
Academic Libraries and Student Retention: The Implications for Higher Education

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Abstract

Grand Valley State University (GVSU) in Allendale, Michigan, has found a statistically significant correlation between library instruction and student retention, and also between faculty who invite library instruction and student retention. By putting these findings into the context of both existing literature on the relationship between library use and student success and of established models of effective higher education practices that contribute to student success, a line begins to form between intentional engagement with the library and high-impact practices.

Introduction

Attracting and keeping students is a high priority in higher education, and academic libraries are examining the ways they might be contributing to student retention. Some have looked for a relationship between library instruction and retention,¹ others have looked for it between library use and retention.² This paper reviews the existing literature on academic libraries and student retention and presents the role of the classroom professor in driving library use. We will take a step back from the discrete factors correlated with retention and instead look at the possible faculty effect on library use and inquire whether the growing body of evidence of library value has broad implications for higher education. In other words, the library—and all its spaces, services, and resources—is not causing retention but rather is a conduit by which effective teaching faculty direct their students to the library as a critical academic support service.

The high-impact educational practices identified by George Kuh³ and the Association of American Colleges and Universities (AAC&U) include several activities that are directly or indirectly supported by libraries. Many academic libraries provide first-year seminars or workshops. They collaborate with other campus support services to offer cocurricular programming and common intellectual experiences.

They support writing-intensive courses that have high levels of information literacy content through direct instruction and librarian consultations. They offer mentoring and resources for undergraduate research projects. They also send librarians into capstone classes for in-depth instruction in advanced library research.

Each of these practices, often led or initiated by teaching faculty, drive student use of the library. Student use of the library is correlated with student retention in several studies. Faculty influence whether a student uses the library, whether through direct assignments or cocurricular programs. Therefore, as this paper proposes, faculty engagement with the library, including encouraging student use of the library, is a contributing factor to student retention. Is library use a high-impact practice?

Correlation between Library Instruction and Student Retention

Grand Valley State University (GVSU), a large comprehensive university in Michigan, has been exploring the relationship between library instruction and student success. Every year since 2012 a statistically significant positive correlation has been found between in-class library instruction led by a librarian and whether or not a student reenrolls the following fall semester,⁴ which is how we defined retention. Library instruction is invited sessions in another faculty member's course, not credit-bearing information literacy courses. The students who attend come as an entire class with their professor to participate in librarian-led activities. Highly motivated students may attend library workshops by choice, or check out books, or log into databases, and intrinsic motivation can be a complicating factor in measuring student success. By using whole-class data, classes in which students were not given a choice whether to attend the library session, self-selection and motivation biases are better controlled.

In that study,⁵ the library and the university’s institutional research department worked together to answer over 30 questions about library instruction and the students who participated, ranging from how many students were in those instruction sessions to the big questions about retention and grade point average (GPA). (To ensure student privacy, all student data stayed in the institutional research department and was reported to the library in aggregate only.) The analysis included only those courses that had at least one library session so that there could be reasonable comparison between students in a specific course who saw a librarian and those in the same course who did not. This eliminated single-session courses such as internships, independent study, music instruction, etc.

The analyst used a chi-squared test of independence using SAS and a fixed p-value of .05 to test significance. We controlled for ACT score, high school GPA, socioeconomic status, and first-generation status using a generalized linear model. Odds ratios were calculated to determine the magnitude of difference.

The findings are statistically significant and have been replicated for four years. The magnitude is positive—but small. We know that something is happening but have not yet determined the cause or the direction. The study also was limited by human error in the instruction data entry and by estimated attendance (enrollment figures were used for attendance; librarians did not collect student names in class in order to further protect privacy). Online instruction ramped up significantly in 2016 but has not yet been analyzed. We also acknowledge that these results are unique to this institution and are not generalizable.

All of that is shared here as background on why we were inspired to dig deeper into the results.

Retention is very complicated and numerous factors, many of which are unmeasurable, contribute to whether a student stays in college. There is no evidence that library instruction causes an increase in student retention but there is considerable and growing evidence that library use is a factor.

Correlation between Faculty and Student Retention

So there may be a relationship between retention and library instruction, but there is no evidence for causation and plenty of confounding variables. One of those variables is classroom faculty. We were curious if flipping our data to focus on the faculty, instead of the library instruction, would reveal any interesting correlations.

Using the same student enrollment and library instruction data, we asked the analyst to compare *students who had at least one faculty member invite a librarian to teach an information literacy session to students who did not have faculty who invited a librarian*. The hypothesis is that faculty who engage with the library via library instruction are also likely to be more effective, perhaps by engaging with other high-impact practices that positively influence retention. For example, those faculty might be assigning undergraduate research projects or encouraging their students to use academic support services, which are known practices that contribute to student success—and are likely to require library services and resources.

