



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 

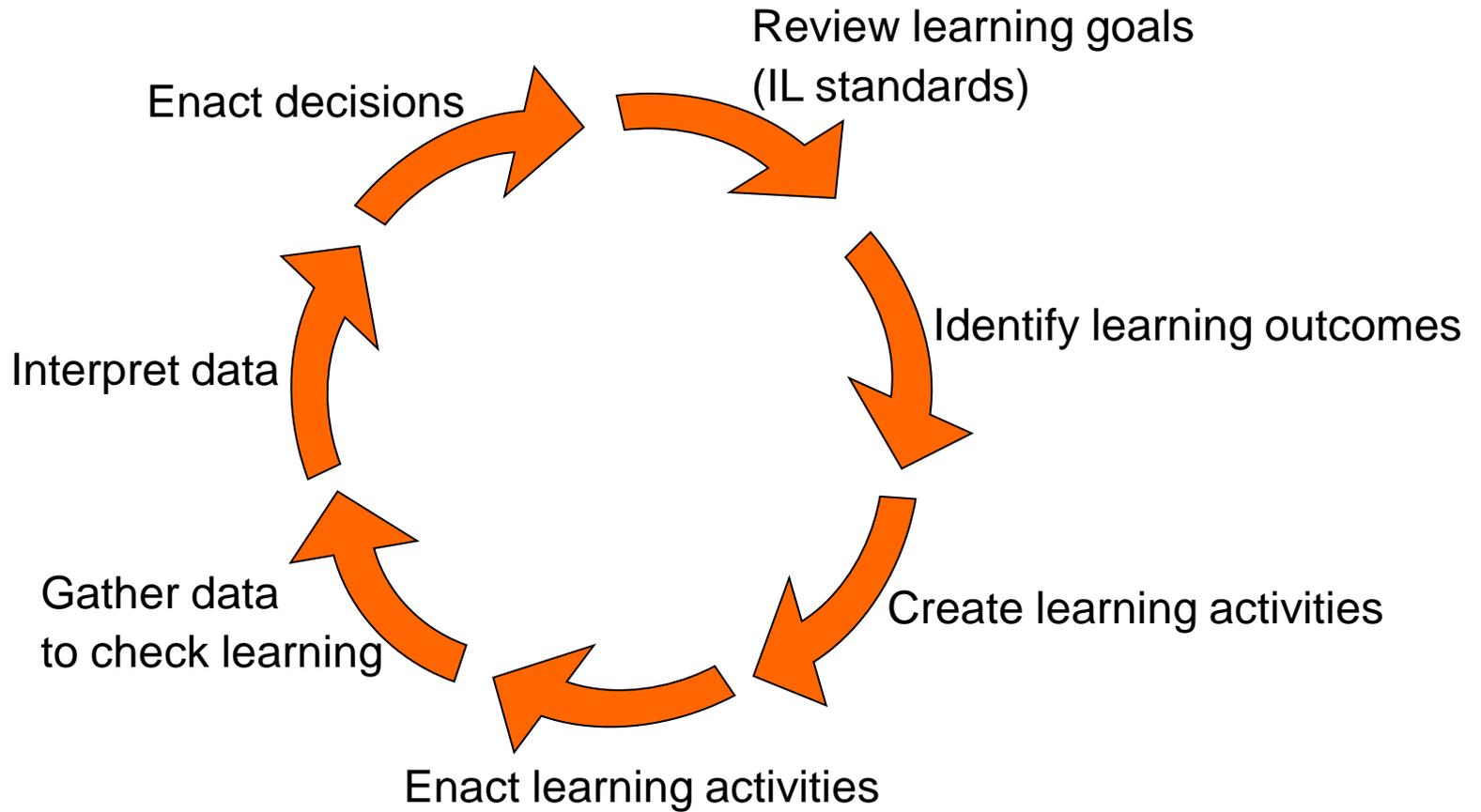
One Perspective

- 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



Assessment Tools



