



Finding the Holy Grail of Library Value: Characteristics of Academic Libraries at Universities with High Retention Rates

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Volume 19, Number 3, 2024

URI: <https://id.erudit.org/iderudit/1113814ar>

DOI: <https://doi.org/10.18438/eblip30495>

[See table of contents](#)

Publisher(s)

University of Alberta Library

ISSN

1715-720X (digital)

[Explore this journal](#)

Cite this article

Szpunar, R. & Bradley, E. (2024). Finding the Holy Grail of Library Value: Characteristics of Academic Libraries at Universities with High Retention Rates. *Evidence Based Library and Information Practice*, 19(3), 60–86. <https://doi.org/10.18438/eblip30495>

Article abstract

Objective – What are the characteristics of academic libraries at schools with high retention rates? To help libraries tell the story of their impact, we sought to determine which academic library practices were linked to high retention rates.

Methods – The investigators created a survey for the United States Great Lakes region library deans and directors in the Spring of 2022 with 19 questions about their library services and staffing. The survey was sent to 226 schools and had a response rate of 31%. We compared the resulting information to publicly available data on student retention from ACRL Metrics and IPEDS to look for correlations and associations.

Results – Statistical analysis used the Chi-squared test and the Pearson correlation to calculate association and correlation. This found six attributes of student connections with library staff and with unique local collections that were associated with statistically significant differences in retention rates and institutions. These attributes were institutions who: used students as archives student workers, used students to staff reference desks, conducted multiple library instruction sessions with the same class, had a staffed archive or special collection space, had an institutional repository that included student work, or had an Instagram account.

Conclusion – The survey results gave a clear profile of academic libraries with above average retention, particularly in terms of student focused initiatives and the curation of unique collections. Additionally, the survey gave a foundation, with recommendations, for future researchers to build upon.

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Research Article

Finding the Holy Grail of Library Value: Characteristics of Academic Libraries at Universities with High Retention Rates

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Received: 19 Dec. 2023

Accepted: 21 June 2024

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Abstract

Objective – What are the characteristics of academic libraries at schools with high retention rates? To help libraries tell the story of their impact, we sought to determine which academic library practices were linked to high retention rates.

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Introduction

Academic libraries face increasing pressure to communicate their value to stakeholders, and library deans and directors are always looking for impactful metrics to preserve funding for library staff, collections, and services. Student retention rates frequently rise to the top of these data point lists, with the argument that schools with well-supported libraries will retain more students and thus provide more financial capital for their school. In pursuing this holy grail of library value, researchers have evaluated publicly available data from ARL Statistics, ACRL Academic Library Trends and Statistics (ACRL Metrics), and Integrated Postsecondary Education Data System (IPEDS), as well as locally compiled data, looking for correlations between retention rates and library metrics. While these deep dives of information have provided some insight into the value of libraries, it leaves open why and how libraries impact student retention. What *are* the characteristics of academic libraries at schools with high retention rates? We sought to answer this question by surveying library deans and directors from small to medium-sized private Midwestern United States colleges and universities about their library services and staffing, and then comparing this information to publicly available data on student retention. Our survey found six unique attributes that were associated with statistically significant differences in retention rates for institutions. While six attributes do not necessarily draw a clear picture to provide a significant remedy for our profession's challenges, we hope this approach to considering retention helps our libraries better focus their efforts in serving students and more accurately tell their successes to stakeholders.

Literature Review

Our first area of investigation was into recent library literature on student retention, which we found has primarily evaluated library usage, interaction with librarians, and library expenditures. Szpunar and Bradley (2020) found 39 articles on retention and libraries published between 2010 and 2020. Most researchers agreed that library usage had a positive correlation with student retention, such as Mayer et al. (2020), who found that a first-year undergraduate student who checked out a library item had a 124% higher probability to return their sophomore year. Likewise, library physical item checkouts, as well as electronic item usage, were both associated with increased first-year to sophomore student retention (Haddow, 2013; LeMaistre et al., 2018; Murray et al., 2016; Soria et al., 2014; Stemmer & Mahan, 2016; Thorpe et al., 2016).

