Known Library Use and Student Retention: A Methods Case Study

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At Murray State University we developed our Assessment in Action (AiA) project to serve two markedly different needs. One the one hand the University Libraries sought to answer the call to action in ACRL’s *The Value of Academic Libraries: A Comprehensive Research Review and Report* and develop methods that directly assess library impact on metrics like enrollment, retention, student success, student learning, and others regarding faculty productivity or institutional prestige.\(^1\) We knew for instance that we had the means and drive to contribute to the ongoing conversation at Murray State on declining student retention. However library assessment measures have traditionally involved counting things used, isolated from the user (e.g. item circulation, use of electronic resources, etc.). We therefore had no methods in place to address a possible relationship between student use of library space or resources and retention to graduation.

On the other hand the Libraries sought to leverage creative means in building its donor base. At Murray State the Libraries have a dedicated development officer, but our donor pool was limited to alumni who had majored in library science—a program with a limited lifespan at Murray State. We considered the argument that *all graduates are library graduates* to be a
strong one, the administration of the Development Office largely disagreed. Alumni of each program were “owned,” so to speak, by their respective colleges, and those colleges served as primary contacts for donor development among them. However alumni could be tagged as potential donors if they fell within specific populations. In order to tag alumni as potential library donors we needed a definitive method to identify library users.

In order to address both of these issues we needed to build a massive dataset of known library use tied to individual users. An inquiry question and methodology were already largely developed before we even applied to participate in AiA. The project was timely. We were able to leverage the credibility that came with our participation in this nationally-recognized ACRL/IMLS effort toward improving academic library assessment measures toward institutional buy-in. The nature of our project dictated the composition of the AiA team: the Director of User & Instruction Services, the Dean of Libraries, and the Systems Coordinator represented the University Libraries; other members of the University community included the Director of Student Retention, the Director of Institutional Effectiveness, and a faculty member from the Department of Psychology who served as a methodologist.

We started with a list of metrics that could potentially be tied to individual library users: circulation stats, interlibrary loan requests, library computer lab log-ins, use of the writing and communication centers housed in the main campus library, use of electronic resources, participation in library instruction sessions, and enrollment in the Libraries’ credit-bearing course. Early in the development of the project the primary goal was to lay the groundwork for compiling one large dataset. We designated users’ University-assigned institution numbers (known as M Numbers) as unique identifiers. While the Writing and Communication Centers
were gathering usage statistics and participant names, we directed them to begin capturing M Numbers as part of the appointment scheduling process. M Numbers for students enrolled in our credit-bearing courses were discoverable in the course management system. Logins to our campus network, including those through our library computer labs, employ a username serving as a user’s email address which can be easily run through the patron database to obtain M Numbers. Our staff incorporated the M Number into the ILLiad interlibrary loan request form years ago. Gathering other metrics though required significantly more preparatory work.

At the project’s inception Murray State Libraries was using Ex Libris’ Voyager as its integrated library system. The circulation module does not retain user circulation history once an item has been returned, in order to protect user privacy. Voyager does however count circulations per user. It was determined that we could capture a circulation count for each year by capturing all the counter figures for each unique user at the beginning of the academic year and comparing it to the figures available at the end of each semester. Any change in the counter meant that the user had borrowed something. This might include anything in our physical collection including traditional books, media, and other items such as laptops, headphones, and even iPods. This was not a problem for us; the circulation metrics simply reflected a certain level of student-library engagement.

Library instruction requires significant staffing, scheduling, and outreach support. Murray State has developed a scaffold of instruction for each academic program enabling us to teach to appropriate formative and summative learning objectives appropriate to the course level and discipline. This effort is however largely. Instruction librarians may meet with students once or twice in a semester. They do not grade student work and often do not have an
opportunity to even get the names of the students that may ask detailed questions. In order to include the library instruction element in our dataset we needed a way of capturing the identity of users in the classes we instructed. We discussed passing around sign-in sheets in class to get M Numbers but this was ruled out. We wanted to rely on unobtrusive measures of data collection if possible so as to minimize the possibility of disrupting user behavior. Sign-in sheets would have been time consuming for library instructors and would have likely meant reducing the amount of time spent teaching. Therefore we decided to record the registration numbers of the each of the courses for which we conducted instruction sessions and request an enrollment list from the Registrar at the end of the semester. While this metric was highly predictive of student retention we cannot say which students were actually present during library instruction. We knew that going in but deemed it the least obtrusive method available.

The metric that generated the most discussion and debate was measuring the use of electronic resources. Before developing our AiA project the University Libraries had no sense of the number of unique users driving the use counters for these resources. The Systems Coordinator informed us though that the proxy server we used to authenticate off-campus users of electronic resources was capturing unique user data based on Active Directory. One possible means of aligning electronic resource use to unique users would be pushing all traffic for those resources, including all databases, electronic journals, and ebooks, through the proxy server. Naturally this raised concerns about user privacy; the Director of User & Instruction Services and the Dean of Libraries presented our proposal to library faculty and department heads in a series of meetings that thus occasioned serious conversations. We were, after all, considering changing procedures for the purposes of gathering information on our users. We
defended the proposed changes by pointing out that specific search queries or resources utilized were not included in the information that would be gathered. There was also concern however that the proxy login would be an unnecessary hassle for on-campus users. In the end the tremendous information-gathering potential of our strategy combined with the added benefit of more efficient troubleshooting of login issues (those of us on-campus would have the same online experience as those off) won us the day. Consensus was reached at last and at the start of the next semester we began authenticating all users of electronic resources through the proxy server.

