Using Rubrics for Programmatic Assessment of Learning Outcomes in Course-integrated Library Instruction

Laura Gariepy & Jenny Stout
Virginia Commonwealth University
August 4, 2014
Teaching & Learning

Jenny Stout  Donna Coghill  Laura Gariepy  Megan Hodge  Liz Johns
Hi, Jenny!
VCU University College

UNIV 200: 201 sessions taught in 2013-2014

https://www.flickr.com/photos/pasukaru76/5585758971/
We needed to programmatically assess learning outcomes.
We needed to provide learning opportunities.
### Criteria/Learning Outcomes

<table>
<thead>
<tr>
<th></th>
<th>3 points</th>
<th>2 points</th>
<th>1 point</th>
<th>0 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Student states research question or topic.</td>
<td>N/A</td>
<td>Student states research question/topic clearly enough that the librarian can understand what the sought-after information should address.</td>
<td>Student states a research question/topic but does not provide sufficient detail for the librarian to understand what the sought-after information should address.</td>
<td>Student does not state a research question/topic.</td>
</tr>
<tr>
<td>B: Student generates similar key words/phrases for each key concept that will enhance search strategy.</td>
<td>Student produces related words/phrases for each key concept in his/her research question. The phrases represent key concepts and are likely to generate relevant results in library databases.</td>
<td>Student produces related words/phrases for only a few key concepts; or, produces related words/phrases for each key concept, but only some of them are likely to generate relevant results in library databases.</td>
<td>Student produces minimal related words and phrases; or, produces related words/phrases for some key concepts, but few or none are likely to generate relevant results in library databases.</td>
<td>Student does not produce any related words/phrases for key concepts.</td>
</tr>
<tr>
<td>C: Student organizes terms and phrases in a way that reflects understanding of use of the Boolean operators AND, OR, and NOT.</td>
<td>Organization of terms reflects understanding of use of the Boolean operators AND, OR, and NOT.</td>
<td>Organization of terms suggests limited understanding of use of the Boolean operators AND, OR, and NOT.</td>
<td>Organization of terms suggests incorrect understanding of use of the Boolean operators AND, OR, and NOT.</td>
<td>Student did not complete this question.</td>
</tr>
</tbody>
</table>

**Solution:** use rubrics to assess authentic learning products
The ‘authentic learning product’

- worksheet
- students turn research question into a search strategy
- search for and record relevant sources
Data collection

- scan worksheets in 2013-2014
- select stratified random sample
- $N = 258$
The rubric: six criteria

- state research question
- identify key concepts
- related terms
- connecting terms (AND and OR)**
- truncation**
- finding relevant sources
Analysis

- two reviewers
- each reviewer scores all criteria
- interrater reliability varied by criteria from fair to substantial
developing and connecting search terms

3 pt max
developing ($M = 1.98$)
connecting ($M = 2.45$)

https://www.flickr.com/photos/krissen/6340984211/
truncation

3 pt max

$M = 1.24$
finding relevant sources

3 pt max
$M = 2.02$

https://www.flickr.com/photos/krissen/6340984211/
improvement between fall and spring semesters
## Overall Performance Mean Score (Max Score = 17)

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>11.45</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>12.16</td>
</tr>
</tbody>
</table>

$p < .05$, $d = .33$

https://www.flickr.com/photos/61423903@N06/7382239368/
### Finding Relevant Sources Score (Max Score = 3)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2013</td>
<td>1.77</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>2.13</td>
</tr>
</tbody>
</table>

*p < .05, d = .31*

[https://www.flickr.com/photos/61423903@N06/7382239368/](https://www.flickr.com/photos/61423903@N06/7382239368/)
Enact decisions

Review learning goals

Identify learning outcomes

Create learning activities

Enact learning activities

Gather data to check learning

Interpret data

programmatic changes

sharing

https://www.flickr.com/photos/kalexanderson/5434349412/
Easy application in other situations:
Easy application in other situations:

- Define learning outcomes
Easy application in other situations:

- Define learning outcomes
- Create authentic learning exercise
Easy application in other situations:

- Define learning outcomes
- Create authentic learning exercise
- Develop rubric
Easy application in other situations:

- Define learning outcomes
- Create authentic learning exercise
- Develop rubric
- Assess
Easy application in other situations:

- Define learning outcomes
- Create authentic learning exercise
- Develop rubric
- Assess
- Learn and change
Easy application in other situations:

- Define learning outcomes
- Create authentic learning exercise
- Develop rubric
- Assess
- Learn and change
- Repeat
questions?