Librarian-student interactions in a classroom setting had the strongest direct correlation with retention. O'Kelly et al. (2023) noted that students who had classes with professors who simply worked with librarians, even if their students did not directly interact with librarians, had greater retention rates than students of other faculty. Two institutions who followed identical methods also found positive correlation with librarian-led instruction and retention (Creel et al., 2022). Similar studies from researchers evaluating library instruction among first-year undergraduates found positive correlations with retention (Blake et al., 2017; Krieb, 2018; Rowe et al., 2021; Wright, 2021). Wittkower et al. (2022) found library instruction within a course helped with students' completion of the course. First-year students who completed credit bearing information literacy courses taught by librarians or who completed a library assignment within a course likewise were more likely to return their sophomore year (Black & Murphy, 2017; Espe et al., 2021; Jones & Mastrorilli, 2022). A study among doctoral students in an online program, however, found that students who met with a librarian for a research consultation were not any more likely to complete their program (Mohr et al., 2022). Additional research on retention and librarian-student interactions among graduate and distance students would help determine the discrepancy of the latter study in terms of the more comprehensive work with in-person undergraduates. With only one study conducted in this specific area, we chose for our study design to not exclude graduate or distance students if retention data were available for them.

Schools with higher overall library expenditures had higher retention rates. Teske et al. (2013) found that book expenditures have the strongest correlation with retention. Crawford (2015) found library expenses had a positive relation with retention. Regarding staffing expenditures, Emmons and Wilkinson (2011) found that a 10% increase in professional library staff predicted a 0.72% increase in retention. Eng and Stadler (2015) found similar correlations between professional staffing levels and student retention.

Along with these studies positively relating to libraries and retention, Robertshaw and Asher (2019) responded to many of the aforementioned studies by stating that retention, along with grades and attainment outcomes, were unlikely to be statistically connected to the library due to other factors involved with student success measurements. Their meta-analysis on research connecting library instruction to grade point average (GPA) did not find any effect or possible real-world association, while their meta-analysis on library usage to GPA found a significant yet small effect. They were unable to conduct a meta-analysis on library metrics and retention due to the limited number of studies in the area.

In addition to the library literature on retention, we also drew from the larger field of higher education literature on retention. Four main areas of established impact factors that positively affect retention were discovered. First, cost, including increased financial aid (Millea et al., 2018; Olbrecht et al., 2016; Webster & Showers, 2011), family's higher expected family contributions (Olbrecht et al., 2016), and higher tuition cost (Gansemer-Topf et al., 2018; Webster & Showers, 2011). Second, institutional expenditures, including higher faculty salaries (Webster & Showers, 2011), higher expenditures per student (Gansemer-Topf et al., 2018), and higher expenditures for student support services (Hamilton, 2022; Marsh, 2014). Third, sense of belonging (Han et al., 2017), as demonstrated in learning communities (Dagley et al., 2016; Grier-Reed et al., 2016), engagement in intramural sports (Forrester et al., 2018; McCollum, 2018), and engagement with Facebook for university-based relationships (Morris, et al., 2010; Nalbone et al., 2016). Finally, institutional characteristics, including selectivity (Gansemer-Topf et al., 2018), percentage of full-time students (Marsh, 2014), small class sizes or student to teacher ratio (Millea et al., 2018; Webster & Showers, 2011), and large institution size (Marsh, 2014).

Overall, we found researchers in both library and broader higher education literature eager to focus on how specific institutional or library traits supported retention. Studies were quick to highlight individual

traits which supported student retention instead of looking at collective attributes or patterns. We sought to address this gap in the literature by looking at more holistic data in our research process.

Methods

With this background research in mind, we proceeded with the idea of looking at the impact individual librarians or high-impact practices within the library can have on retention. As we created versions of our survey, we quickly realized that defining the work of individual librarians and high-impact practices would be difficult, if not impossible, and instead moved to a broader and more holistic method of data capture. We sought to create a survey for library deans and directors that was designed to be easy to fill out, with no need to look up dozens of statistical measures already collected via ACRL Metrics and IPEDS, but still thorough. The result was a survey with 19 questions intended to take less than 10 minutes to complete. The survey is available in Appendix A. We did not obtain IRB approval to conduct this survey, as the data we were gathering were institutional, rather than about human subjects. Our goal was to obtain data from schools who were similar in nature to the schools in our consortium. Thus, we used IPEDS to generate a list of schools that met the following criteria:

- Private
- Not for profit
- Degree granting
- Great Lakes region: as defined by the U.S. Bureau of Economic Analysis (BEA) (Illinois, Indiana, Michigan, Ohio, Wisconsin)
- Fewer than 10,000 FTE students

This gave us a pool of 256 schools. Of those, we removed 30 for the following reasons: no library staff, school closed, branch of institution already included in the study, or branch of large institution not included in our study. This left us with 226 schools with library director or institutional contacts available. All 226 schools were invited to participate in the study via two emails sent from Qualtrics. Of the schools invited, 84 responded to our survey, although 3 did not answer all the questions. Of those 81 respondents, 11 have not reported retention data to IPEDS, many because they are graduate theological seminaries. We did not exclude these schools from the study originally because the seminaries in our consortia are highly interested in this study and requested that we consider a second round of the study that would consist of asking these seminaries for retention figures. That left us with 70 responses for schools with retention data available, a 31% response rate.

