How Do We Stack Up?
Outcomes-Based Assessment for Library Instruction

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Agenda

- Definitions & Perspectives
- Assessment Tools
  - Self-Report
  - Tests
  - Performance Assessments
  - Rubrics
- Choosing the “Right” Tool
- Evidence-Based Decision Making
- Reporting to Stakeholders
Definitions
Why should I assess student learning?

• To respond to calls for accountability
• To participate in accreditation processes
• To inform decision-making regarding program structure/performance
• To improve teaching skills
• To improve student learning
One Perspective

• Take an educational research or action research perspective.
  – Focus: impact & improvement
  – Application: decision-making
  – Accountability: accreditation, answering to stakeholders
  – Focus is not primarily on experimental design or “causation”
Focus on Academic Success

• Align with institutional mission for student learning
• Not students’ satisfaction levels
• Not librarians’ instruction skills
• Applicable standards
  – Information Literacy Competency Standards for Higher Education
  – Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians
  – AASL Standards
  – General education standards
  – Academic department standards
  – Accreditation standards
  – Etc…see my *Library Quarterly* article in October!
ILI Assessment Cycle
Adapted from Peggy Maki, PhD & Marilee Bresciani, PhD
By Megan Oakleaf, PhD

Identify learning outcomes
Create learning activities
Gather data to check learning
Enact learning activities
Enact decisions
Interpret data
Review learning goals (IL standards)
Assessment Tools
Self Report
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
Tests Defined

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

What are some examples of these tests?
Tests – Benefits, 1 of 2

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 – Benefits, 2 of 2

If locally developed…
- Help librarians learn what they want to know about student skills
- Are adapted to local learning goals and students
- Can be locally graded and interpretation of results can be controlled

If non-locally developed…
- Can be implemented quickly
- Reduce staff time required for development and scoring

Other
- Are widely accepted by the general public
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 Measures
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

What might this look like?
Your Name

Search Engine used

# Hits

Boolean Term Used

subject/key word

or

subject/key word

and

subject/key word

not

# Hits

Boolean Term Used

subject/key word

or

subject/key word

and

subject/key word

not

# Hits

Boolean Term Used

subject/key word

or

subject/key word

and

subject/key word

not

# Hits

Boolean Term Used

subject/key word

or

subject/key word

and

subject/key word

not

Explain what the Boolean term AND means:

Explain what the Boolean term OR means:

Explain what the Boolean term NOT means:

http://old.oslis.org/images/booleanterms.gif
Annotated Bibliography Entry

Source Type:
- book
- interview
- X scholarly journal article

Full MLA citation:

Brief summary & critical analysis of content:
This article hypothesizes and experimentally proves that the effects of breastfeeding on IQ are related to the composition of polyunsaturated fatty acids (PUFAs) in human milk. The article states that fatty acids are essential structural elements that are required by cell membranes, for the formation of new tissue, and for the formation of neurons and glial cells. The formation of neurons and glial cells occurs during the fetal period of pregnancy, and a lack of the necessary fatty acids could be detrimental to proper formation of the central nervous system due to the fact that such fatty acids must be acquired through food intake and cannot be synthesized in the body. Additionally, it has been proven that PUFAs are protectors of the tissue within the nervous system, by making them less fragile and less easily damaged. Furthermore, PUFAs aid in the release of acetylcholine and noradrenaline, which are neurotransmitters that strongly affect learning and memory. After illustrating the overall importance of PUFAs to cognitive development, the article went on to depict the relationship between the levels of PUFAs in the breast milk of the mother and in the infant. Tests prove that PUFA levels in the mother’s breast milk are similar to the levels that exist in the infant’s brain tissue. It has also been clinically found that higher levels of PUFAs exist in breastfed children than children who were fed by bottle formula. Since the composition of the PUFAs is important, the article notes that the variety of fatty acids present in breast milk is much greater than it is in infant formulas. The article also points out that the most important long chain PUFA involved with cognitive development is the n-3 docosahexaenoic acid (DHA). The main results of the scientific studies of this article are that there is a significant correlation between an infant’s IQ and the length of time that was spent breastfeeding the child, that the fourth and fifth steps of PUFA biosynthesis are strongly correlated to an infant’s IQ, and that the amount of DHA in the breast milk positively affects cognitive development. The nutritional information that this article provides is critical to the research topic because it begins to provide the answers to why the nutrition of breast milk is beneficial to cognitive development. It provides information that is pertinent to the topic and provides answers that the website article could not; the article indulges information and focuses primarily on the nutritional aspect of breastfeeding. It is clear that further research needs to be done in order to discover why DHA, specifically, is the most beneficial nutritional aspect of breast milk. It is also necessary to continue to research the importance of breast milk nutrition; there may be other factors that are beneficial to cognitive development that this article did not discuss. Additionally, it is still necessary to find more research on why the nurture aspect of breastfeeding is so helpful to cognitive development.

