So What?
The Results and Impact of a Decade of IMLS-Funded Information Literacy Assessments

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Megan Oakleaf, Syracuse University - RAILS
Michele Van Hoeck, California Maritime Academy - Project Information Literacy
Standardized Assessment of Information Literacy Skills

- Originated at Kent State University in partnership with ARL
- IMLS grant for $252,000 plus ARL schools and Ohio Board of Regents
  - 4-year development phase
  - Expertise in measurement and programming
  - Staff and students
  - Workshops
  - Fellowships
  - Promotion and marketing
SAILS Assessment

- ACRL standards (1, 2, 3, 5)
- 155 items, multiple-choice
- Validity and reliability
  - Correlation with JMU ILT
  - Correlation with ACT / SAT
  - Item reliability estimates > .80
## Benchmark Results

<table>
<thead>
<tr>
<th></th>
<th>Associates</th>
<th>Bachelors General</th>
<th>Bachelors Liberal Arts</th>
<th>Masters</th>
<th>Doctorate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>460 ± 5</td>
<td>469 ± 5</td>
<td>483 ± 4</td>
<td>485 ± 2</td>
<td>492 ± 2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>491 ± 6</td>
<td>500 ± 12</td>
<td>505 ± 7</td>
<td>506 ± 4</td>
<td>506 ± 8</td>
</tr>
<tr>
<td>Junior</td>
<td>503 ± 18</td>
<td>512 ± 8</td>
<td>513 ± 4</td>
<td>516 ± 9</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>511 ± 15</td>
<td>529 ± 7</td>
<td>525 ± 5</td>
<td></td>
<td>539 ± 7</td>
</tr>
</tbody>
</table>
Skill Sets

- Developing a Research Strategy
- Selecting Finding Tools
- Searching
- Using Finding Tool Features
- Retrieving Sources
- Evaluating Sources
- Documenting Sources
- Understanding Economic, Legal, and Social Issues
Interpretation: Local Context

How are students learning these skills?

• Expected student development and maturation?
• Is it library instruction?
• Learning from classroom faculty?
• Assignments?
Use of SAILS Results

• Understand strengths and weaknesses
• Redesign instruction
• Engage in campus conversations
• Report to accrediting agencies
SAILS Today…

- Development
  - More coverage of the Standards
  - Individual scores assessment
  - International
- Fee structure for all participants
- Licensed from Kent State by Carrick Enterprises
and Tomorrow

- Continue analysis of the data
- Prepare for the next generation

  Apply the benefits of the current standardized testing model to the new framework
Thank you!

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RAILS: Rubric Assessment of Information Literacy Skills

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www.meganoakleaf.info
The Institute of Museum and Library Services is the primary source of federal support for the nation’s 123,000 libraries and 17,500 museums. The Institute's mission is to create strong libraries and museums that connect people to information and ideas.
Rubric Resources, including ~175 rubrics, at: www.railsontrack.info

Rubrics

Rubrics are powerful tools for assessment. The RAILS project is intended to help librarians create and use rubrics for information literacy assessment.

To this end, RAILS can serve as a clearinghouse for information literacy rubrics. Existing RAILS rubrics are grouped by topic and/or by creator and accessible using the navigation links on the right. Any of these rubrics can be modified and saved by librarians; librarians can also upload new rubrics.

To do so, librarians should click the “participant login” link at the top of this page for site approval. Once approved as a RAILS website participant, librarians are welcome to adapt the rubrics as needed. To modify an existing rubric, approved participants should use the “Make and Save my own Rubric” button. (Note, this process does NOT actually change the existing rubric. Instead it makes a new copy that can be modified as needed.) To upload a new rubric, begin with a blank rubric found in the “Uncategorized” category. Please be sure to change the title of your new rubric!

Questions? Please post them in the forum area of the RAILS website!
RAILS Research in a Nutshell

- Focused on performance assessment of information literacy
- Developed information literacy rubrics
  - Mapped to AAC&U VALUE rubrics
  - Mapped to Information Literacy Competency Standards for HE
- Tested 10 rubrics at 9 campuses (3-10 criteria each)
  - Spearheaded by lead librarians at each campus
  - Involved 110 raters (librarians & faculty)
- Assessed 1000 artifacts of student learning
- Analyzed everything! Tens of thousands of data points.
RAILS Research Goals – 2 fold

RAILS Research Goals

• Create a clearinghouse of information literacy rubrics
• Investigate rubric reliability & validity
• Develop training materials for training/norming/scoring
• Explore indicators of rater expertise

Participating Library Goals

• Develop a rubric for use on campus
• Identify opportunities for assessment within the curriculum
• Gain experience in norming
• Assess student work to learn about their information literacy skills
What We Now Know
Can I show you my 350 page report?
(That’s just one report for one institution.)
What you would learn if you read them...

