

**Methodological Proposal for an Interventional Study to  
Assess Value in Academic Libraries among Collegiate Freshmen**

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**Abstract**

Universities, and especially their libraries, have faced severe budget cuts in recent years, forcing academic libraries to demonstrate value to their institutions. Numerous observational studies have established a correlation between library utilization and value metrics. The next step is an interventional study, which attempts to control extraneous factors. This type of research can be difficult to design. This article proposes one method. Through an interventional study among undergraduate freshman, libraries can provide supplemental library instruction in order to determine if student exposure to available resources increases student GPA and retention. These outcomes are used as measures of user and financial value based on current research trends. The methodology involves dividing university seminar course sections into two groups: one which receives additional library instruction and one which does not. The course sections will be evenly divided along major and college. After instruction is administered, students' academic records will be collected to assess GPA and collegiate retention. Statistics will only be processed as aggregates in order to protect individuals. The planned parsimony of this model allows researchers to draw the clearest linkage between exposure to library resources and academic outcomes.

**Keywords:** Academic Libraries, Interventional Studies, Freshmen (college),  
Value, Instruction

## **Introduction**

Libraries must prove their value to their communities. In fact, budgetary restrictions and increased digitization in secondary education have forced academic libraries to do even more to demonstrate their value to the universities that support them. Online searching has led to a false sense of libraries' obsolescence (Jennings, 2013, p. 108). While academic libraries have been tasked with more explicitly proving their worth, budget limitations have decreased libraries' employee base as shown by Regazzi (2013). Therefore, academic libraries must continue performing their traditional roles at lower staffing levels in addition to placing a special emphasis on articulating value. This new dynamic forces librarians to adopt additional roles as well as performing their typical functions (Nicholas, Rowlands, Jubb, & Jamali, 2010; Jantz, 2012). The issue becomes how to express value efficiently and how to measure it accurately? By drawing associations without assigning exposure, observational studies may not properly randomize the population, potentially introducing selection bias (Rothman, Greenland, & Lash, 2008, p. 93). Interventional studies account for this issue by introducing a known probability of exposure (Gordis, 2009, p. 132). Building on past observational studies, this paper proposes seeks to mitigate possible randomness and allow for more robust statistical analysis through the use of an interventional study to examine an academic library's value.

## **Defining Value**

Previous research has laid the foundation for this type of study. ACRL's *The Value of Academic Libraries: A Comprehensive Research Review and Report* reported that "library stakeholders tend to focus on two [definitions of value]: financial value and

impact value” (Oakleaf, 2010, p. 22). The report defines financial value as synonymous with return-on-investment (Oakleaf, 2010, p. 20) and impact value, or user value, as what the library tries to achieve and what it actually does (p. 21). Furthermore Oakleaf acknowledges that impact is challenging to directly measure, an obstacle which the proposed study methodology circumvents through implication. Although use is one of the easiest metrics to attain, the report dismissed it as a measure unless use could be related to institutional outcomes (Oakleaf, 2010, p. 20). This document generated two definitions of value – essentially the proverbial “bang-for-the-buck” and goal actualization, both of which this study can achieve.

### **Past Experiments**

Aside from defining value, some experimental framework must be constructed. Fortunately, there have been past examples, the most notable comes from the University of Minnesota – Twin Cities. Soria, Fransen, and Nackerud’s (2013) “Library Use and Undergraduate Student Outcomes: New Evidence for Students’ Retention and Academic Success” attempted to link library use and positive outcomes. This satisfies the stipulation laid out by Oakleaf about directly observing achievement. The study found that increased library usage was associated with higher retention and grades. The research depended on automatically collected data and lists of those engaged in instruction sessions and reference interactions (p. 151). The study’s linkage of freshmen GPA and retention to library usage does not account for aspects of the university environment other than participation in library research workshops. In fact, if freshmen participate in library research workshops, they are inherently more actively engaged in developing their research skills. Because these students appear more personally driven, it becomes

difficult to parse internal impetus from external exposure. Enrollment in library research courses and library usage are the expressions of the innate desire to succeed academically. Therefore, this correlation does not necessarily imply anything about the directionality of the relationship between library use and outcomes, but rather the students' will and their desired outcomes. In this relationship, the library is just an intermediary to achieving the desired outcomes: maintaining a high GPA and staying in school.

Despite this criticism, Soria, Fransen, and Nackerud's work begins a conversation about how to measure value and useful methods to gather data. Furthermore, their research considered past academic performance as a possible cofounder of collegiate success. One additional facet of the work that must not be understated is the utilization of available data to measure definite outcomes. Intuitively, academic librarians assume using the library improves student performance; this study attempts to prove the assertion. One of the interesting conclusions to arise from Soria, Fransen, and Nackerud (2013) was the need not to focus "solely on client satisfaction" (p. 160). The results suggest a better way to assess value and the importance of libraries and to use the library's resources is to instill students with an appreciation for the available opportunities which the library offers.

Not using the available library resources is an inefficiency in information delivery. An article in *Information Outlook* from 2012 urged that teaching and communicating are "keys to proving value" (p. 6) based on case studies from eight universities but that they did "not take advantage of all the resources the library has to offer" (p. 6). Evidence-based librarianship is how academic libraries attest value, how

libraries can provide quantitative evidence that exposure to resources can result in improved performance. To test this hypothesis about instruction and communication, a study must be implemented to inform the students about available resources and monitor the difference between those who received the intervention and those who did not. Given the work by Oakleaf (2011), Matthews (2013), Missingham and Zobec (2012), and Soria, Fransen, and Nackerud (2013), this study is the next step in demonstrating library value.