With our data gathering complete, we looked again at our research question: “What are the characteristics of academic libraries at schools with high retention rates?”

Our first task entailed defining “high” retention rates. We narrowed our list of 226 schools to those who reported retention data to IPEDS, which gave us 181 schools. Then, we divided those schools into roughly equal groups of three based on their Fall 2020 IPEDS full-time retention rate. Equal group sizes were impossible to make, as many schools have the same retention rates, so we rounded group sizes up or down as appropriate.

This resulted in the following tiers:

Above Average Retention: 82-100% (56 schools)

Average Retention: 71-81% (69 schools)

Below Average Retention: 0-70% (56 schools)

We confirmed these tiers by using the National Student Clearinghouse’s Persistence and Retention Report from July 2023, measuring the Fall 2021 Beginning Postsecondary Student Cohort, which states that “nearly 76 percent of the 2.4 million students who started college in fall 2021 returned for their second year” (National Student Clearinghouse Research Center, 2023, p. 1). This number fell nicely into the middle of our average retention grouping.

To determine the ranking of our respondents, we used an average of their retention rates reported to IPEDS for the last five years (2017-2021), in order to provide a more accurate portrayal of each school. Using these groupings, 21 of our respondents had above average retention rates, 32 were average, and 17 were below average.

Next, we analyzed the survey data with two secondary research questions:

1. Is there a *correlation* between retention rate and selected ACRL Metrics or between retention rate and the number of hours per week a reference desk is staffed (survey question number 5)?
2. Is there an *association* between retention rate and specific library services, spaces, or practices (all other survey questions)?

We used two different statistical measures because some of our data were at the interval level while other data were nominal. To assess correlation, we used the Pearson correlation coefficient to gauge the strength of the linear relationships between our variables. We measured the relationship between the following ACRL Metrics data shown in Table 1 and the school’s retention rates using the Pearson function in Microsoft Excel. We performed this calculation for every school in our pool who reported retention to IPEDS and reported ACRL survey data (132 out of 226).

Table 1
Selected 2020 ACRL Academic Library Trends and Statistics Data Points

Gate count on an annual basis
Total physical collection
Information services to individuals (all subcategories totaled)
Total attendance at all presentations to groups
Number of hours open during a typical week in an academic session
Librarians
Other professional staff
Total professional staff

In order to account for institution size in our calculations, we divided each ACRL Metric data point by the 2021 IPEDS element all students total number and used that to assess correlation. This meant that all data points were reported on a per student basis.

To assess association, we conducted Chi Square tests on the respondent set of questions. We separated survey responses into above average, average, and below average institutions based on our established criteria. We did one Chi Square analysis for each yes/no question and divided the responses for each multiple-choice question by answer choice and did a Chi Square calculation for each.

Results

First, using the Pearson correlation, no significant correlation between retention rate and any ACRL metric included in the study was found, with most data points having a positive correlation of less than 0.3%. Table 2 shows the data points used for Pearson correlations.

Table 2

Pearson Correlations of Select 2020 ACRL Academic Library Trends and Statistics Data Points

Survey Question	Pearson Correlation
Gate count on an annual basis	0.23
Total physical collection	0.27
Information services to individuals (all subcategories totaled)	0.05
Total attendance at all presentations to groups	-0.03
Number of hours open during a typical week in an academic session	0.12
Librarians	0.25
Other professional staff	0.12
Total professional staff	0.26

Second, no significant correlation was found between retention rate and the number of hours per week a reference desk was staffed. We found that the Pearson Correlation = 0.17.

Third, in our Chi Square analysis, we found six associations where there was a statistically significant ($\text{ChiTest} < 0.05$) difference in the distribution of retention rates between institutions who:

- Used students as archives student workers ($\text{ChiTest} = 0.009$) (Table 3),
- Used students to staff reference desks ($\text{ChiTest} = 0.021$) (Table 4),
- Conducted multiple library instruction sessions with the same class ($\text{ChiTest} = 0.001$) (Table 5),
- Had a staffed archive or special collection space ($\text{ChiTest} = 0.003$) (Table 6),
- Had an institutional repository that includes student work ($\text{ChiTest} = 0.046$) (Table 7),

- Had an Instagram account (ChiTest = 0.002) (Table 8).

Table 3
Chi Square: Archives Student Workers

	Archives Observed	Archives Expected	Total Respondents
Above Average	16 (76%)	10 (48%)	21
Average	13 (42%)	15 (48%)	31
Below Average	5 (29%)	8 (47%)	17

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who employ student workers in archives. There was a significant relationship of medium effect between the two variables, $\chi^2(2, N=69) = 9.438, p = 0.009, V = 0.262$.

