Evaluation of Learning in the Academic Library: Past Compulsory & Straight On to Compelling (or Finding the “Second and Third Right Answers”)

Megan Oakleaf, MLS, PhD
SCONUL Conference 2012
Apologies in Advance
Evaluating learning in the academic library feels a bit like...

Image blocked out of an abundance of caution!
The resulting data has never “grown up.”

Image blocked out of an abundance of caution!
What’s the (an) Underlying Problem?

The problem is that we don’t know what students learn from their interactions with the library.
What do we mean by learning, when it comes to academic libraries? What is it that we’re trying to evaluate (show the value of)?
INFORMATION LITERACY

Image blocked out of an abundance of caution!
ACRL Information Literacy Competency Standards for Higher Education

The information literate student...

• **Determines** the nature and extent of information needed.
• **Accesses** needed information effectively and efficiently.
• **Evaluates** information and its sources critically.
• **Uses** information effectively to accomplish a specific purpose.
• **Accesses** and uses information **ethically and legally**.
A New Curriculum for Information Literacy (ANCIL)

http://newcurriculum.wordpress.com/project-reports-and-outputs/
• AAC&U Essential Learning Outcomes & VALUE Rubrics
• ISTE National Educational Technology Standards for Students
• NCTE 21st Century Literacies and Curriculum Framework
• Partnership for 21st Century Skills
• AASL Standards for the 21st Century Learner
• Common Core State “College and Career Readiness” Standards
• CAS Professional Standards for Higher Education
• Accreditation Standards
• Institutional Co-Curricular Standards
Oh my god! Today's comic is about breathing oxygen! THAT'S WHAT I BREATHE!
**Information literacy by other names...**

http://meganoakleaf.info/sharedlearningstandards.docx

---

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1: The information literate student determines the nature and extent of the information needed.</td>
<td>Inquiry and Analysis, Problem Solving</td>
<td>Inquiry and Analysis - Identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less-explored aspects of the topic. Critical Thinking - Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding. Problem Solving - Demonstrates the ability to construct a clear and insightful problem statement with evidence of all relevant contextual factors.</td>
<td>Students plan strategies to guide inquiry, students identify and define authentic problems and significant questions; Learning and Innovation Skills.</td>
<td>Students use inquiry to ask questions and solve problems.</td>
<td>Identify and ask significant questions that clarify various points of view and lead to better solutions.</td>
<td>1.1.3 Develop and refine a range of questions to frame the search for new understanding.</td>
<td>Writing Standard 7. Perform short, focused research projects as well as more sustained research in response to a focused research question, demonstrating understanding of the material under investigation.</td>
</tr>
<tr>
<td>Standard 2: The information literate student accesses needed information effectively and efficiently.</td>
<td>Inquiry and Analysis, Problem Solving</td>
<td>Creative Thinking - Not only develops a logical, consistent plan to solve problem, but recognizes consequences of solution and can articulate reason for choosing solution.</td>
<td>Students collect and analyze data to identify solutions and/or make informed decisions; students understand and use technology systems; students select and use applications effectively and productively.</td>
<td>Twenty-first century readers and writers need to manage, analyze, and synthesize multiple streams of simultaneous information; students find relevant and reliable sources that meet their needs; students locate information from a variety of sources.</td>
<td>Access information efficiently (time) and effectively (sources); manage the flow of information from a wide variety of sources.</td>
<td>1.1.4 Find, evaluate, and select appropriate sources to answer questions.</td>
<td>Writing Standard 8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate and cite the information while avoiding plagiarism.</td>
</tr>
</tbody>
</table>

---

Graduate Attributes & Information Literacy
Created at Glasgow Caledonian University, Maps information literacy skills and the Confederation of British Industry (CBI) employability skills. Presentation: Marion Kelt at LILAC Conference.

- Understanding the nature of a literature search and why one is needed
- Recognise that information is available in different formats
- Know how to use the library catalogue to locate reading list materials, both hardcopy and digital
- Demonstrate an understanding of what plagiarism is, and the different types that occur and how to avoid plagiarism
- Understand how to cite and reference information sources
- Recognise the key words within an assignment question. Demonstrate an ability to identify the different components of assignments, recognise key words and interpret all instructions and as such make a judgement about what their examiner/audience expects from them
- Create a basic search strategy
- An ability to apply information to the problem at hand
- Have an awareness of the ‘pitfalls’ of using the internet and know where to look for reliable information
- Recognise the need to evaluate information critically
Refocus: What’s the Problem?