Table 1 shows how many students had a faculty member who worked with a librarian to offer library instruction in class, the percent of those students who reenrolled the following semester (our definition of retention), the p-value at which significance was tested, and the odds ratio showing the magnitude of difference.

Table 1: Correlation between faculty engagement with the library and student retention

Year	Faculty who invited library instruction	Number of students	% Retained	P-value	Odds Ratio
2014–2015	No	7555	71.30	.0001	1.19
	Yes	10825	74.70		
2015–2016	No	6583	70.67	.0001	1.20
	Yes	12030	74.39		

Students who had at least one professor work with a librarian—regardless of whether those students saw a librarian in their own classes—were retained at a statistically significant higher rate. These are not students who necessarily had library instruction; these are students who have faculty who invite library instruction. It is unknown why those faculty plan library instruction in their courses; possible reasons include (but are not limited to) valuing information literacy, accreditation requirements, encouragement from unit heads, or department culture.

Perhaps faculty who plan for and invite library instruction are more aware of and actively involved with high-impact practices that support student success, and perhaps library use is one of those practices. It is an interesting finding that, using the same population of students and faculty with the same analysis methods, students who receive library instruction are retained at a higher rate, and students who have faculty who work with a librarian on instruction are also retained at a higher rate.

Granted, the reasons that students who have these library-engaged faculty are reenrolling may not have anything to do with the library. Retention is complex. This preliminary evidence warrants replication and further examination.

Retention in the Literature

Library use has been connected to student retention, persistence, and GPA in several studies. Murray, Ireland, and Hackathorn looked at general library use (such as logins, checkouts, gate counts, instruction, and interlibrary loan) and found a predictive relationship between library use and retention of freshmen and sophomore students.⁶ Soria, Franssen, and Nackerud studied whether library use is related to first-year student retention.⁷

Others have looked at library use and student success using methods ranging from self-reported surveys,⁸ collection of student user names at various library service points,⁹ comparison of student identification numbers to proxy logs,¹⁰ comparison of student enrollment data and library management system data,¹¹ and correlation analysis between library material use and GPA.¹² Together, along with the evidence collected by the Association of College and Research Library’s (ACRL) Assessment in Action project,¹³ they suggest a significant link between the library and student success.

Just outside the realm of direct student use of the library, researchers also have found relationships between library staffing and student retention¹⁴ and between library expenditures and retention.¹⁵ Although these findings are more indirect measures of library activities and student retention, they report a connection between well-supported libraries and student retention.

The ten high-impact practices identified by AAC&U¹⁶ are well integrated into the curriculum at GVSU and other institutions. The practices are:

- First-year seminars and experiences
- Common intellectual experiences
- Learning communities
- Writing-intensive courses
- Collaborative assignments and projects
- Undergraduate research
- Diversity and global learning
- Service and community-based learning
- Internships
- Capstone courses and projects

Each practice has elements that are supported by existing library services and resources. For example, GVSU libraries support campus learning communities. Liaison librarians are embedded into several learning communities, offering on-site office hours, one-to-one research consultations, and custom tours of the library. First-year seminars and experiences are popular high-impact practices; GVSU has a dedicated first-year initiatives librarian and a long-standing, strong relationship with the introductory freshman writing course.

Recent literature is starting to illuminate the trail between high-impact educational practices and library use. Kilgo, Sheets, and Pascarella took a broad look at high-impact practices at 17 institutions and found strong correlations between some of those practices (including undergraduate research, which often relies on library services and resources) and educational outcomes.¹⁷ In a different approach, Murray found that library deans believe their libraries are involved in many high-impact practices and were able to map specific library activities—library instruction in particular—to discrete high-impact practices.¹⁸