More often than expected, those classified as having an above average retention rate used students as archives student workers, while less often than expected those classified as having below average retention rates used students as archives student workers. In all, 28% more above average libraries used students as archives student workers than would be expected, while 18% fewer below average libraries used students as archives student workers than would be expected.

Table 4
Chi Square: Reference Desk Student Workers

	Reference Observed	Reference Expected	Total Respondents
Above Average	12 (57%)	7 (33%)	21
Average	7 (23%)	10 (32%)	31
Below Average	4 (24%)	6 (35%)	17

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who employed students to staff reference desks. There was a significant relationship of medium effect between the two variables, $\chi^2(2, N=69) = 7.71, p = 0.021, V = 0.236$.

More often than expected, those classified as having an above average retention rate used students to staff reference desks, while less often than expected those classified as having below average retention rates used students to staff reference desks. In all, 24% more above average libraries used students to staff reference desks than would be expected, while 11% fewer below average libraries used students to staff reference desks than would be expected.

Table 5
Chi Square: Multiple Library Instruction Sessions with the Same Class

	Multiple Sessions Observed	Multiple Sessions Expected	Total Respondents
Above Average	19 (95%)	13 (65%)	20
Average	19 (66%)	19 (66%)	29
Below Average	5 (33%)	10 (67%)	15

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who conducted multiple library instruction sessions with the same class. There was a significant relationship of medium effect between the two variables, $\chi^2(2, N=64) = 14.85, p = 0.001, V = 0.341$.

More often than expected, those classified as having an above average retention rate taught multiple library instruction sessions with the same class, while less often than expected those classified as having below average retention rates taught multiple library instruction sessions with the same class. In all, 30% more above average libraries have librarians who taught multiple library instruction sessions than would be expected, while 34% fewer below average libraries have librarians who taught multiple library instruction sessions than would be expected.

Table 6
Chi Square: Staffed Archive

	Archive Observed	Archive Expected	Total Respondents
Above Average	19 (95%)	13 (65%)	20
Average	16 (55%)	19 (66%)	29
Below Average	7 (47%)	10 (67%)	15

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who had a staffed archive or special collection space. There was a significant relationship of medium effect between the two variables, $X^2(2, N=64) = 11.44$, $p = 0.003$, $V = 0.299$.

More often than expected, those classified as having an above average retention rate had a staffed archive or special collection space, while less often than expected those classified as having below average retention rates had a staffed archive or special collection space. In all, 30% more above average libraries had a staffed archive or special collection space than would be expected, while 20% fewer below average libraries had a staffed archive or special collection space than would be expected.

Table 7
Chi Square: Institutional Repository

	IR Observed	IR Expected	Total Respondents
Above Average	15 (75%)	10 (50%)	20
Average	12 (40%)	16 (53%)	30
Below Average	7 (47%)	8 (53%)	15

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who had an institutional repository that included student work. There was a significant

relationship of medium effect between the two variables, $X^2(2, N=65) = 6.14, p = 0.046, V = 0.217$.

More often than expected, those classified as having an above average retention rate had an institutional repository that included student work, while less often than expected those classified as having below average retention rates had an institutional repository that included student work. In all, 25% more above average libraries had an institutional repository that included student work than would be expected, while 6% fewer below average libraries had an institutional repository that included student work than would be expected.

Table 8
Chi Square: Instagram

	Instagram Observed	Instagram Expected	Total Respondents
Above Average	18 (90%)	13 (65%)	20
Average	19 (63%)	19 (63%)	30
Below Average	5 (33%)	10 (67%)	15

This Chi-Square Test of Independence was performed to assess the relationship between retention rates and libraries who had an Instagram account. There was a significant relationship of medium effect between the two variables, $X^2(2, N=65) = 12.08, p = 0.002, V = 0.305$.

More often than expected, those classified as having an above average retention rate had an Instagram account, while less often than expected those classified as having below average retention rates had an Instagram account. In all, 25% more above average libraries had an Instagram account than would be expected, while 34% fewer below average libraries had an Instagram account than would be expected.

Each of these six Chi Square analyses found that the two variables (retention rates and one of the survey findings) were related to each other. More institutions with above average retention rates had these specific library services, spaces, or practices than would be expected, and fewer institutions with below average retention did not have these attributes than would be expected. As a Chi Square test cannot establish causality, additional analysis would be required to see if these survey findings have any causal effect on retention rates.