The problem is that we don’t know what students learn from their interactions with the library.
The First Right Answer
“Compulsory” Data as a Right Answer

- Instruction sessions taught
- Books, etc circulated
- E-resources downloaded
- Gate counts
- Etc.
- Etc.
- Etc.
- More stuff that may be helpful for managing services, but *alone* tells us nothing about student learning...
RIGHT!
The Second Right Answer
The “Second Right Answer”
(Roger von Oech)

We stifle our creativity and innovation if we stop at the first right answer.

How to find the second right answer?

• Identify the problem. Don’t assume you already know it. 😊

• Rephrase your problem positively.

• Shift the lens. Bring other perspectives to bear.

This process keeps us open and generates space for innovation.
Finding a Second Right Answer

• Identify the problem. Don’t assume you already know!
  – The problem is that we don’t know what students learn from their interactions with the library.
  – The problem is that we haven’t collected data/evidence of student learning.

• Rephrase your problem positively.
  – How can we collect data/evidence of student learning?

• Shift the lens. Bring other perspectives to bear.
  – How can we collect data/evidence of student learning that is completely integrated into the student and faculty experience?
Assessment Tools
or, How We try to Collect Data about Learning
Tools

• Self report
  – Focus groups, interviews, surveys

• Tests
  – SAILS, ILT, Bay Area Community Colleges, etc.

• Performance assessments
  – Paper citation analysis, portfolios, sketch maps, etc.

• Rubrics
  – Used to measure performances or products that demonstrate student learning, AAC&U VALUE rubrics, RAILS, etc.
Self Report

Image blocked out of an abundance of caution!
Self Report

• Defined
  – Ask students to estimate their learning
  – Typical methods: survey, interview, focus group

• Benefits
  – Capture students’ assessment of their learning
  – Conveyed in student language

• Limitations
  – Do not assess actual learning
  – Skilled students underestimate learning
  – Unskilled students overestimate learning
Tests

Image blocked out of an abundance of caution!
Tests Defined

• Are primarily multiple choice in format
• Strive for objectivity
• Grounded in early behaviorist educational theory
Tests – Benefits

Learning
• Measure acquisition of facts

Data
• Are easy and inexpensive to score
• Provide data in numerical form
• Collect a lot of data quickly
• Tend to have high predictive validity with GPA or standardized tests scores
• Can be made highly reliable (by making them longer)
• Can be easily used to make pre/post comparisons
• Can be easily used to compare groups of students
Tests – Limitations, 1 of 2

Learning

• Measure recognition rather than recall
• Reward guessing
• Include oversimplifications
• Do not test higher-level thinking skills
• Do not measure complex behavior or “authentic” performances
• Do not facilitate learning through assessment
Tests – Limitations, 2 of 2

Data

• May be designed to create “score spread”
• May be used as “high stakes” tests

If locally developed...

• May be difficult to construct and analyze
• Require leadership and expertise in measurement
• May not be useful for external comparisons
Performance Assessments
Performance Assessments Defined

• Focus on students’ tasks or products/artifacts of those tasks
• Simulate real life application of skills, not drills
• Strive for contextualization & authenticity
• Grounded in constructivist, motivational, and “assessment for learning” theory
Performance Assessments – Benefits

Learning
• Align with learning goals
• Integrate learning and assessment
• Capture higher-order thinking skills
• Support learning in authentic (real life) contexts
• Facilitate transfer of knowledge

Data
• Supply valid data

Other
• Offer equitable approach to assessment
Performance Assessments – Limitations

Data
• May have limited generalizability to other settings and populations

Other
• Require time to create, administer, and score
What are good artifacts of student learning for assessment?