For each institution:

• How 100 students performed in authentic contexts on information literacy outcomes.

• How 110 raters scored those students.

• How well (or not) the raters agreed.

• How well (or not) the rubrics worked.

• A few other things...

Same thing!
The artifact makes a difference.

Artifacts should be concrete, focused, & short-ish.

<table>
<thead>
<tr>
<th>Research journals</th>
<th>Group projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflective writing</td>
<td>Performances</td>
</tr>
<tr>
<td>&quot;Think alouds&quot;</td>
<td>Portfolios</td>
</tr>
<tr>
<td>Self or peer evaluations</td>
<td>Library assignments</td>
</tr>
<tr>
<td>Research drafts or papers</td>
<td>Worksheets</td>
</tr>
<tr>
<td>Open-ended question responses</td>
<td>Concept maps</td>
</tr>
<tr>
<td>Works cited pages</td>
<td>Citation maps</td>
</tr>
<tr>
<td>Annotated bibliographies</td>
<td>Tutorial responses</td>
</tr>
<tr>
<td>Speeches</td>
<td>Role plays</td>
</tr>
<tr>
<td>Multimedia presentations</td>
<td>Lab reports</td>
</tr>
<tr>
<td>Posters</td>
<td>Blogs</td>
</tr>
<tr>
<td>Exhibits</td>
<td>Wikis</td>
</tr>
</tbody>
</table>
Wiggle words kill rubrics.
So does writing a glorified answer key.

<table>
<thead>
<tr>
<th>Determine Key Concepts</th>
<th>Advanced</th>
<th>Developing</th>
<th>Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Student determines keywords/subject/subheadings that fully describe the research question/thesis</td>
<td>Student determines keywords/subject/subheadings that partially describe the research question/thesis</td>
<td>Student does not determine keywords/subject/subheadings that describe the research question/thesis</td>
</tr>
<tr>
<td>% Students (n=100)</td>
<td>44%</td>
<td>50%</td>
<td>6%</td>
</tr>
<tr>
<td>IRR Statistic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krippendorff’s Alpha</td>
<td>.5270</td>
<td>.2764</td>
<td>.3556</td>
</tr>
<tr>
<td>Cohen’s Kappa</td>
<td>.404</td>
<td>.216</td>
<td>.272</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.546</td>
<td>.419</td>
<td>.429</td>
</tr>
<tr>
<td>Accesses the Needed Information</td>
<td>Student accesses information using a logical progression of advanced search strategies such as limits, Boolean searches, or combined searches</td>
<td>Student accesses information using advanced search strategies, such as limits, Boolean searches, or combined searches</td>
<td>Student accesses information using only simple search strategies</td>
</tr>
<tr>
<td>% Students (n=100)</td>
<td>27%</td>
<td>62%</td>
<td>11%</td>
</tr>
<tr>
<td>IRR Statistic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Raters love norming.

**Official Norming Rules**
- Be a role model.
- Let the raters try.
- Take their temperature.
- Discuss and reconcile.
- Try again.
- Separate wheat from chaff.
- Rinse and repeat.

**Unofficial Norming Rules**
- Someone has to be in charge.
- It’s not about you, facilitator.
- The needs of the many outweigh the needs of the few, or the one.
- It’s okay to disagree and commit.
- Stick to rubric best practices.
- Know when to hold ‘em and when to fold ‘em.
- End on a high note.

We aren’t so good at describing what we’re looking for in student learning. Yet.

• Even with outcomes expressed in the Standards, articulating what learning looks like a developmental stages is challenging.

• Threshold concepts represent a new challenge, but are well suited to rubric assessment if we can describe student learning along a continuum of understanding.

But we have good ways of analyzing and identifying where we’ve goofed.