We also found six additional associations listed below. However, our expected values are too low (1 or more cells are less than 5) for these to be viable associations and could be investigated in future studies with a larger sample size. These associations were:

- Libraries that used student workers as interns (ChiTest = 0.019),
- Libraries that conducted virtual library instruction (ChiTest = 0.043),
- Libraries that had a soundproof room for Zoom meetings or A/V recording (ChiTest = 0.006),
- Libraries that had a conference room (ChiTest = 0.015),
- Libraries whose librarians served on faculty committees (ChiTest = 0.045),
- Libraries that had special programming for international students (ChiTest = 0.024).

With statistical analysis completed, we also wanted to describe, as per our research question, the characteristics of academic libraries at schools with high retention rates. Overall, 75% or more of the libraries in our study with high retention rates provided the specific library services, spaces, or practices below. The benchmark of 75% was chosen as a representative number for a significant majority. These libraries:

- Employed student workers in archives (76%) or circulation (100%),
- Held student orientations (80%), faculty orientations (75%), or special events in their buildings (95%),
- Taught one shot (100%), multiple sessions with one class (95%), or virtual instruction library sessions (95%),
- Had a learning center (75%), conference room (95%), study rooms (95%), or staffed special collections (95%),
- Provided *library of things* items for checkout (75%),
- Had librarians who participated in faculty committees (85%), as subject liaisons (80%), and offered faculty training or workshops (80%),
- Possessed an institutional repository that included student work (75%),
- Offered extended hours for midterms or finals (75%), and
- Actively engaged on Facebook (80%) or Instagram (90%).

Five of these items also appear on our statistically significant list of associations above. We could not show an association between the rest of this list and retention but are only sharing the results of our survey. The full survey responses are located in Appendix B.

Discussion

Each of the six statistically significant associations with retention and specific library services, spaces, or practices connect with the existing literature on the topic. The association between retention and librarians teaching multiple library instruction sessions with the same class aligned with studies which found positive correlations between retention and first-year undergraduates who attended library instruction (Blake et al., 2017; Creel et al., 2022; Krieb, 2018; O’Kelly et al., 2023; Rowe et al., 2021; Wright, 2021). However, the literature focused primarily on a singular librarian visit “one-shot” session, while our survey question about one-shots did not find an association with retention. While it is clear that library instruction sessions in the classroom have value related to retention, it would be good to explore what elements of librarian involvement in the classroom best support retention.

Retention and its positive association with a staffed archive or special collection space aligned directly with Eng and Stadler (2015) and Emmons and Wilkinson’s (2011) correlations between professional staffing levels and student retention and more broadly with the literature on positive connections between institutional expenditures and retention (Webster & Showers, 2011), as well as expenditures per student and retention (Gansemer-Topf et al., 2018). Greater financial resources allow for the possibility of

greater staffing and the opportunity to engage in initiatives and activities that may not always be seen as essential to the academic library. Additionally, we found an association with retention and having an institutional repository with student work, which is also an initiative that requires financial and other resources. However, our survey did not find associations for other newer library initiatives such as an open access or open textbook initiative.

Our association between libraries having an Instagram account and retention aligns with the literature on social media usage of university-based relationships and retention (Morris et al., 2010; Nalbone et al., 2016). Each of the studies from the existing literature highlighted Facebook, while our survey did not show a statistically significant association with Facebook and retention. However, since the time of these findings, Instagram has grown to become a major social media platform for traditional college age students. According to Pew Research's newest "Social Media Fact Sheet" (2024), 78% of traditional aged college students (ages 18-29) currently use Instagram compared to 67% who use Facebook. This would help explain why our study found an association with retention and Instagram and not Facebook.

Students who worked as archives student workers and staff reference desks connected with the literature on library material usage and retention (Haddow, 2013; LeMaistre et al., 2018; Mayer et al., 2020; Murray et al., 2016; Soria et al., 2014; Stemmer & Mahan, 2016; Thorpe et al., 2016). Most of the literature focused on library material usage of first-year students, while our survey did not ask the year of student employees. Student staffing positions at the circulation desk, technical services, or interlibrary loan did not have a statistically significant association in our survey with retention. These student positions do not engage with library resources in the same fashion as those in the archives or reference desk. Student staff in archives and at reference desks also require additional training which often involves an ongoing mentorship with a librarian.

Two themes arose while looking at the six statistically significant associations: connections with students and connections with unique collections. Four of the statistically significant associations with retention were directly related to students: use of students as archives student workers, use of students to staff reference desks, librarians conducting multiple library instruction sessions with the same class, and having an Instagram account. Two of these four related to student staffing with active engagement of library resources as previously noted. The third, multiple library instruction sessions with the same class, showed a direct and ongoing relationship with students and their engagement with library resources. And finally, Instagram is a place for students to experience a sense of connection to the university and the library.