- research journals
- reflective writing
- “think alouds”
- self or peer evaluations
- research drafts or papers
- open-ended question responses
- works cited pages
- annotated bibliographies
- speeches
- multimedia presentations
- posters
- exhibits

- group projects
- performances
- portfolios
- library assignments
- worksheets
- concept maps
- citation maps
- tutorial responses
- role plays
- lab reports
- blogs
- wikis

Product vs. Process

\[ a \cdot b = \frac{a^b + 1}{a - 1} \]

Rubrics

- **B, M, E**
  - has beginning
  - has middle
  - has end

- **Details**
  - has lots of details
  - All sentences have punctuation.
  - have capitals: beg. of sentence 1
  - names
  - all the words on the word wall are spelled right
  - goes with the story

- **Punctuation**
  - has 1 or 2 parts, but is missing B, M, E
  - some details
  - some punctuation marks
  - some capitals
  - some spelling is right
  - has a title that doesn't go with story

- **Capitals**
  - no beginning
  - no middle
  - no end
  - no details
  - no punctuation
  - no capitals
  - nothing is spelled right
  - no title
Rubrics Defined

Rubrics...

• describe student learning in 2 dimensions
  1. parts, indicators, or criteria and
  2. levels of performance

• formatted on a grid or table

• employed to judge quality

• used to translate difficult, unwieldy data into a form that can be used for decision-making
# Checklists

<table>
<thead>
<tr>
<th>CHECKLIST</th>
<th>CRITERIA ONLY</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Observed</th>
<th>Not Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Contact</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Gestures</td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>
## Likert Scales

<table>
<thead>
<tr>
<th></th>
<th>Novice</th>
<th>Proficient</th>
<th>Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Contact</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gestures</td>
<td></td>
<td>√</td>
<td></td>
</tr>
</tbody>
</table>

**Likert Scale**

**Criteria & Performance Levels**

(numbers or descriptive terms)
# Full-Model Rubrics

<table>
<thead>
<tr>
<th>Eye Contact</th>
<th>Beginning</th>
<th>Developing</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not make eye contact with the audience.</td>
<td>Makes intermittent eye contact with the audience.</td>
<td>Maintains sustained eye contact with the audience.</td>
<td></td>
</tr>
</tbody>
</table>

| Gestures | Gestures are not used. | Gestures are used, but do not emphasize talking points. | Gestures are used to emphasize talking points. |

**FULL-MODEL RUBRIC CRITERIA, PERFORMANCE LEVELS, & PERFORMANCE DESCRIPTIONS**
Rubrics – Benefits, 1 of 2

Learning

• Articulate and communicate agreed upon learning goals
• Focus on deep learning and higher-order thinking skills
• Provide direct feedback to students
• Facilitate peer- and self-evaluation
• Make scores and grades meaningful
• Can focus on standards

Article forthcoming by Megan Oakleaf
Rubrics – Benefits, 2 of 2

Data
• Facilitate consistent, accurate, unbiased scoring
• Deliver data that is easy to understand, defend, and convey
• Offer detailed descriptions necessary for informed decision-making
• Can be used over time or across multiple programs

Other
• Are inexpensive to design and implement
Rubrics – Limitations

Other

• May contain design flaws that impact data quality
• Require time for development
• Require time for training multiple rubric users
Data Tracking
Harness the capabilities of assessment management systems.
Choosing the “Right” Assessment Tool
purpose, stakeholder needs, what you want to know, cost, etc.

Now, what do I do with this assessment data?

3 choices

– Improve instruction
– Improve the assessment
– Celebrate your successes!
What We’re Still Not Doing Well

Clarity

Integration

- Linked Outcomes
- Assessment within Pedagogy
- Collaboration with Colleagues
- Data Tracking
- Changed Actions
- Communications
Linked Outcomes
Assessment within Pedagogy
Instructional Design

“ADDIE”
1. Analysis
2. Design
3. Development
4. Implement
5. Evaluate

“Understanding by Design”
1. What do you want students to learn? (outcome)
2. How will you know if they’ve learned it? (assessment)
3. What activities will help them learn and, at the same time, provide assessment data? (teaching method)
Collaboration with Colleagues
Multiple Methods & Triangulation
Changed Actions & Transferability

I MAKE THE WORLD BETTER! I'M A POSITIVE FORCE!
Communications
RIGHT!
The Third Right Answer
Still not quite good enough. No one appears impressed with our data. What now?
Finding a Third Right Answer

• Identify the problem. Don’t assume you already know!
  – The problem is that we haven’t collected data/evidence of student learning.
  – The problem is that we haven’t collected data/evidence that aligns student learning in the library with institutional interests and values?

