the Association

of Research Libraries, including Assessment Immersion, Assessment in Action, and the Library Assessment Conference.

Moving into the Future

What does the future hold for librarians seeking to correlate the use of library SERs with student learning? Certainly, they must overcome a number of significant challenges. Librarians intending to conduct future correlation research need to do the following:

- Align library SERs with institutional missions.
- Identify library SERs that may impact student learning.
- Write effective research questions.
- Collect evidence of the use of library SERs on an individual level.
- Gather data about student learning on an individual level.
- Determine means for protecting individual level data.
- Recognize the utility of correlational connections instead of limiting themselves to the pursuit of elusive causal relationships.
- Attain practical research skills (e.g., follow human subject research practices, establish campus partnerships with educational assessment or institutional research professionals, gain facility with assessment tools/techniques, increase statistical analysis skills, craft effective reporting mechanisms, etc.).
- Communicate and partner with stakeholders.
- Overcome typical project challenges.
- Build on past library correlation research.

Once they surmount these challenges, librarians will likely find that many library SERs correlate with student learning. Determining where those correlations are strong and identifying the library SERs that have the most potential impact on learning will enable

librarians to begin to demonstrate and then communicate library value.

As librarians continue conducting correlation studies, they can expand their analyses, collaborate with institutional and library colleagues, share their findings, and build a long-term, nuanced understanding of library value.

Future correlation studies offer opportunities to include additional data in each research cycle. As librarians amass data about library SERs and student learning, they can replicate their initial results and then conduct more rigorous and probing research. For example, librarians may broaden their focus to include more or different library SERs. They can also collect more data at an individual level by adding swipe-cards to library service points, implementing transaction surveys like MINES for Libraries®, or requesting more detailed data from library resource vendors.

Librarians can also expand the student learning data they gather. For example, librarians could broaden their conception of student learning beyond the current data points (GPA, retention, and graduation) to outcomes revealed by student academic work, professional/educational test scores, engagement survey responses, internship/career placement measures, and so on. They could also investigate the impact of library SERs on a variety of student groups: first-year students, first-generation students, at-risk students, transfer students, international students, graduating students, students with specific majors, and students who participate in particular programs, to name a few.

Gathering student data for such detailed research will likely require librarians to increase their collaboration with institutional research professionals. Librarians will also need to decide whether to request and include institutional data in their in-house analyses or add library data to large-scale institutional data warehouses and participate in campus-wide efforts. The latter option could create opportunities for librarians to take active roles in campus assessment conversations and

initiatives and, perhaps, be included more significantly in institutional and accreditation metrics. Librarians may also decide to share, or even compare, their findings within a consortium, with a peer group of libraries, or with the larger professional community. By communicating their findings, librarians can learn from each other and establish best practices.

Most importantly, when correlation research becomes a part of regular library or institutional data collection, librarians will be able to move beyond the limitations of one-time, episodic approaches and engage in longitudinal studies that investigate library SERs and student learning over time and across institutions. Indeed, correlation research that is iterative, cyclical, and ongoing leads to the greatest benefits. When correlation research is continuous, librarians can reflect on both the SERs librarians provide and the differences they make in the lives of students, then take action based on their findings. After all, the point of correlation research is not to prove that library SERs affect student learning. The goal, in the end, is to improve them both. **SLA**

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APPENDIX A: Research Correlating Library SERs with Student Learning

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APPENDIX B: Additional Correlational Research of Interest to Librarians

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