Three of the statistically significant associations with retention related to unique collections, either through archives or institutional repositories. While the academic library information ecosystem moves more and more toward a collection of leased electronic products owned by outside vendors, our findings found that locally owned and curated materials helped support student retention. Institutional stakeholders should continue to hold a vested interest in supporting the development and ongoing maintenance of local collections.

Our survey looked at 66 specific library services, spaces, or practices. It would be insurmountable to survey libraries about all the ways in which they serve patrons, although future studies could attempt to expand our survey to make it broader. We did include an "other" option for almost every question in our survey which provided us dozens of replies with other ways in which libraries are serving their patrons. Also, our sample size resulted in many of our expected observed values in the Chi Square tests being too low, limiting our ability to draw additional possible associations. Yet we were still able to take away

some elements of what makes an academic library successful while acknowledging the limits of quantitative data.

Conclusion

Our research established a statistically significant association for several traits of small to medium sized academic libraries with high retention and developed a model of what these libraries accomplish. Student connections with library staff and with unique local collections arose as two themes from six statistically significant associations of specific library services, spaces, or practices with student retention. As noted earlier, we would like to continue this research with graduate theological seminaries. This will require us to manually compile retention data, as the schools do not report this data to IPEDS. However, given the interest of seminaries in our consortium on this topic we believe the data may be obtainable. Given our established research methods, it should be straightforward to repeat this study for a second round.

Our survey provided new data on the characteristics of academic libraries with high retention rates. While not every attribute was found to have a statistically significant connection to retention, that does not mean that they did not contribute to student success in other ways. At the very least, it only means that our survey was not able to affirm it statistically.

In this time of decreasing budgets when academic libraries are re-examining their services, spaces, and practices, this survey contributes to the larger conversation for possible considerations of how best to allocate limited funds to maximize student success. Library directors and deans, along with their institutional administrators, need to honestly evaluate the role of the academic library in the twenty-first century. Our study suggested a back-to-the-basics model for considering the role of the academic library. Faculty and students have easy, free access to a wealth of information sources. However, having access to these information sources alone is not enough. Library staff help support faculty and students in finding and using information sources, such as navigating through false and retracted information along with properly engaging with it. Also, libraries continue to have an important role in developing and maintaining local collections. There are significant gaps in the current information ecosystem, which will not be filled by the for-profit, commercial vendors who do not have a financial interest in addressing these gaps. These principles apply across academic libraries of all sizes.

While these data are only one piece in the puzzle for library directors and deans who desire to communicate their value to administrators, at the very least we hope they begin thoughtful conversations on this topic as academic libraries continue considering what services, spaces, and practices best support student needs.

Acknowledgments

The authors would like to acknowledge the Private Academic Library Network of Indiana (PALNI), for the funding, strategic direction, and collaborative support. <https://ror.org/05dch6316> Additionally, we would like to thank our colleague Heather Loehr, Analytics Consultant, PALNI and Dr. Jennifer Sweeney, JK Sweeney & Associates LLC, for their help in the data analysis of this project as well as all the PALNI library deans and directors who gave us input as we shaped this survey.

Author Contributions

Ruth Szpunar: Conceptualization (equal), Data curation (lead), Formal analysis (lead), Investigation (lead), Methodology (lead), Project administration, (lead), Writing – original draft (equal), Writing – review & editing (equal) **Eric Bradley:** Conceptualization (equal), Data curation (supporting), Formal analysis (supporting), Investigation (supporting), Methodology (supporting), Project administration, (supporting), Resources, Writing – original draft (equal), Writing – review & editing (equal)

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Appendix A Survey

1. What institution are you from?
2. In what roles does your library employ student workers?
 - a. Student supervisors
 - b. Interns
 - c. Circulation
 - d. ILL
 - e. Reference
 - f. Archives
 - g. Technical Services
 - h. Other - Please Specify
3. Do you have a reference desk in your library(ies)?
 - a. Yes
 - b. No
 - c. Other - Please Specify
4. Who staffs your reference desk(s)? Check all that apply.
 - a. Librarians with MLS
 - b. Other library staff
 - c. Graduate students
 - d. Undergraduate students
 - e. Other - Please Specify
5. How many hours per week are your reference desk(s) staffed?
6. Where in your main library building is your reference desk located?
 - a. Main floor, near entrance
 - b. Main floor, not near entrance
 - c. Other floor

7. Which of the following types of events do you hold in your library? Check all that apply.
 - a. Student orientations
 - b. Faculty orientations
 - c. Presentation of student or faculty research
 - d. Workshops for faculty
 - e. Workshops for students
 - f. Special events (open houses, holidays, etc.)
 - g. Events for outside groups
 - h. Other - Please Specify

