



18th DISTANCE LIBRARY SERVICES CONFERENCE

SAN ANTONIO
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Assessment, Analytics,
and Analysis:
Demonstrating the
Impact of LMS
Embedded Librarians on
Student Learning

<https://tinyurl.com/DLS18assess>

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LMS Embedded Librarianship and
Student Success:
Assessing the Correlation



Why Assess?

- X Information literacy is essential
- X Evidence: value of academic librarians
- X Evidence & support from administration & faculty
- X Evidence to integrate information literacy in curriculum



Assessing embedded librarianship

Qualitative methods:

- x Surveys
- x Discussion forums
- x Focus groups and interviews
- x Student reflections

Quantitative methods:

- x Pre- and post-tests
- x Rubric analysis of student work
- x LMS course analytics



Sample bibliography rubric

Attributes	Not Acceptable - 0	Emerging - 1	Developing - 2	Proficient – 3
Topical relationship of sources to paper	Most sources are not adequately related to topic.	Many sources are only marginally related to topic.	Most sources are clearly related to topic.	All sources are clearly related to topic.
Quality and credibility of sources selected	Most sources are of poor, unreliable, or indeterminate quality and credibility.	Many sources are of marginal quality and credibility.	Most resources appear reliable and of good quality and credibility.	Sources appear reliable, authoritative, and of good or high quality.
Quantity of sources cited	Fails to include the required number of sources.	Fails to include an adequate number of sources	Includes the required or minimal number of sources.	Includes more than the required number of sources.
Accuracy of the citations	Citations incomplete, errors are major and numerous.	Citations are incomplete, errors numerous.	Citations are mostly complete and errors minor.	Citations are complete and errors minor.

Adapted from the “Annotated Bibliography Rubric” created by Gail Gradowski & Jill Goodman-Gould (Santa Clara University), 11 March 2010, and posted to the [Rubric Assessment of Information Literacy Skills \(RAILS\) site](#).

Assessment in Embedded Programs

- X Blake et al. (2016)
 - X Online surveys to over 4,000 students, faculty, and clinicians
 - X 10% response rate with 381 total responses from students and faculty
 - X Students noted librarians' specific help completing assignments, improved literature searching, and better grades
- X Meredith and Mussell (2014)
 - X Online faculty and student surveys along with an analysis of LMS usage statistics
 - X \$200 gift card incentive and survey open for 6 months
 - X 47 completed surveys from the 382 students, for a response rate of 12%
 - X Students highlighted how the service helped to remind them of search strategies and improved their overall knowledge



- X Edwards et al. (2010)
 - X Pre- and post-surveys, student responses to discussion questions, an end of course discussion forum, and an instructor interview
 - X 29% completion rate for 9 out of 31 participants with the pre-assessment, and 7 out of 31 (23%) for the post-assessment survey, 16% or five students responded to a request for discussion feedback
 - X Student responses for the surveys showed a mixed level of experience and comfort with library resources, the discussion feedback was on the positive side

- X Kumar and Edwards (2013)
 - X Pre- and post-instruction surveys
 - X 21 out of 23 students (91%) responded to the pre-instruction survey and 19 out of 21 (90%) responded to a post survey.
 - X The authors noted that it is possible to have a discrepancy between students' self-reports on perceived IL skills and actual performance.



X Carbery and Leahy (2015)

- X Analyzed annotated bibliographies from first-year students
- X Examined over 500 citations, using a citation analysis checklist to learn how students used library resources
- X Results showed students were successful at identifying and using relevant sources
- X C- grade average per the rubric highlights the need to help first-year students develop their information literacy skills. The low scores may also highlight that librarians apply harsher grading than faculty when it comes to sources.

X Bennett and Simning (2010)

- X Blackboard/WebCT analytics
- X Reference traffic from psychology students increased as embedded librarians increased their responses in course discussion forums.
- X Results showed an increase from 244 questions in the summer to 612 in the winter
- X Results do not show if this improved student output

Bibliography

My own mind was my source
due to experience.