After settling on our study’s scope and methodology, it was determined that we should discuss the project with the Institutional Review Board. It wasn’t clear to us whether this step was necessary as we were gathering data intended for institutional assessment, but we knew that part of the AiA process included presenting on methods and findings at the American Library Association Annual Conference. I presented our plan to Murray State’s IRB Coordinator who refused to even consider approving the project without approval from the Registrar. She had serious reservations about such a far-reaching data project that involved gathering information on library users, even if the goal was to better understand those users. She expressed concern about centralizing such data for analysis, particularly because of the value libraries place on user privacy. The meeting with the University Registrar had an altogether different tone; she asked detailed questions about the security of the data and insisted that the centralized dataset would be anonymized by the Registrar’s Office when they added additional demographic information. We took this approval back to the IRB Coordinator for review and received IRB approval for the project shortly thereafter.
The infrastructure we put in place worked throughout the semester and at its conclusion the Systems Coordinator was to combine all the library use elements in a Microsoft Access database using the student M Number as the common identifier. Each library use element was simply coded as a 1 or 0. A 1 indicated that a student used the resource at least once during the semester and a 0 indicated no known use. No frequencies were captured; it didn’t matter to us how many items were checked out or how many times an individual logged into the proxy server. Even once was enough to suit our purposes.

The file was saved to an external hard drive that was always held in a locked drawer in a locked office. Once all the known library use elements were part of the file the entire dataset was delivered to the Registrar’s Office for the addition of demographic information. I did not expect this step to be difficult, but it turned out to be. We requested roughly twice as many data points as were returned. It turns out an element such as full-time or part-time is not easy to capture, as it may change at some point during the semester. We therefore had to specify that we were interested in the students’ status at the end of the semester rather than the beginning. Our institution does not tag students as main-campus or distance students because, for instance, a student living in the dorms might well register for an all-online semester of courses. We were thus left with gender, year of birth, race/ethnicity, academic rank the previous semester, major, and retention from one semester to the next. There were even issues with the retention element due to its being interpreted very literally; we initially interpreted the data as indicating the University failed to retain a significant number of its seniors, only to realize that graduating seniors had been tagged as “not retained”. Once we were able to talk through the specificity of the data elements requested and do a little cleanup
we had a dataset that included *all* Murray State students in our assessment. The Registrar removed the M Number from the file before returning it to us for analysis.

The methodologist on the project employed standard statistical analysis methods to investigate the relationship between known library use and student retention. The results were just what we had hoped for. We found strong positive relationships between many of our elements and even some interesting negative relationships that were easy to explain when controlling for certain demographics. As an example, there was a negative relationship between use of our Writing Center and retention into the next semester. This indicates that our Writing Center serves the most at-risk students and that use alone isn’t enough to predict retention. Further, the Writing Center is heavily used by international students participating in our ESL program rather than a traditional academic program. International students may visit Murray State to complete a certain level in the ESL program and never take main campus courses.

While the study was successful in demonstrating relationships between known library use and student retention, at this point they only reflect the experience at Murray State and, in particular, the experience of the students enrolled for the duration of the study. We believe however that there is great potential for this largely new method of compiling previously existing data to analyze empirically the relationship of libraries to a campus-wide imperative.

Murray State continues to gather these library use metrics for future analysis. We hope to add an additional element in the near future: reference transactions. Reference transactions represent some of the most personal work we do with our users as one has to confess to some ignorance in order to request help. We hope to start gathering email addresses as part of our reference interview process in order to facilitate follow-ups, and these emails may be
conveniently added to our large dataset. We also hope to clarify the somewhat misleading circulation metric. Because our laptops and other technology are barcoded, those particular library uses are counted as a circulation rather than use of the computer lab. We must better rethink the circulation of technology which may be eased by the transition to a new ILS in the coming year. We also hope to compare our results to similar datasets from other institutions.

There have been very successful studies of similar scope at the University of Minnesota,² Curtain University in Western Australia,³ and the University of Huddersfield,⁴ but this project was undertaken at a regional public institution rather than a research institution and included unique elements. Ultimately we want forward-thinking librarians at similarly-sized institutions to know that this is a scalable project that can be implemented without significant changes in workflows. We also want to encourage some change in the typical assessment of academic libraries where effectiveness is often broadly defined by gate counts, reference questions, database queries, and limited replicability of learning following information literacy instruction. We want university administrators to expect more from academic libraries and give them a seat at the table where imperative metrics are discussed. As institutions and their units transition to performance-based funding it is imperative that academic libraries be able to communicate the direct or indirect impact of library space, services, collections, and staffing on student retention and success.
Notes