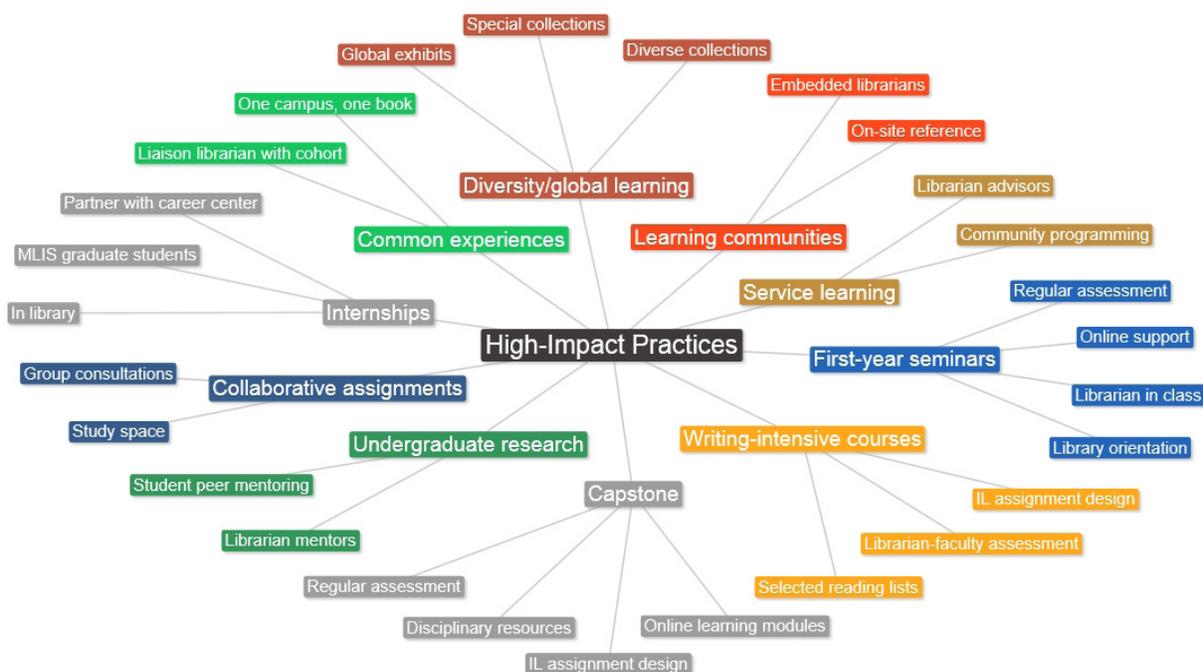
Several theories and models, beyond Kuh’s high-impact practices, further support the relationship between student success factors and academic libraries. In one psychological model, four types of

educational programs are shown to increase student success: service learning, learning communities and freshman interest groups, freshman seminars, and mentoring programs.¹⁹ It is easy to find connections between these programs and library programming, such as the proliferation of first-year experience programs, peer-to-peer research consultations in information commons, librarian faculty research mentors, and embedded librarians. Another useful model, Tinto's model of institutional action, posits four conditions that foster success: clear and high expectations; academic, social, and financial support; frequent assessment and feedback; and active engagement with faculty and other students.²⁰ These, too, can be used to more clearly articulate the role of the library.

Connections between High-Impact Practices and the Library

One way to look at the library's relationship to these practices is by simply drawing a map of high-impact practices and library resources and services (Figure 1). This sample map is not exhaustive but it does start to show a complicated mix of direct connections with extreme fragmentation of those connections. In other words, each of these elements—study space, services in those spaces, collections available in those spaces—are separate from each other when conceived this way, displayed as if they are connected only to the high-impact practice but not as part of a comprehensive, strategic library program.

Figure 1: Map of high-impact practices and library resources and services



Despite the fragmentation of this kind of visual model, it does demonstrate how deeply embedded libraries are into campus programs. Librarians work with classroom faculty on assignment design for capstone courses. They select discipline-specific resources and, when needed, make them accessible to students in online courses. Libraries provide different study spaces for different student needs—quiet corners, group study rooms, open collaborative areas, tutoring centers, computer labs—and stock those spaces with everything from coffee and lounge chairs to peer mentors and career advisors.

If, for example, undergraduate research is such a key practice, as asserted in the literature, and if undergraduate researchers are dependent on the library, perhaps the library is inseparable from the best practice.

Pulling It All Together

Research shows a correlation between library instruction and student retention, between multifaceted library use and measures of student success (including retention, GPA, and persistence to graduation), and between library services and

resources (both human and physical) and known high-impact practices. Through national programs like Assessment in Action, libraries are building capacity to more closely and rigorously investigate those relationships in order to measure and share the value of academic libraries within their institutional contexts.

We look for library factors and yet we also may be finding faculty factors. Faculty drive student use of the library. At GVSU there appears to be a correlation between faculty who engage with their librarian (and presumably encourage their students to do the same via library instruction and research-related assignments) and student retention. Using Tinto’s aforementioned model of expectations, support, assessment, and engagement as a lens, we see how

the library is woven throughout.²¹ We see that the faculty role is to set high expectations for quality scholarly sources. Faculty frame the library as a source of academic support. Faculty assess and stress the importance of information literacy skills. And faculty and students alike engage with the library and each other through scholarship.

