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# Correlation Between Library Instruction and Student Retention

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*Analysis provided by*

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**STATE UNIVERSITY**  
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**For all years 2012-2015, there is a statistically significant difference in retention between students who have seen a librarian in class and those who have not.**



# Background

- Grand Valley State University
- Allendale and Grand Rapids, Michigan
- Masters large, public, 4-year
- 25,000 students



# Background

- University Libraries – academic unit with dean
- Four libraries
- In 2014-2015 academic year, University Libraries reached 9,331 students through course-based instruction with a librarian



# Background

- Head of Instructional Services hired in 2012
- Assessment planning (O'Kelly, 2015)
  - *What questions do we have about our program?*
  - *What data do we need to answer those questions?*
  - *How will we get it?*
  - *Who will analyze and interpret the results?*
- Needs: reliable data and help with analysis





# Why retention?

- Priority in higher education
- Priority at our institution
  - Gen Ed program assesses information literacy
  - Libraries participating in SAILS, LibQUAL, NSSE-IL
  - Retention in strategic plan
- High priority for the library to communicate value and impact on broad educational goals



# Literature

- Information literacy and...
  - Skill development
  - Critical thinking
  - Evaluating sources
  - Research quality



# Literature

- Relationship between checkouts and database use on GPA and retention (Allison, 2015)
- Relationship between library, instruction, and academic support expenses per FTE and retention (Crawford, 2015)
- Relationship between deans' perceptions of high-impact practices and retention (Murray, 2015)



# Literature

- Relationship between database logins, book loans, and e-journal use with GPA and retention (Soria, Fransen & Nackerud, 2014)
- Relationship between library use and retention (Haddow, 2013)
- Academic libraries' participation in institutional retention activities (Hubbard & Loos, 2013)



# Literature

- Relationship between library staffing per FTE and retention (Emmons & Wilkinson, 2011)
- Relationship between retention and library expenditures (Mezick, 2007)
- Importance of student engagement, time and effort on studies, student and faculty contact, and high expectations on student success (Kuh, Kinzie, Schuh & Whitt, 2010)



# Literature

- High-impact educational practices, incl. first-year seminars, writing-intensive courses, undergraduate research, capstone courses and projects (Kuh, 2008)
- Importance of moving from why students leave college to identifying practical approaches to affecting retention (Tinto, 2006-2007)



# Literature

“Now is the time to work cooperatively with fellow academic administrators and support colleagues on obtaining concrete evidence that the library and librarians can help their institutions to boost retention rates.”

Steven Bell, 2008



# Methods

- Library instruction data in LibAnalytics
  - Course code, number, section in separate fields
  - Professor name and librarian name
  - Other: date, location, duration, content
  - Did not take attendance; absences within margin of error
- New relationship with Institutional Analysis





# Methods

- Started with 23 questions about our program
  - Ranged from simple (How many students did we reach?) to the complex (Is there an intensity effect on re-enrollment or GPA of students who saw a librarian multiple times?)



# Methods

- Used some questions to adjust instruction
  - Which programs did we not reach?
  - How many students at each grade level?
  - What percentage of instruction sessions were in the library?
  - What is the distribution of the number of sessions over the course of an academic year?



# Methods

- Big question: *Of the students who saw a librarian in class, what percentage of them re-enrolled for the following fall, compared to students who did not see a librarian?*



# Methods

- $H_0$ : There is no relationship between library instruction and student retention
- Definition of retention: Re-enrollment the following fall semester
- Sent LibAnalytics dataset and questions to Office of Institutional Analysis



# Methods

- From analyst
  - Pulled student records from course enrollment
  - Only courses with at least one library session
  - Chi-squared test of independence using SAS
  - Used a fixed p-value of .05 to test significance
  - Controlled for ACT score, high school GPA, socioeconomic status, and first-generation using generalized linear model



# Results

		<b>Number of Distinct Students</b>	<b>% Enrolled the Following Fall</b>	
<b>2012-13</b>	<b>Non-Library Courses</b>	8762	70.90%	<i>p-value=.0001</i>
	<b>Library Courses</b>	8763	73.70%	
<b>2013-14</b>	<b>Non-Library Courses</b>	9925	72.10%	<i>p-value=.0001</i>
	<b>Library Courses</b>	8560	74.90%	
<b>2014-15</b>	<b>Non-Library Courses</b>	10040	71.00%	<i>p-value=.0001</i>
	<b>Library Courses</b>	8340	76.10%	

# Results



- Reject the null hypothesis
- Findings are highly statistically significant and have been replicated for three years



# Results

- Highest retention correlation with freshmen and graduate students
- Magnitude positive but small
- Magnitude increased each year



# Results



- Follow-up analysis just completed
  - Compared retention of students whose faculty had a librarian come into any of their classes compared to faculty who did not have a librarian come into any class (new analysis by faculty, not by student)
  - Significant correlation, p-value = .0001



# Limitations

- LibAnalytics records subject to human error
- Attendance is estimated
- Online instruction is excluded
- Correlation is not causation
- Results not generalizable to other institutions
- Retention is not persistence to graduation
- Reasons for withdrawal are complicated



# Discussion

- Literature shows link between student success and connections -- with faculty, with peers, with support services
- Limitation of library use studies: confounded by student motivation
- By using whole-class data, removes intrinsic motivation for library engagement



# Discussion

- Previous studies examine library use and retention
- Must ask: *Why are students using the library?*
- Role of course assignments in library use
- Assignments are given by faculty



# Discussion

- By including a librarian in assignment design and delivery, faculty are introducing students to the library as academic support service
- Faculty engagement with instruction librarians is correlated with student retention
- Student participation in library instruction is correlated with student retention



# Discussion

- Other faculty best practices have been identified that positively affect retention
- Yet no mention in the literature of library instruction as a critical academic support service that positively affects retention



# Next Steps

- Therefore: Next step is to test hypothesis, based on these preliminary exploratory analyses, that *faculty engagement with library instruction is a high-impact practice that positively affects student retention*



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