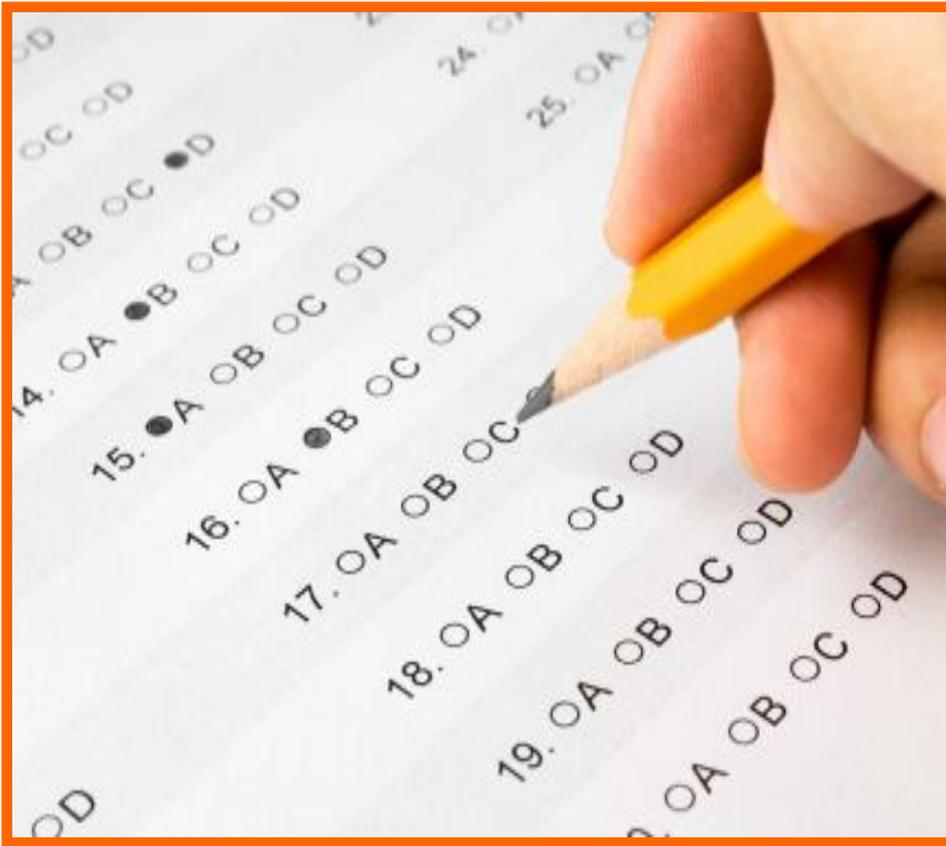
Self Report



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

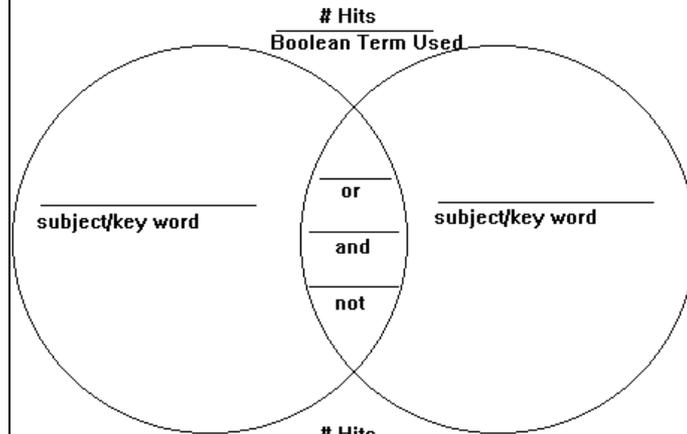


What might this look like?