8. What type of teaching do your librarians do? Check all that apply.
 - a. Library instruction in typical one-shot format
 - b. Library instruction in multiple sessions
 - c. Virtual library instruction
 - d. Embedded
 - e. Instructor for credit bearing course on information literacy
 - f. Instructor for credit-bearing course in the curriculum
 - g. Independent study in librarianship
 - h. Writing tutoring
 - i. Other - Please Specify

9. Do your librarians meet with 90% or more of first year students in an instruction setting?
 - a. Yes
 - b. No

10. Which of these things are in your library? Check all that apply.
 - a. Classroom used by teaching faculty
 - b. Cafe or other eatery
 - c. Academic success center/writing center/tutoring
 - d. Offices for faculty/staff who do not report to the library
 - e. Soundproof room for Zoom meetings or A/V recording
 - f. Study tables for dedicated groups
 - g. Study rooms
 - h. Staffed archive / special collection space
 - i. Conference room
 - j. Makerspace
 - k. Poster printer
 - l. Other - Please Specify

11. Which of these items do you check out? Check all that apply.
 - a. Laptops
 - b. Tablets
 - c. Keyboards
 - d. Textbooks
 - e. Other library of things items (markers, whiteboards, games, kits, etc.)
 - f. Other - Please Specify

12. Does your library charge fines for overdue materials?
 - a. Yes, for any overdue items
 - b. Yes, but only for certain items
 - c. No

13. In what ways does your library engage with faculty members? Check all that apply.
 - a. Librarians serve on faculty committees
 - b. Librarians are subject liaisons
 - c. Librarians attend departmental meetings
 - d. Hosting training or other workshops for faculty
 - e. Librarians co-teach with faculty members (not one-shot bibliographic instruction)
 - f. Librarians conduct research with faculty members
 - g. Other - Please Specify

14. Does your library have special programming or programs for these student groups? Check all that apply.
 - a. First generation
 - b. Transfer
 - c. Students of color
 - d. International
 - e. Nontraditional
 - f. Clubs
 - g. Athletes
 - h. Other - Please Specify

15. Does your library currently have an open access/open textbook initiative?
 - a. Yes
 - b. No

16. Does your library currently have an institutional repository that includes student work?
 - a. Yes
 - b. No

17. Does your library offer extended hours for midterms/finals?
 - a. Yes
 - b. No
 - c. We are already open 24 hours

18. Which of the following social media platforms is your library active on? Check all that apply.
 - a. Facebook
 - b. Instagram
 - c. Twitter
 - d. Snapchat
 - e. TikTok
 - f. YouTube
 - g. Other - Please Specify
 - h. None

19. What other things does your library do that you think contribute to student retention that have not already been asked

**Appendix B
Survey Results**

(Q2) In what roles does your library employ student workers?

	Student Supervisor	Technical Services	Archives	Reference	Interns	Circulation	ILL	Other*
Above Average	38%	43%	76%	57%	43%	100%	67%	29%
Average	16%	42%	42%	23%	13%	100%	42%	13%
Below Average	18%	53%	29%	24%	12%	100%	53%	0%

*Above Average: Data Analysts, Curriculum Center, Media Services & Supplies, Patrol for late nights, Cleaning crew for putting furniture back, Library Administration, Marketing & Programming, Scholarly Communication, Social media

*Average: Collaborators with Instruction Librarians, Writing Center Tutors, Digital Initiatives, Marketing Media Center Service Desk

(Q3) Do you have a reference desk in your library(ies)?

	Yes	No
Above Average	52%	48%
Average	50%	50%
Below Average	47%	53%

(Q4) Who staffs your reference desk(s)?

	MLS	Other Library Staff	Grad Students	Undergrad Students
Above Average	70%	20%	30%	50%
Average	94%	25%	19%	31%
Below Average	75%	38%	13%	50%

(Q5) How many hours per week are your reference desk(s) staffed?

Above Average	56
Average	55
Below Average	78

(Q6) Where in your main library building is your reference desk located?

	Main Floor near Entrance	Main Floor - other	Other Floor
Above Average	90%	10%	0%
Average	80%	20%	0%
Below Average	57%	14%	29%

(Q7) Which of the following types of events do you hold in your library?

	Student orientation s	Faculty orientation s	Research Presentatio ns	Faculty worksho ps	Student worksho ps	Special events	Outsid e group events	Other *
Above Average	80%	75%	60%	55%	60%	95%	55%	15%
Average	76%	41%	38%	41%	55%	72%	24%	17%
Below Average	73%	47%	47%	33%	53%	73%	33%	13%

*Above Average: readings and author events, seminary life day for prospective students, student activities, university board meetings, wellness events with campus partners, dances, concerts, plays, lectures, conferences, book arts, enrollment events, gallery openings, rare book presentations, online topical sessions

*Average: university board meetings, online sessions on topics (like How to use Zotero)
Pre-COVID: game-nights, presentations of student and faculty research; workshops for faculty and students; and holiday open house in December

*Below Average: readings and author events, student activities

(Q8) What type of teaching do your librarians do?