• Rephrase your problem positively.
  – How can we collect data/evidence that aligns student learning in the library with institutional interests and values?
  – How can we align libraries services and resources with institutional interests and values?

• Shift the lens. Bring other perspectives to bear.
  – What are our stakeholders’ interests and values?
  – How might they or should they connect libraries to those interests and values?
Few libraries exist in a vacuum, accountable only to themselves. There is always a larger context for assessing library quality, that is, what and how well does the library contribute to achieving the overall goals of the parent constituencies?

(S. Pritchard 1996)
1. Pick a stakeholder group.
2. Consider that group’s interests and values. What do they care about?
Stakeholders...

Students
- High school
- Prospective
- First-year
- Majors
- International
- Co-curricular groups
- First generation
- Honors
- At-risk
- Graduate
- Special populations

Parents
- Of first-year students
- Of first-generation students

Employers

Local Community

Faculty
- Tenured/tenure track faculty
- Non-tenure track faculty
- Research faculty
- Part-time faculty
- Adjunct faculty
- Instructors/lecturers
- Teaching assistants

Administration
- Presidents/chancellors/provosts
- Deans
- Faculty senate
- Department/unit heads
- Committee chairs

Accreditors
- Regional
- Professional

Graduate Schools
On your paper:

1. Pick a stakeholder group.
2. Consider that group’s interests and values. What do they care about?
3. What aspects of the library might align with those interests and values? Consider library services, expertise, and resources.
More Complicated Than It May Seem

*Image blocked out of an abundance of caution!*
Heart of the University
That Was Then, This Is Now
Data, Evidence, & Proof

Not only do stakeholders count on higher education institutions to achieve their institutional goals, they also require them to demonstrate evidence that they have achieved them.

The same is true for academic libraries; they too must provide evidence of their value.
Value

- Inputs/Outputs
- Service Quality
- Satisfaction
- Use
- Competing Alternatives
- Return-on-Investment
- Impact

Commodity
Define and assess outcomes in an institutional context.
Determine what libraries enable students to do.
Develop systems to collect data on individual library user behavior, while maintaining privacy.
“Until libraries know that Student #5 with major A has downloaded B number of articles from database C, checked out D number of books, participated in E workshops and online tutorials, and completed courses F, G, and H, libraries cannot correlate any of those student information behaviors with attainment of other outcomes.”

(Oakleaf, VAL Report, pg. 96)
Use existing data.
Student Enrollment

We know...
(as in at least one study indicates...)

- Libraries are 2\textsuperscript{nd} most impactful facilities for student admission decisions.

We don’t know...

- Why?
- What about libraries is most impactful?
### Academic Transcript

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Grade</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL 1988</td>
<td>COM 101</td>
<td>Introduction to Speech Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 1988</td>
<td>CTS 101</td>
<td>Introduction to Business Computing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 1988</td>
<td>ENG 121</td>
<td>English Composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 1988</td>
<td>FNS 101</td>
<td>Beginning Chinese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 1988</td>
<td>MTH 111</td>
<td>Calculus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 1988</td>
<td>PHY 113</td>
<td>Classical Mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING 1988</td>
<td>ENG 122</td>
<td>Critical Writing and Reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING 1988</td>
<td>FNS 102</td>
<td>Beginning Chinese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING 1988</td>
<td>MTH 112</td>
<td>Analytical Geometry &amp; Calculus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING 1988</td>
<td>PHY 116</td>
<td>Classical Mechanics II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPRING 1988</td>
<td>PHY 101</td>
<td>Introduction to Psychology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cumulative Totals**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FAL 1989</td>
<td>117.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Semester Totals**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 121</td>
<td>3.0</td>
<td>A</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>MTH 112</td>
<td>3.0</td>
<td>A</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>PHY 113</td>
<td>3.0</td>
<td>A</td>
<td>10.0</td>
<td></td>
</tr>
</tbody>
</table>

**Cumulative Totals**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>44.0</td>
<td>46.0</td>
<td>3.04</td>
<td>200.0</td>
<td></td>
</tr>
</tbody>
</table>

Higher score guaranteed or your money back.