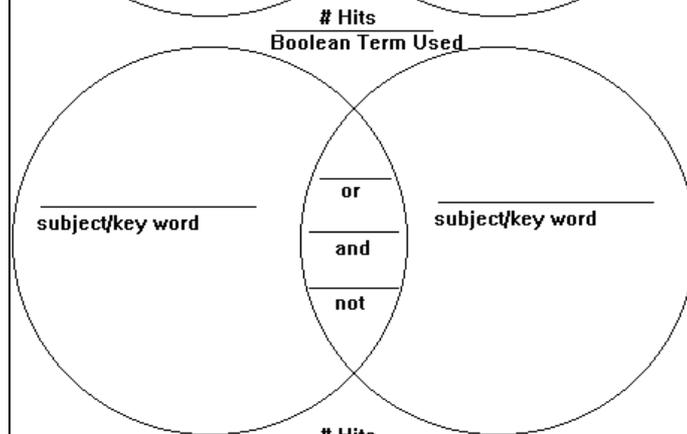
Your Name _____

Boolean Terms

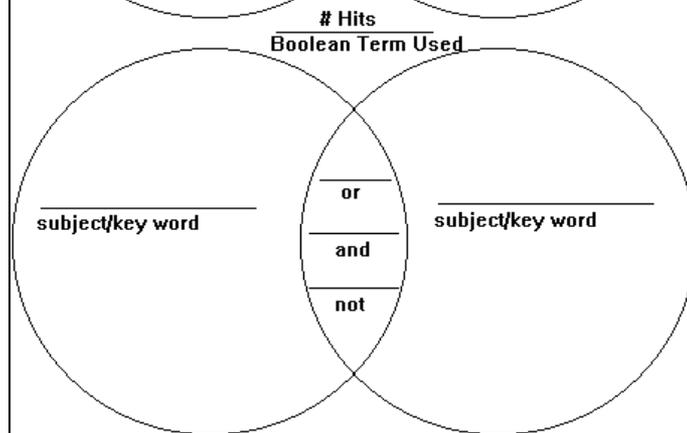
Search Engine used _____



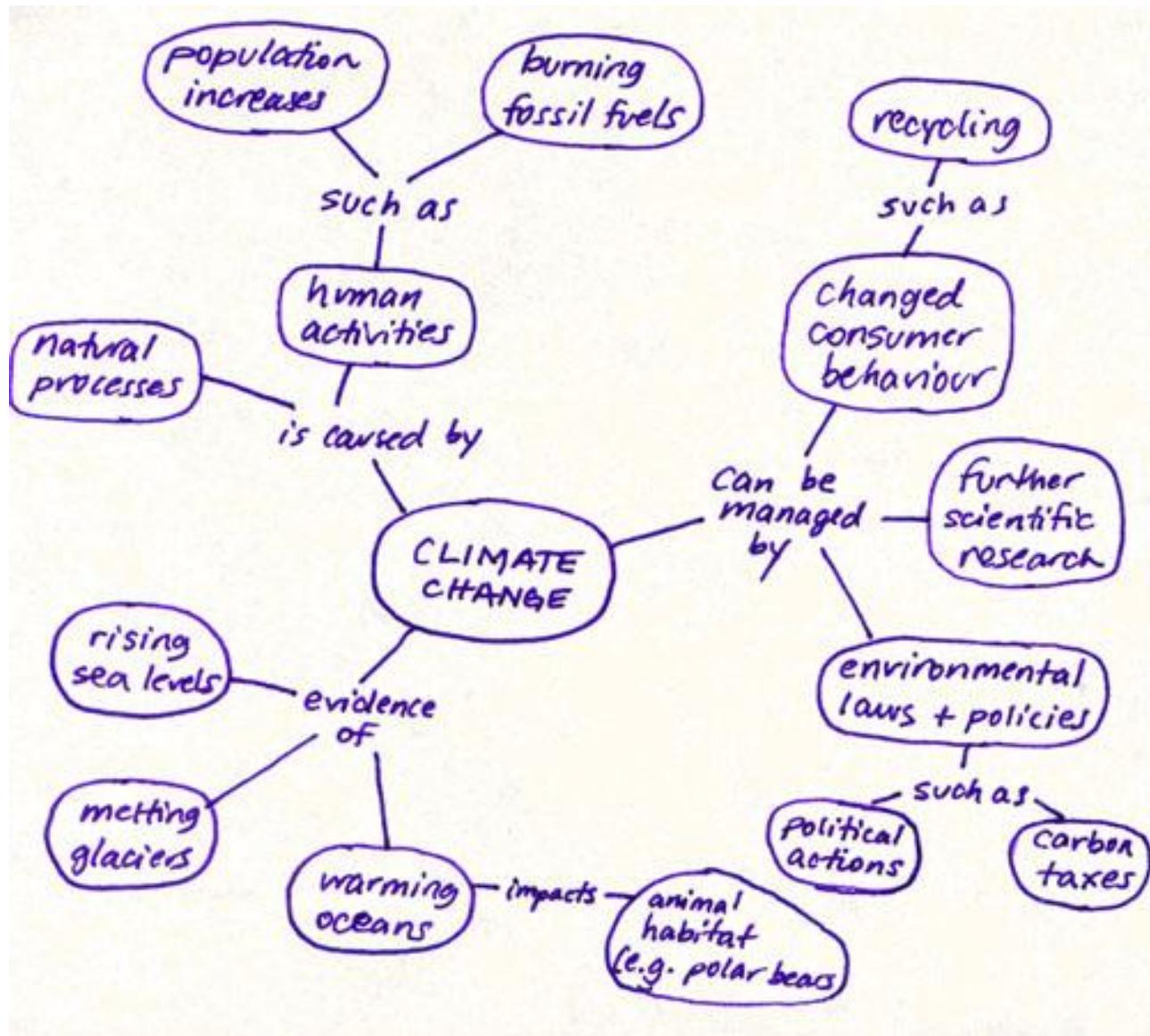
Explain what the Boolean term AND means:



Explain what the Boolean term OR means:



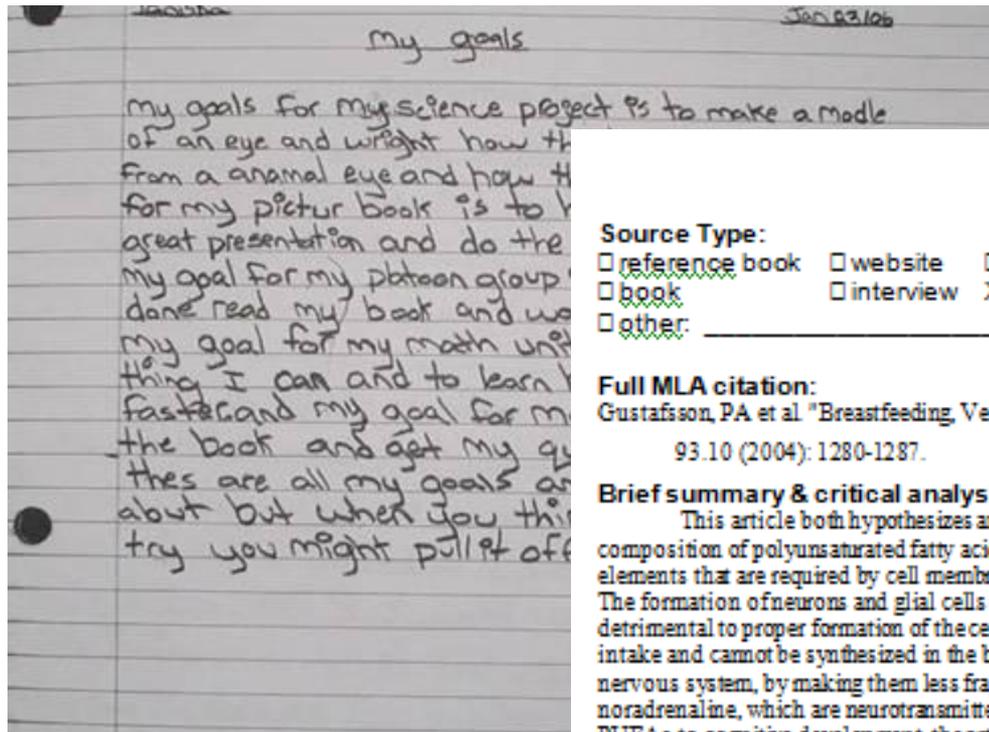
Explain what the Boolean term NOT means:



<http://library.uvic.ca/site/lib/instruction/images/conceptmap.jpg>







Annotated Bibliography Entry

Source Type:

- reference book website popular magazine article dissertation
 book interview scholarly journal article gov't document
 other: _____

Full MLA citation:

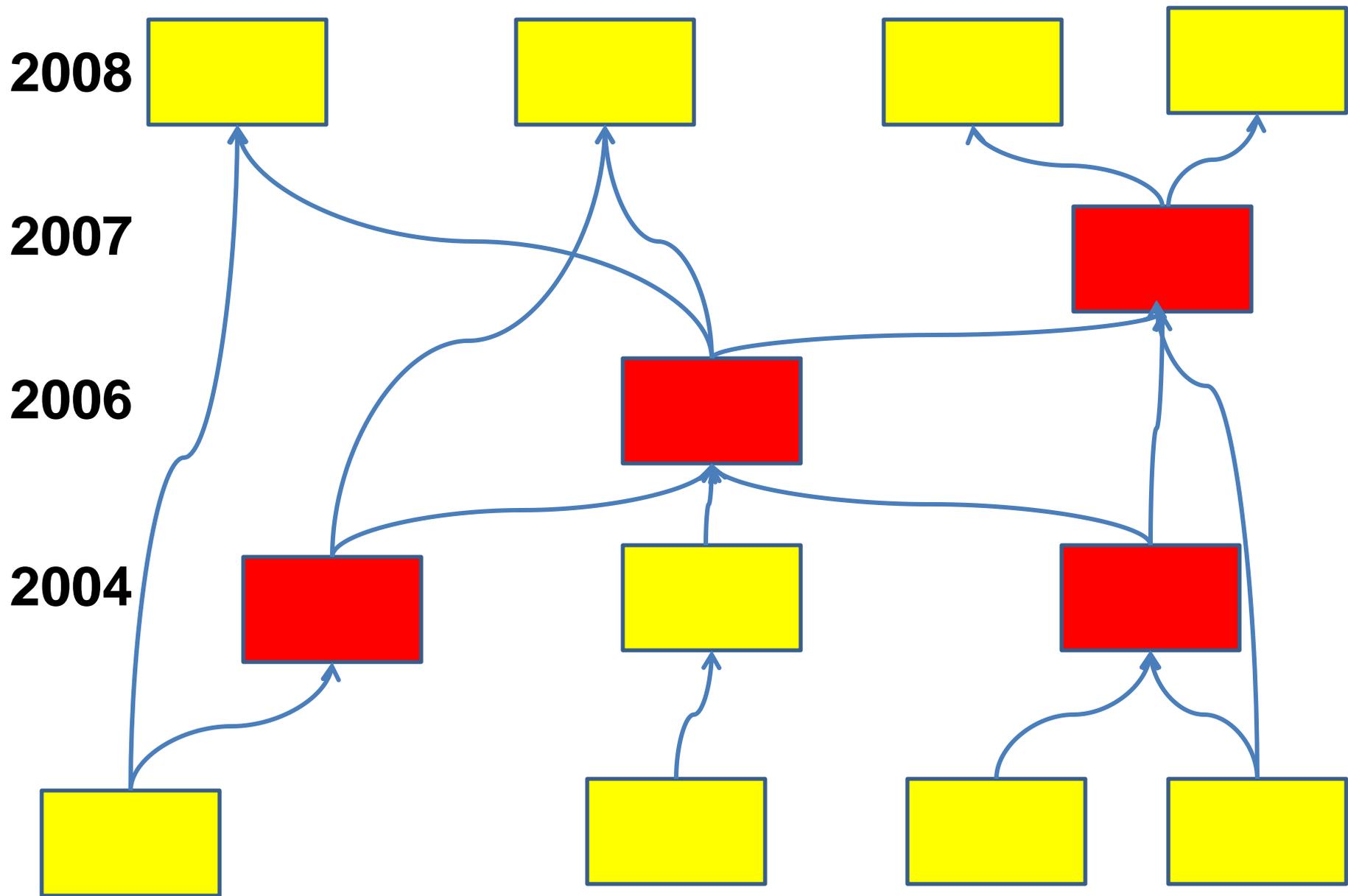
Gustafsson, PA et al "Breastfeeding, Very Long Polyunsaturated Fatty Acids (PUFA) and IQ at 6 1/2 Years of Age." *Acta Paediatr* 93.10 (2004): 1280-1287.