EL @ Miami Middletown, 2017

- x University regional campus, Open Access Associate's, Bachelor's & Master's degrees
1650 FTE
MS/HS College Credit Plus, non-traditional, Chinese
- x 3 librarians embedded in:
65 Canvas courses, 1378 students - F2F, hybrid, online
- x 30 1-shot sessions, 644 students
- x Services: Research email, calls, consultations, drop-in, DB, create videos & LibGuides
- x 71% EL program increase since 2009



LMS Embedded Librarianship - Early Assessment (2009-2016)

- X Online Surveys
- X LMS Analytics
- X LibGuide and Screencast Views
- X Positive Faculty Comments



2016 IRB Study Undertaken

- X IRB Training Completed, Summer 2016
- X Submitted IRB Proposal & Granted Exemption, Fall 2016
- X Assessed how Embedded Librarian Service Influences Student Learning



Idealistic Phase 1, Fall 2016

- X Identical comparison: same course, same instructor, & embedded librarian variable
- X Librarian in designer role
- X Student consent after assignment submission



Assessment Process in Phase 1

- x Anonymous and aggregated data
- x Mixed methods study
- x Objective librarian-assessor applies rubric
- x Data: page views, direct emails, and research consultations from EL
- x Student research reflection
- x Course instructor provides ranked list of students by graded assignment
- x Course comparison of that graded assignment



ILSW rubric (2012 version)

- x Carleton Information Literacy in Student Writing project
- x Attribution
 - x Citing sources correctly, both in bibliography and in-text
- x Evaluation of Sources
 - x Uses appropriate sources, in both volume and variety
- x Communication of Evidence
 - x Evidence is presented in context
 - x Few block quotes or examples of “patch writing”



ILSW Rubric ([2017 version](#))

- x Strategic Inquiry
 - x Is topic researchable, and does the student follow through with research plans?
- x Use of Evidence
 - x Does evidence support claims?
- x Attribution of Evidence
 - x How well does the student document the work of others?
- x Evaluation of Sources
 - x How appropriate are the student's choices of sources?



Research Reflection

- x Topic
- x Starting point
- x Search terms
- x Resources used
- x A problem the student encountered (and the solution)
- x Contacted the embedded librarian?
- x Prior library instruction?
- x Class level at Miami
- x Age range



Assessment Roadblock

- X 3 courses in study (2 sections each)
- X Low response rate, 8% (12 of 140)
- X No pairs / No comparison possible
- X Back to the drawing board



Improved Assessment, Round 2

- x Redesigned and resubmitted IRB Study
- x Exempted again, run in Spring 2017 and Fall 2017
- x Any faculty, any Canvas course
- x Added EL research page & announcements
- x Student consent after assignment submission
- x EL in Teacher role
- x Incentive
- x Staggered assignment deadlines
- x Any research assignment



Embedded Librarian Assessment, 2nd Round Timeline

1. Semester starts - librarians requested for EL
2. Instructors: (1) research assignment? (2) can EL promote EL study to students?
3. Once assignment is turned in, librarians encourage students to consent
4. Students fill out consent form
5. Librarians assess research assignment using rubric, gather instructor's grade, gather Canvas analytics
6. Students complete research reflection
7. Librarians aggregate results and report



Assessment Participation -
Spring/Summer 2017

5 courses (101 students)

33 Consenting students
Response rate 32 %

5 student reflections



Rubric score/average views - Spring 2017

Librarian Rubric Score Group	Number of students	% of students who viewed Embedded Librarian Page	Embedded Librarian Page Average Views	% of students who viewed Embedded Librarian Announcements	Embedded Librarian Announcements Average Views
A	5	100%	3.20	100%	2.80
B	11	64%	1.91	54.5%	1.91
C	5	60%	2.00	40%	0.40
D	6	83%	4.83	20%	0.33

Assignment grade/average views - Spring 2017

Instructor's Grade Group	Number of students	% of students who viewed Embedded Librarian Page	Embedded Librarian Page Average Views	% of students who viewed Embedded Librarian Announcements	Embedded Librarian Announcements Average Views
A	19	84.3%	3.74	68.5%	2.00
B	7	57.1%	0.71	14.2%	0.14
C	2	50%	2.00	0%	0.00
D	2	50%	0.50	0%	0.00

Spring/Summer 2017 Reflections

- X Our approach was working better than in Fall 2016
- X Wanted to increase research reflection response rate and the total number of participants
- X Needed more examples of students' research behavior
- X Excited to continue the project



Assessment Participation - Fall 2017

32 courses (696 students)