### Pearson Correlation

<table>
<thead>
<tr>
<th>Pearson r</th>
<th>Strength of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>.9 to 1</td>
<td>Very High</td>
</tr>
<tr>
<td>.7 to .9</td>
<td>High</td>
</tr>
<tr>
<td>.5 to .7</td>
<td>Moderate</td>
</tr>
<tr>
<td>.3 to .5</td>
<td>Low</td>
</tr>
<tr>
<td>.0 to .3</td>
<td>Little</td>
</tr>
</tbody>
</table>

### Cohen’s Kappa

<table>
<thead>
<tr>
<th>Kappa Statistic</th>
<th>Strength of Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.81-1.00</td>
<td>Almost Perfect</td>
</tr>
<tr>
<td>0.61-0.80</td>
<td>Substantial</td>
</tr>
<tr>
<td>0.41-0.60</td>
<td>Moderate</td>
</tr>
<tr>
<td>0.21-0.40</td>
<td>Fair</td>
</tr>
<tr>
<td>0.00-0.20</td>
<td></td>
</tr>
<tr>
<td>&lt;0.00</td>
<td></td>
</tr>
</tbody>
</table>

### Krippendorff’s Alpha

<table>
<thead>
<tr>
<th>Alpha Statistic</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\alpha \geq .800$</td>
<td>Accept</td>
</tr>
<tr>
<td>$0.800 &gt; \alpha \geq 0.667$</td>
<td>Tentative</td>
</tr>
<tr>
<td>$\alpha &lt; 0.667$</td>
<td>Discard</td>
</tr>
</tbody>
</table>
We also know what gets in the way of rubric use.

- Too little time
- Too little assessment structure
- Too few rewards
- Lack of familiarity with rubric assessment
But, rubric assessment (even if it’s problematic) leads to improvement.

- In teaching
- In assessment
- In collaboration
- In student learning
RAILS impact...not just in libraries.
Looking into the Future

• Use Cohen’s kappa and/or Krippendorf’s alpha to investigate the interrater reliability of additional rubrics, especially those used to make high-stakes decisions.

• Expand rubric writing best & worst practices.

• When a body of reliable rubrics can be identified, expand exploration of characteristics of “good” raters.
Project Information Literacy
A large-scale study about early adults and their research habits

Michele Van Hoeck, Research Associate, PIL Interim Library Dean, Cal State University Maritime
Why should you care about workplace information literacy?
Our students will work as

- Academics
- Something Else

1%
Our Students’ Lives

- 5% Years in Higher Ed
- Rest of Life
What can we learn from recent college graduates?
IMLS Funded Studies

- **Workplace**
  - Employer interviews (n=23)
  - Graduate focus groups (n=33)

- **Lifelong Learning**
  - Graduate interviews (n=63)
  - Large-scale online survey: **coming Fall 2014**
Best Practice: Alumni Associations
Best Practice: Translating “Information Literacy”

We asked about “doing research” or “solving information problems” at work.
Best Practice: Translating “Information Literacy”

We asked about sources and practices for “staying smart” after college
FINDINGS
Graduates value having learned to evaluate sources.
#2 Ability to critically read and analyze published sources.
#3 Ability to synthesize large volumes of content.
Looking back: Freshman difficulties

1. Filtering and sorting relevant sources (51%)

2. Summarizing and integrating different sources (43%)

3. Reading and comprehending sources (34%)

2013 Learning the Ropes interviews, n = 35 first year students; 6 campuses
Optimal workplace research skill #1

> Engaging other team members in the research process.

2012 Learning Curve interviews; 23 employers
Optimal workplace research skill #2 > Retrieving information using a variety of different formats.

2012 Learning Curve interviews; 23 employers
Optimal workplace research skill #3 > Finding patterns and making connections.

2012 Learning Curve interviews; 23 employers
Exploring a topic thoroughly – imagining all of the answers.

Optimal workplace research skill #4

2012 Learning Curve interviews; 23 employers
Findings Overlap: Social Side of Research

Recent grad

The biggest hurdle for me was getting used to talking to strangers.

Employer

They need to look beyond their computer screens.
Communities of Practice

Most learning does not take place with the master; it takes place with journeymen and other apprentices.

Lave & Wenger
Social Side of Research

How are team projects in college different from communities of practice?

What role do “people as sources” play in academic research?
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Jean Lave from UC Berkeley Graduate Council Lectures