Brief summary & critical analysis of content:

This article both 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 *Asthma 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 Kadonaga, is highly knowledgeable in Engineering Science. Kadonaga has his Bachelor of Science degree in Automation and his







The Research Process

Defining Research Needs

Developing A Research Strategy

Conducting the Search

Evaluating Resources

Evaluate Books

Evaluate Articles

Evaluate Web Sites

Select Useful Information

Using Resources

Need Help?

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Evaluating Resources

Evaluate Web Sites - Authority

The URL (web address) and author information for a web site reveal a lot about site reliability. Determining who created a web site is critical in being able to judge its quality. Generally, anonymous information should not be used for academic research.

Consider the following questions when you're evaluating the authority of a web site:

- 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 name between **http://** and the first **/** usually indicates what organization owns the server the web site is housed on. Learning about the organization that hosts a site can give you important information about the site's credibility.
http://www.wired.com/news/news/
- 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 tilde (~). Tildes 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 his/her 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/project.

ADD TO WORKSHEET

How might an instructor score your answer?

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http://sites.google.com/site/holmesglentees/_/rsrc/1255299042446/embedding-e-learning/eportfolio%20artefacts.jpg

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

Details

Punctuation

Capitals

Spelling

Title



has beginning
has middle
has end

has lots of
details

All sentences
have punctuation.

have capitals:
- beg. of sentence
- I
- names

all the words
on the word wall
are spelled right

goes with
the story



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



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

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?