Evaluation of source using criteria & rationale for selection:
Author: PA Gustafsson is a distinguished researcher who has written various other scientific articles including "Atopic and Family Interaction and Family Dysfunction in Asthma: Results from a prospective study of the development of childhood atopic illness." Gustafsson is associated with the Division of Child and Adolescent Psychiatry, the Department of Molecular and Clinical Medicine, and University Hospital in Linköping, Sweden. Thus, although the aforementioned articles center around asthma, Gustafsson is a trained professional in the medical and health fields, does lots of research associated with children, and has a history in the field of psychiatry, and can be considered a very credible source for this article. Furthermore, the last cited author, T. Karlsson, is highly knowledgeable in Engineering Science. Karlsson has his Bachelor of Science degree in Automation and his...
Evaluating Resources

Evaluate Web Sites - Authority

The URL (web address) and author information for a web site reveal a lot about site reliability.

1. **What type of domain does the site come from?**
   - Government sites use .gov and .mil domains. Educational sites use the .edu domain. Non-profit organizations use .org and business sites use .com. Generally, .gov and .edu sites are considered more trustworthy than .org and .com sites.

2. **Who “published” the site?**
   - The names between http/ and the first / usually indicates what organization owns the server. The web site is hosted on. Learning about the organization that hosts a site can give you important information about the site's credibility.

3. **Is it a personal web site?**
   - Look for the names of companies that sell web space to individuals, like AOL or GeoCities. Also look for a title (-). Titles are often used to signify a personal web site. Personal sites are considered less reliable than sites supported by organizations.

4. **Can you tell who (person or institution) created the site?**
   - Look at the very top or bottom of the web page for a name, email address, or “About Us” or “Contact Us” link.

5. **Are the author's credentials listed on the site?**
   - If you can't find these details on a site, try typing an author's name into a search engine like Google to get biographical information.

Respond to the following prompts in the space below, using complete sentences:

- Identify the "domain type" of the site you're evaluating and explain why that is acceptable or unacceptable for your needs.
- Identify the "publisher" or host of the site and tell what you know (or can find out) about it.
- State whether or not the site is a personal site and explain why that is acceptable or unacceptable for your needs.
- State who (name the person or institution) created the site and tell what you know (or can find out) about the creator.
- Look for the author's credentials on the site. List higher credentials and draw conclusions based on those credentials. If there are no credentials listed, tell what conclusions you can draw from their absence.
- Using what you know about the AUTHORITY of this web site, explain why it is or is not appropriate to use for your paper/approject.
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
Collaborating with Campus Partners

• Form partnerships with:
  – Disciplinary faculty
    • Achieve both disciplinary and information literacy learning goals/outcomes
  – Student support personnel
    • Communicate about similar challenges
  – Institutional assessment officers
    • Tie into campus-wide efforts and practices
Performance Assessments – Limitations

Data
• May have limited generalizability to other settings and populations

Other
• Require time to create, administer, and score
Rubrics
**B, M, E**
- has beginning
- has middle
- has end

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

**Punctuation**
- 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

**Spelling**
- no title

**Title**
- 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
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
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
Choosing the “Right” Assessment Tool
Choosing the Right Tool

PURPOSE

• Why are we conducting this assessment?

• Are we conducting assessment to respond to calls for accountability?

• Are we conducting assessment to strengthen instructional program performance?

• Are we conducting assessment to improve student learning?