## **Proposed Study**

### *Overview*

Most universities have a version of a mandatory university seminar class which orients freshmen with academic activities and resources. At the author's university, there are approximately fifty university seminar sections. Often, the sections are grouped according to major or college, encouraging the professor to tailor his or her instruction according to the needs of the students' fields. As a part of this university course, each section receives a thirty minute tour of the entire library in order to provide an overview of the available resources. Additional bibliographic instruction throughout students' undergraduate careers is variable based on major and professors. Due to this variability of bibliographic instruction among majors, a student could hypothetically earn a four year degree without using the library's resources because he or she was never introduced to the resources in class.

### *Methodology*

Before designing the study, the population must be identified. Using incoming freshmen as the study cohort is ideal, because most have had zero to limited exposure to

academic libraries and their resources. Even if contact with academic libraries has occurred, it is reasonable to assume random distribution across the study population.

At its simplest, this study proposes to divide university seminar into two equal groups. Two course designs would subsequently be created. One would receive supplemental library instruction, and the second would continue to be instructed as the course has normally been done in order to serve as a control. The university seminars would be randomly assigned to one of the two groups, yielding approximately a one to one ratio. The supplemental library topics would involve general bibliographic instruction, citation assistance, and hands-on experience with library resources, such as databases, electronic books, and print periodicals and books. The instruction would be standardized across the university.

This supplemental instruction would be part of the typical university seminar class for half of the sections. One imperative experimental component is the division of sections evenly within colleges. For example, if there are four Honor sections of a university seminar class, then two would continue on the traditional path and two would receive the supplemental library instruction. This design accounts for any biases that could arise from comparing distinct groups. Differing majors may find the intervention more effective than others. All student data will be anonymized and linked only to the individual's GPA for fall and spring semester as well as retention after the first academic year, the same outcomes as Soria, Fransen, and Nackerud (2013).

These outcomes express both an academic library's financial and user value by furthering the university's aims. This intervention show the instructional and resource value of the library through associating GPA and retention with library instruction.

Because the supplemental instruction discussed above falls within the purview of typical librarian duties, the library faculty demonstrate the resources' value while performing normally assigned tasks, only now the work is done at a more impactful point. In other words, this instruction will not burden librarians with additional duties. Given the soft-touch nature of the intervention, collecting data beyond the students' first year would probably yield lower returns based on a prediction of the normalization of student usage of library resources. This prediction is that as students continue their education, they will inform peers of library resources, namely those that most directly benefit students' immediate academic performance. Yet, this hypothesis could guide a substudy within the construct of this larger examination of library value.

#### *Analysis*

Due to the sample randomization intrinsic in the study's design, the most basic information would be collected from the Registrar – GPA and retention, to maintain the students' privacy. Because this information is collected without the students' consent, the collection of additional variables risks encroachment on their privacy and potential identification. For this study to have a modicum of legitimacy, the privacy of individuals must be preserved. The University of Minnesota study had additional predictors such as high school performance and demographic information collected via survey. For this interventional study design, such variables would not be appropriate. If the results from this study are inconclusive, additional data may be necessary. However, for the first trial, the most parsimonious models will yield the purest results. This means that the basic predictors are intervention group and major/college.

*Limitations & Considerations*

This study has limitations that must be considered at the implementing university. To facilitate a discussion about implementation and logistics behind this study, certain considerations must be acknowledged:

1. **Material.** The curriculum should be consistent across all sections of university seminar, although different sections may be populated with varying majors who are interested only in databases and resources that apply specifically to them. Specific questions may be addressed at the end of the presentation, but the bulk of the library intervention must remain constant lest unexpected variability enter into the study.
2. **Instruction:** Even at a small university like the author's own, there are fifty sections of university seminar classes. In a perfect world, the same librarian would teach all twenty-five library interventions. This expectation is unrealistic even on a small scale. At a larger institution, the problem becomes exacerbated. Variability among instructors and outcomes will need consideration and possibly post hoc analysis.
3. **Time.** To allow for additional library instruction in a university seminar course, another field must be diminished or removed. This modification needs to have strict curriculum development oversight in order to prevent the case students missing a valuable piece of information that could inadvertently affect the outcomes.
4. **Partnerships.** Librarians must cultivate strong relationships with professors and Registrar staff. This limitation may present the greatest challenge, because



it asks additional assistance from parties who are also facing productivity pressures. Expressing the importance of this research and the impact it could have on all vested parties would articulate its importance to the university, not only the library.

## **Conclusion**

This study has the potential to measure value in a meaningful way, as dictated by ACRL's Value report and studies conducted at the University of Minnesota. Though the implementation of this experiment must be tailored to a university's specific circumstances, such as class size, librarian availability, and facilities, library research into value must move beyond observational studies and into strenuous interventional studies. Such a methodological transition will allow stronger associations to be drawn between exposure to library resources and outcome measures. With sheared budgets, this experiment allows academic libraries to show their value through a light intervention that has the potential to have a large impact on the perceived value of the libraries to both internal and external stakeholders.

Times are lean. Academic librarians have shown a willingness to confront the assertions about the obsolescence of libraries, the antiquated notion of proprietary information, and the value of knowledge and its curation. Attempts have been made to quantify value and to show worth. Philosophical banter about the importance of knowledge in an academic institution cannot protect libraries from the budgetary scythe. Hard numbers gathered accurately and analyzed strictly can safeguard librarians' stance as acolytes of information access. This study will scrutinize what academically libraries actually contribute to universities. If librarians have such faith in their importance, then

they must be willing to conduct experiments that support or rebut this assertion, not only for the library's sake, but for the well-being of the overall institution.

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