Library Instruction in the LMS: Supporting Student Success in the First-Year Experience

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Overview

01 Background

02 Methods

03 Results & Discussion

04 Conclusion

05 Questions
Background
The Practice

1. Desire for sustainable, scalable information literacy instruction

2. Need to demonstrate library impact on student success
The Literature

1. Assessment often of library interactions broadly
2. Focus on design and implementation
3. Little research on impact of online instruction
Opportunities

- Immense data tracking possibilities
- Sustainable & scalable platform

Information Literacy

• High-impact practice
• Often required
• High library involvement

The Learning Management System

The First-Year Experience
Research Questions

1. Do student research assignment grade and semester GPA differ by instruction delivery type and online module completion status?

2. Do students who completed the online library module have higher one-year retention and good academic standing rates than those who did not?

3. Are there significant relationships among research assignment grade, library use sessions, and semester GPA, one-year retention, and academic standing?

4. Do research assignment grade, online module completion status, and library use sessions significantly predict student semester GPA controlling for student variables?

5. Do research assignment grade, online module completion status, and library use sessions significantly predict one-year retention and academic standing controlling for student variables?

What impact does an online information literacy module, and related library variables, have on student outcomes in a first-year course?
Methods
Nevada State College
The Marydean Martin Library
Library Guides in Canvas

Research Guides

Research Guides by Subject

- Biology
- Business & Management
- CEP
- Communication
- Criminal Justice
- Education
Welcome to the CEP Library Guide!

This guide is intended for all those studying CEP and related disciplines. For a full list of disciplines, visit Research Guides.

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“I think it is spectacular. Well designed, thoughtful, and full of great information. Francesca did a great job facilitating the creation of this module and was right on target with what the students’ needs were.”

“Loved the CEP module, but still feel that students benefit most from an in-person visit from the library...”
Participants

• 11 sections of CEP 123
  • 5 included the module, 3 of the 5 also received in-person instruction
• 374 undergraduate students
• 72% female
• 34% first generation
• 70% identified as an ethnic minority
• 60% eligible for Pell grants
• Average age of 20 years old (range of 17-52, SD = 5.18)
Variables & Measures

Library-Related Variables

Student Variables

Outcome Variables
Variables & Measures

Library-Related Variables

• Instruction delivery type
• Online library module sections completion status
• Primary research assignment type
• Library use sessions
Variables & Measures

Student Variables

- Student demographics
- Enrollment status
- Pell eligibility
- Utilization of student support services
- High school GPA
Variables & Measures

Outcome Variables

- Research assignment performance
- Semester GPA
- One-year retention
- Good academic standing
Results & Discussion
Question 1.
Do student research assignment grade and semester GPA differ by instruction delivery type and online module completion status?

One-way analysis of variance (ANOVA)
### Means and Standard Deviations of Research Assignment Grade and Semester GPA by Instruction Delivery Type

#### Research Assignment Grade

<table>
<thead>
<tr>
<th>Instruction Delivery Type</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Library Instruction</td>
<td>66.71</td>
<td>40.00</td>
<td>0.21</td>
<td>&gt; 0.05</td>
</tr>
<tr>
<td>Online Only</td>
<td>70.40</td>
<td>37.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Person and Online</td>
<td>67.54</td>
<td>38.39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Semester GPA

<table>
<thead>
<tr>
<th>Instruction Delivery Type</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Library Instruction</td>
<td>2.56</td>
<td>1.28</td>
<td>0.76</td>
<td>&gt; 0.05</td>
</tr>
<tr>
<td>Online Only</td>
<td>2.76</td>
<td>1.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Person and Online</td>
<td>2.51</td>
<td>1.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Research Assignment Grade by Library Module Completion Status

Welch $F(1, 81.78) = 6.22, p < 0.05$, $\eta^2 = .033$, indicating a large size
Semester GPA
by Library Module
Completion Status

3.02  Completed
2.46  Not Completed

Welch $F(1, 121.47) = 9.89$, $p < 0.05$,
$\eta^2 = .038$, indicating a large size
Question 2.
Do students who completed the online library module have higher one-year retention and good academic standing rates than students who did not complete the online library module?
Chi-squared tests
Good Academic Standing by Library Module Completion Status

$\chi^2_{(1)} = 6.69, p < 0.01$, phi ($\varphi$) coefficient = 0.202, indicating a small effect size
One-Year Retention by Library Module Completion Status

\[ \chi^2_{(1)} = 2.00, \ p > 0.05, \ \text{phi (}\varphi\text{) coefficient} = 0.108, \ \text{indicating a small effect size} \]
Question 3.
Are there significant relationships among research assignment grade, library use sessions, and semester GPA, one-year retention, and academic standing?

Pearson & Spearman correlations
Correlation Coefficients Between Research Assignment Grade, Library Use Sessions, and Success Metrics

<table>
<thead>
<tr>
<th></th>
<th>Library Use Sessions</th>
<th>Research Assignment Grade</th>
<th>Semester GPA</th>
<th>One-Year Retention</th>
<th>Academic Standing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Use Sessions</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Assignment Grade</td>
<td>0.34**</td>
<td>( r = 0.34, p &lt; 0.01 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semester GPA</td>
<td>0.37**</td>
<td>( r = 0.37, p &lt; 0.01 )</td>
<td>( r = 0.54, p &lt; 0.01 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One-Year Retention</td>
<td>0.32**</td>
<td>( r_s = 0.54, p &lt; 0.01 )</td>
<td>( r_s = 0.34, p &lt; 0.01 )</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Academic Standing</td>
<td>0.29**</td>
<td>( r_s = 0.29, p &lt; 0.01 )</td>
<td>( r_s = 0.34, p &lt; 0.01 )</td>
<td>0.52**</td>
<td>-</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
Question 4.
Do research assignment grade, online module completion status, and library use sessions significantly predict student semester GPA controlling for student variables?

Hierarchical Linear Regression
Results of Hierarchical Linear Regression of Semester GPA on Student and Library-Related Variables

- Research Assignment Grade: $t(233) = 8.31, p < 0.01$
- Library Use Sessions: $t(233) = 3.93, p < 0.01$
- Online Module Sections Completion Status
- GPA: $F(13, 233) = 14.02, p < 0.01$
Question 5.
Do research assignment grade, online module completion status, and library use sessions significantly predict one-year retention and academic standing controlling for student variables?

Hierarchical Logistics Regression
Results of Hierarchical Logistic Regression of One-Year Retention on Student and Library-Related Variables

Wald $F(1) = 10.48$, $p < 0.001$

Wald $F(1) = 8.98$, $p < 0.01$

- Research Assignment Grade
- Library Use Sessions
- Online Module Sections Completion Status

Retention
Results of Hierarchical Logistic Regression of Good Academic Standing on Student and Library-Related Variables

- **Research Assignment Grade**: Wald $F(1) = 27.24, p < 0.01$
- **Library Use Sessions**: Wald $F(1) = 4.61, p < 0.05$
- **Online Module Sections Completion Status**
Limitations

• Could not control all potential variables that impact student performance
• Correlation does not equal causation
• Small sample size
• Inconsistencies across sections
• No ‘in-person instruction only’ group
• More longitudinal data are needed
Conclusion
Implications for Practice
Innovative way to integrate library instruction into the curriculum
New opportunities for demonstrating library value
Leverage the LMS to create scalable and sustainable online instruction
Future Directions for Research
Implications of reward on student engagement with online library instruction
Relationship between library instruction and retention
How library services can better support first-year courses
Thank you!

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