So, if student retention is correlated with library use, and with faculty engagement with the library, and with faculty who encourage student engagement with academic support services, and with student engagement with faculty, and with library-intensive high-impact practices such as undergraduate research, writing-intensive courses, and first-year experiences, is library use the eleventh high-impact practice?

Figure 2. Map showing engagement with the library as a high-impact practice



As ACRL and OCLC Research begin the development of a new research agenda, and individual libraries refine their own strategic plans, inquiries such as the one presented in this paper provide a framework for further exploration. Large-scale, longitudinal, high-n, replicable studies of the relationship between library use and student retention are rare in academic literature. Higher education is intensely focused on student retention and, as fully integrated and essential academic services, academic libraries have a critical role to play in contributing to that conversation.

Development of a specific line of inquiry—and all associated definitions, assumptions, and analyses—into whether library use is a separate high-impact practice would be new and challenging. Regardless of the outcome, such structured exploration would help further identify the strongest relationships between academic libraries and student success. And, if subsequent evidence does support it, this reframing of impact has implications for expanding the way higher education approaches effective learning for diverse populations by articulating one

more effective, attainable, and realistic practice: engagement with the academic library.

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Endnotes

1. Mary O’Kelly and Rachael Passarelli, “Correlation between Library Instruction and Student Retention” (unpublished manuscript in progress).
2. Gaby Haddow, “Academic Library Use and Student Retention: A Quantitative Analysis,” *Library & Information Science Research* 35, no. 2 (2013).
3. George D. Kuh, *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter* (Washington, DC: Association of American Colleges and Universities, 2008).
4. First presented by the author at the Southeastern Library Assessment Conference in Atlanta, GA, on November 16, 2015. Slides available at: http://scholarworks.gvsu.edu/cgi/viewcontent.cgi?article=1056&context=library_presentations.
5. O’Kelly and Passarelli, “Correlation between Library Instruction and Student Retention.”
6. Adam Murray, Ashley Ireland, and Jana Hackathorn, “The Value of Academic Libraries: Library Services as a Predictor of Student Retention,” *College & Research Libraries* (2015).
7. Krista M. Soria, Jan Fransen, and Shane Nackerud, “Library Use and Undergraduate Student Outcomes: New Evidence for Students’ Retention and Academic Success,” *portal: Libraries and the Academy* 13, no. 2 (2013).
8. John K. Stemmer and David M. Mahan, “Investigating the Relationship of Library Usage to Student Outcomes,” *College & Research Libraries* (2015).
9. Angie Thorpe et al., “The Impact of the Academic Library on Student Success: Connecting the Dots,” *portal: Libraries and the Academy* 16, no. 2 (2016).
10. DeeAnn Allison, “Measuring the Academic Impact of Libraries,” *portal: Libraries and the Academy* 15, no. 1 (2015).
11. Haddow, “Academic Library Use and Student Retention.”
12. Shun Han Rebekah Wong and T. D. Webb, “Uncovering Meaningful Correlation between Student Academic Performance and Library Material Usage,” *College & Research Libraries* (2010).
13. E. Ackermann, *Putting Assessment into Action: Selected Projects from the First Cohort of the Assessment in Action Grant* (Chicago: Association of College and Research Libraries, 2015).
14. Mark Emmons and Frances C. Wilkinson, “The Academic Library Impact on Student Persistence,” *College & Research Libraries* (2010).
15. Elizabeth M Mezick, “Return on Investment: Libraries and Student Retention,” *The Journal of Academic Librarianship* 33, no. 5 (2007); Gregory A. Crawford, “The Academic Library and Student Retention and Graduation: An Exploratory Study,” *portal: Libraries and the Academy* 15, no. 1 (2015).
16. Kuh, *High-Impact Educational Practices*.
17. Cindy A. Kilgo, Jessica K. Ezell Sheets, and Ernest T. Pascarella, “The Link between High-Impact Practices and Student Learning: Some Longitudinal Evidence,” *Higher Education* 69, no. 4 (2015).
18. Adam Murray, “Academic Libraries and High-Impact Practices for Student Retention: Library Deans’ Perspectives,” *portal: Libraries and the Academy* 15, no. 3 (2015).
19. John Bean and Shevawn Bogdan Eaton, “The Psychology Underlying Successful Retention Practices,” *Journal of College Student Retention: Research, Theory & Practice* 3, no. 1 (2001).
20. Vincent Tinto, “Moving from Theory to Action,” in *College Student Retention: Formula for Student Success*, ed. Alan Seidman (Westport, CT: Praeger, 2005).
21. Ibid.