Track library influences on increased student achievement.
Grades/Marks & Testing

We know...

• Student grades/marks and professional/educational test scores are used to make high-stakes decisions.

• Library “check outs” appear to impact students grades positively. (Huddersfield, Wollongong)

• Library “visits” do not appear to impact student grades. (Huddersfield)

• Library “instruction” may impact student grades, or at least not make them worse. (Hong Kong Baptist)

• Library instruction after the first-year appears to impact GPA at graduation. (Wyoming)

• Library use (downloads, loans, reference) increases GPA and retention. Library instruction may decrease GPA, but increase retention. (Minnesota)
Student Learning Outcomes

We know...

• Libraries provide instruction, including face-to-face “one-shots”, credit courses, online learning objects.

• Students appear to acquire “information literacy” skills as a consequence of library instruction, but assessments are scattered and episodic, not coherent and longitudinal.
Student Learning Outcomes

We don’t know...

• How much or how well do students learn information skills over time, across programs, before graduation?
• Do they transfer these skills to other contexts?
• What library interactions besides overt instruction make a difference in student learning?
• What might use of Assessment Management Systems reveal about student learning?
Student Experience/Engagement

We know...

• Student engagement surveys include many items that may capture library-related information, but almost none are directly linked to libraries.

Examples: National Survey of Student Engagement, National Student Survey
Retention/Graduation

We know...

• Most libraries support several high-impact practices.
• Some libraries support early warning/intervention practices.
• Some libraries proactively assign “research advisors” to support certain student groups.
• Library use, expenditures, and professional staff are correlated with retention, but no causative links.
• Possible sources for future analysis? *Destination of Leavers from Higher Education survey & Longitudinal Destination of Leavers from Higher Education survey*
SWOT ANALYSIS

JPMorgan Chase (JPMC) has strong franchises across business divisions – investment bank, commercial banking, retail financial services, treasury and security services, asset management, and card services. The franchises strength was further strengthened with the acquisition of Bear Stearns and Washington Mutual. However, increased regulatory spending and economic uncertainties in Europe could hurt JPMC’s revenue and profitability.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong franchises across business divisions</td>
<td>Steep climb in credit losses impacting profitability</td>
</tr>
<tr>
<td>Strong liquidity and capital position</td>
<td>Over dependence on the US market makes it vulnerable to domestic economic situation</td>
</tr>
<tr>
<td>The acquisition of Bear Stearns and Washington Mutual add significant scale at low price</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buoyant asset management market</td>
<td>Increased governmental and regulatory scrutiny</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Career Success

We know...

• Employers care about student information skills (critical thinking, problem solving, locating/evaluating/using information).

• Libraries provide resources students can use during their internship work.

• Libraries provide detailed company profiles students can use to prepare for interviews.
www.acrl.org/value
Coin of the Realm

• What’s most important to your students?
Other stakeholders?
Coin of the Realm

• What’s most important to your students? Other stakeholders?
• What do you contribute to it?
• What do your librarians contribute to it?
student enrollment
student retention & graduation
student career success
student GPA/test achievement
student learning outcomes
student experience & engagement
faculty research productivity
faculty grants
faculty teaching
institutional reputation

Impact!
• Accreditation
• Affordability
• Efficiencies
• Academic Rapport
• Community Contribution
  – Educated Populace
  – Community Engagement
  – Economic Growth
  – Workforce Outcomes
  – Societal Outcomes
• Data Curation, eScience & Data Literacy
• TechTransfer, Patents, etc.

Impact!
Tell your story.

Image blocked out of an abundance of caution!
Tell your library’s value story.

What’s your story?
What “to do” items come to mind?

Who do you need to involve?

What conversations need to occur?

What resources do you need?
Coin of the Realm

• What’s most important to your students?
Coin of the Realm

• What’s most important to your students?
• What do you & your librarians contribute to it?
• What are you doing that is less important than contributing to it?
To engage the challenge of evaluating learning with “grown up” data will be an awfully big adventure!
Evaluation of Learning in the Academic Library: Past Compulsory & Straight On to Compelling (or Finding the “Second and Third Right Answers”)

Megan Oakleaf, MLS, PhD
SCONUL Conference 2012
Image Credits