	One shot	Multipl e sessions	Virtual instructio n	Embedde d	Credit bearing info lit	Credit bearing curriculu m	Independ ent Study	Writing tutorin g	Othe r *
Above Averag e	100%	95%	95%	30%	15%	30%	20%	0%	5%
Averag e	100%	66%	90%	34%	14%	3%	7%	10%	3%
Below Averag e	93%	33%	67%	27%	7%	7%	0%	7%	0%

*Above Average: Retention/advising

*Average: one-to-one librarian/student

(Q9) Do your librarians meet with 90% or more of first year students in an instruction setting?

	Yes	No
Above Average	50%	50%
Average	41%	59%
Below Average	47%	53%

(Q10) Which of these things are in your library?

	Classroom	Café/Eatery	Learning Center	Fac/Staff Offices	AV Room	Conference Room
Above Average	70%	40%	75%	60%	55%	95%
Average	52%	24%	76%	55%	24%	66%
Below Average	53%	33%	47%	40%	7%	53%

	Group Study Tables	Maker space	Staffed Special Collections	Large Format Printer	Study Rooms	Other *
Above Average	70%	0%	95%	10%	95%	20%
Average	69%	7%	55%	24%	97%	17%

Below Average	60%	7%	47%	7%	87%	0%
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* Above Average: computer lab, meditation space, exhibit space, student lounge, game lab, lactation room, wellness spaces, video studio, faculty study

*Average: computer lab, disability services, unstaffed archives/special collections, faculty academy (teaching & learning, LMS support), IT support

(Q11) Which of these items do you check out?

	Laptops	Tablets	Keyboards	Textbooks	Library of Things	Other*
Above Average	70%	15%	10%	55%	75%	0%
Average	57%	20%	7%	47%	87%	23%
Below Average	57%	7%	0%	71%	71%	21%

*Average: calculators, phone chargers, cameras, camera kits, microphones, additional AV chargers, external disk drives, headphones, green screen, Wacom drawing pads, O-ring lights, telescopes

*Below Average: laptops and textbooks for in-library use only, headphones

(Q12) Does your library charge fines for overdue materials?

	Overdue all	Overdue Certain	No Fines
Above Average	15%	30%	60%
Average	23%	37%	40%
Below Average	7%	33%	53%

(Q13) In what ways does your library engage with faculty members?

	Faculty Committees	Subject Liaisons	Department Meetings	Training /Workshops	Co-teaching	Co-research	Other
Above Average	85%	80%	60%	80%	35%	40%	20%
Average	93%	76%	45%	66%	24%	28%	14%
Below Average	64%	50%	43%	43%	7%	7%	21%

*Above Average: Participate in other campus committees, manage faculty authored content, librarians volunteer to serve as substitute in certain courses, OER funding

*Average: attend faculty retreat and general faculty meetings, help faculty find sources, teach courses, testing accommodations.

*Below Average: Increase use of OER textbooks, monthly faculty/staff coffee hour host, attend faculty orientation

(Q14) Does your library have special programming or programs for these student groups?

	1st Gen	Transfer	Students of Color	International	Nontraditional	Club/Org	Athletes	Other *
Above Average	31%	38%	15%	69%	0%	15%	23%	23%
Average	23%	38%	15%	46%	23%	23%	31%	15%
Below Average	0%	0%	0%	33%	0%	33%	67%	33%

*Above Average: Academically at-risk students, button making workshops and book displays for certain student populations, partner with the offices on campus that hold these events

*Average: Housed in the library but offered through another office

*Below Average: College provides these

(Q15) Does your library currently have an open access/open textbook initiative?

	Yes	No
Above Average	55%	45%
Average	40%	60%
Below Average	27%	73%

(Q16) Does your library currently have an institutional repository that includes student work?

	Yes	No
Above Average	75%	25%
Average	40%	60%
Below Average	47%	53%

(Q17) Does your library offer extended hours for midterms/finals?

	Yes	No	Already 24/7
Above Average	70%	25%	5%
Average	43%	53%	3%
Below Average	60%	40%	0%

(Q18) Which of the following social media platforms is your library active on?

	Facebook	Instagram	Twitter	Snapchat	TikTok	YouTube	None	Other*
Above Average	80%	90%	55%	0%	10%	30%	10%	0%
Average	63%	63%	50%	0%	0%	20%	17%	7%
Below Average	53%	33%	33%	0%	0%	27%	40%	0%

*Average: Campus blog