56 Consenting students
Response rate 8%

17 student reflections



Embedded course students - Fall 2017

	Total # of students	% viewed EL page	Average # of views	% viewed announcements	Average # of views
All students	696	59%	2.2	38%	0.7
Consenting students	56	43%	1.4	50%	1.0

Rubric score/average views - Fall 2017

Librarian Rubric Score Group	Number of students	% of students who viewed Embedded Librarian Page	Embedded Librarian Page Average Views	% of students who viewed Embedded Librarian Announcements	Embedded Librarian Announcements Average Views
A	13	61.5%	1.85	53.8%	1.08
B	11	72.7%	1.81	54.5%	1.64
C	8	37.5%	2.50	87.5%	1.38
D	24	25.0%	0.63	33.3%	0.63

Assignment grade/average views - Fall 2017

Instructor's Grade Group	Number of students	% of students who viewed Embedded Librarian Page	Embedded Librarian Page Average Views	% of students who viewed Embedded Librarian Announcements	Embedded Librarian Announcements Average Views
A	41	48.8%	1.85	58.5%	1.22
B	8	37.5%	0.38	37.5%	0.88
C	5	0%	0.00	0%	0.00
D	2	0%	0.00	50%	0.50

Research Reflection Summary

- x 22 total (5 - Spring 2017, 17 - Fall 2017)
- x Only 2 had not had prior library instruction (either in HS, college, or both)
- x Nearly one-half were seniors
- x Half contacted an embedded librarian for assistance with their projects.
- x One-third started their research on Google, roughly one-half started on a library database
- x Most common searching problem - could not find enough fitting/current sources on their topics



Findings

- x Positive relationship between EL page views and grades, but less clear relationship with rubric scores
- x Faculty focused on overall assignment, while librarian focused on sources
- x Students viewed EL page more than they viewed announcements (DIY researchers)*
- x Students are reluctant to contact the embedded librarian directly (email, chat, etc.)
- x Some students used EL page heavily (10+ times)
- x LMS embedded librarians contribute to and support students in learning



Assessment Challenges

- x Low response rate, even with incentives
- x What can/can't be tracked? (can't measure all research avenues)
- x Difficulties of using one rubric for multiple assignment types (papers, annotated bibs)
- x What do we have access to? (role in LMS, Google Drive, instructor website, etc.)
- x Hard to know students' information literacy background
- x How far can we go with analytics? (privacy)



Guidance for Future Research

- x Increase sample size
- x Experiment with print consent forms offered in-person, in classroom (online courses?)
- x Continue with student incentive of gift card drawing
- x Research reflection adds context to research behavior
- x Track uses of individual library resources (rather than just EL page)
- x Longitudinal studies of how students develop their skills over time and librarian interactions



Questions/ Suggestions?

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Image citations

List of signs - <https://flic.kr/p/3qzUH>

Three arrows - <https://flic.kr/p/bu4jng>

Road sign barn - <https://flic.kr/p/9xAp7P>

Survey point - <https://flic.kr/p/9vAtJx>

Multiple arrows - <https://flic.kr/p/nFwTm>

Bibliography - <https://flic.kr/p/4mUry>

Car styles and speeds - <https://flic.kr/p/fHFpYi>

Traffic calmed area - <https://flic.kr/p/fzSHa9>

Scenic Road - <https://flic.kr/p/fQMG1k>

Wait, walk - <https://flic.kr/p/92fjjr>

Man shoveling snow - <https://flic.kr/p/a7Apcn>

Sawing in half - <https://flic.kr/p/nzWS63>

Walk reflection - <https://flic.kr/p/FnXTk>

Road block - <https://flic.kr/p/6MLBNP>

Work area - <https://flic.kr/p/ZZHrmM>

End Construction - <https://flic.kr/p/6XxxgE>

Bump - <https://flic.kr/p/r5kBy>

Falling rocks with ! - <https://flic.kr/p/4eGWF1>

Dip - <https://flic.kr/p/r5oNq>

Caution, Infernal traffic - <https://flic.kr/p/8qqsN2>

Heart arrow - <https://flic.kr/p/nBGGWc>

No swimming or boating in snow - <https://flic.kr/p/vmx7M>

Don't stop believing - <https://flic.kr/p/2meZPe>