• Are we conducting assessment for a formative or summative purpose?
Choosing the Right Tool

STAKEHOLDER NEEDS

- Who are the stakeholders of this assessment effort?
- Are our stakeholders internal, external, or both?
- Will our audience prefer qualitative or quantitative data? Will they have other data preferences?
Choosing the Right Tool
WHAT YOU WANT TO KNOW

• Will the assessment establish a baseline?
• Will the assessment reveal new information?
• Will the assessment be trustworthy and accurate?
  – Will the assessment produce reliable results?
  – Will the assessment produce valid results?
• Does the nature of the assessment data (qualitative or quantitative) match stakeholder needs?
Choosing the Right Tool

COST

• What time costs will we incur?
• What financial costs will we incur?
• What personnel costs will we incur?
• Will these costs be initial or continuing?
Choosing the Right Tool

INSTITUTIONAL ISSUES

• Will the assessment support the goals of the overall institution?
• How will the assessment results be used by the overall institution?
• How might the assessment be used in a negative way against the library instruction program?
Which tool is your favorite at this moment? Why?
Evidence-Based Decision Making
EBL Process

- Formulate a question
- Find evidence
- Appraise evidence
- Apply evidence
- Evaluate
Sources of Evidence

- scholarly journals and databases
- your professional expertise
- your users' experiences
- grey literature such as reports and conference proceedings
- government/institutional websites
- listservs, blogs, wikis
- any resource relevant to the question
Research Methods for Librarianship

- Analysis
- Audit
- Autobiography
- Biography
- Case Study
- Cohort Design
- Comparative Study
- Content Analysis
- Data Mining
- Delphi Method
- Descriptive Survey
- Focus Group
- Gap Analysis
- History
- Meta-Analysis
- Participant Observation
- Program Evaluation
- Randomized Controlled Trial
- Summing Up
- Systematic Reviews
- Unobtrusive Observation

Eldredge, 2004
Research Challenges to Overcome

• Not enough quality research.
• Not enough...
  – Funding
  – Time
  – Experience
  – Support
  – Access
...to produce quality research.

Koufogiannakis & Crumley, 2006

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What Can YOU do? Advocate for…

- Culture of evidence & evidence based decision making
- Research agendas
- Better research, rooted in previous research
- Better indexing of research, better access to LIS db’s
- Increased time and funding to produce research
- Better LIS research education & professional development

Koufogiannakis & Crumley, 2006
Publish & Present...
then make sure you’re indexed!
Don’t Go It Alone

• Partner with those required to publish research
  – LIS Faculty
  – LIS doctoral students
  – LIS masters students
Documenting & Reporting Results
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Identify learning outcomes
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Why Document & Report Results?

• No one knows you’re engaged in assessment unless you document and report it.
• Learning takes place when documenting—it enables you to “close the loop”.
• Documenting gives you evidence of accomplishments and evidence of a plan for improvement.
• Accreditation requires documentation.
Documenting

- Articulate learning goals/outcomes
- Identify target student populations & stakeholder groups
- Explain rationale for assessment tool selection & consider pilot assessments
- Plan for staff responsibilities, especially data analysis
- Anticipate reporting processes
The Reporting Process

- Briefly report assessment method for each outcome.
- Document where the outcome was met.
- Document where the outcome was not met.
- Document decisions made for improvements.
- Refine and repeat assessment after improvements are implemented.

Bresciani
Know your Data & Tell a Story

- Understand your data.
- Consider professional literature and experiences.
- Look for patterns.
- Identify the data that tells you the most about your outcome and is most helpful in making improvements.
- Summarize.
- Determine which audiences need to know about what information in order to make improvements.

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Reporting to Administrators

Use a 3-part reporting strategy:

1. Provide background about the assessment effort itself.
2. Provide assessment results and answer questions stakeholders are likely to have.
3. Provide a follow-up on the status of efforts for improvement and effectiveness of changes.

What about “bad” data?

http://www.ncrel.org/sdrs/areas/issues/methods/assessment/as600.htm
Overcoming Challenges
What challenges might I face?

Difficulties with:

• Time (lack of time, difficulty reallocating time)
• Resources (staff, training)
• Knowledge & skills (IL assessment tools, producing assessment results, and using results)
• Centralized support (committee, coordinator)
• Collaboration with faculty & campus-wide assessment efforts
• Clear expectations of librarian roles in assessment
• IL assessment tools that don’t adequately measure or describe student IL skills

Bresciani; Oakleaf & Hinchliffe
How can I surmount them?

- Educate
- Clarify
- Collaborate
- Coordinate
- Celebrate
- Be Flexible
- Keep It Simple
Questions?
Follow-up Readings

Follow-Up Readings