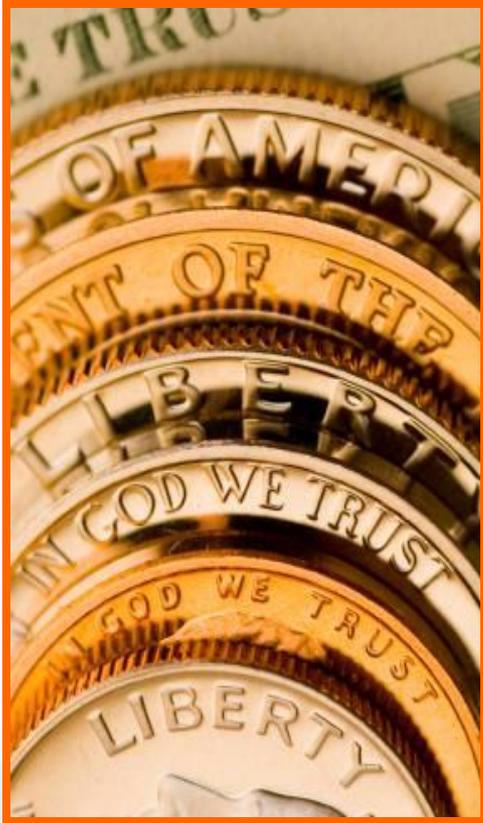
Choosing the Right Tool

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

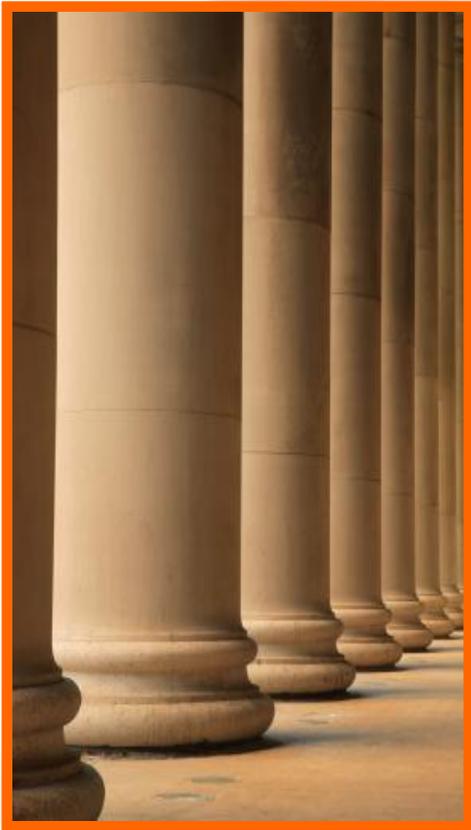
COST



- 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

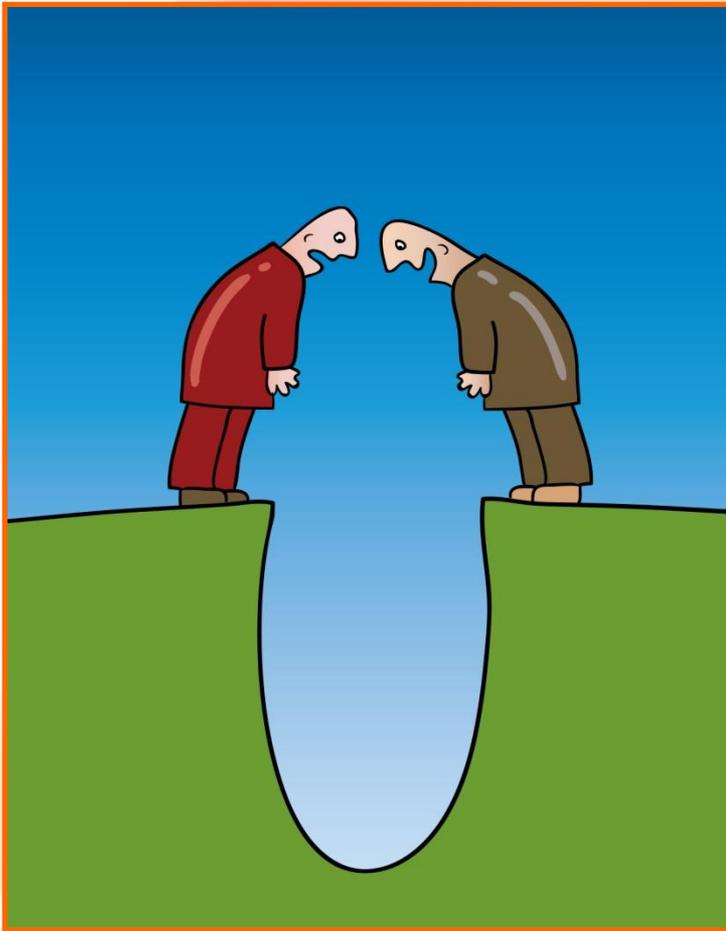


Research Methods for Librarianship

- 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

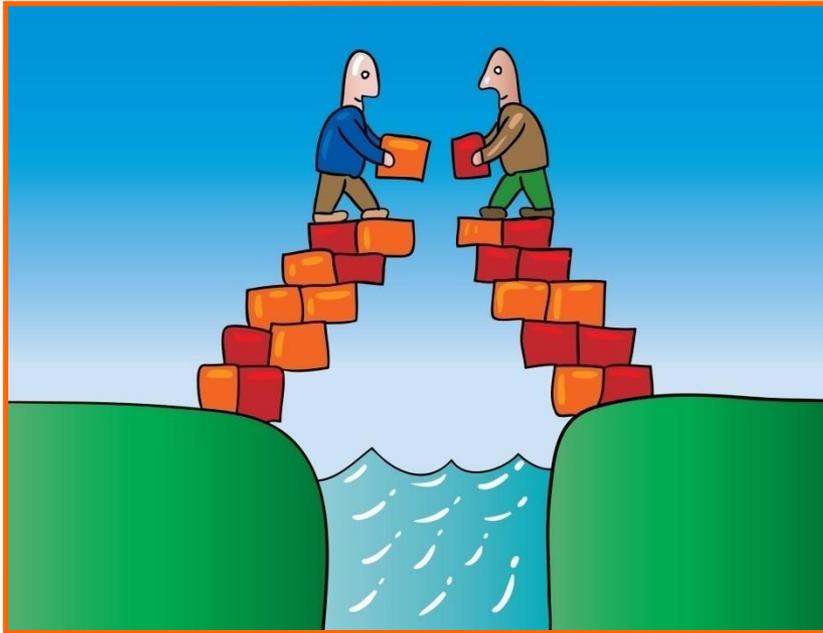


- Not enough quality research.
 - Not enough...
 - Funding
 - Time
 - Experience
 - Support
 - Access
- ...to produce quality research.

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

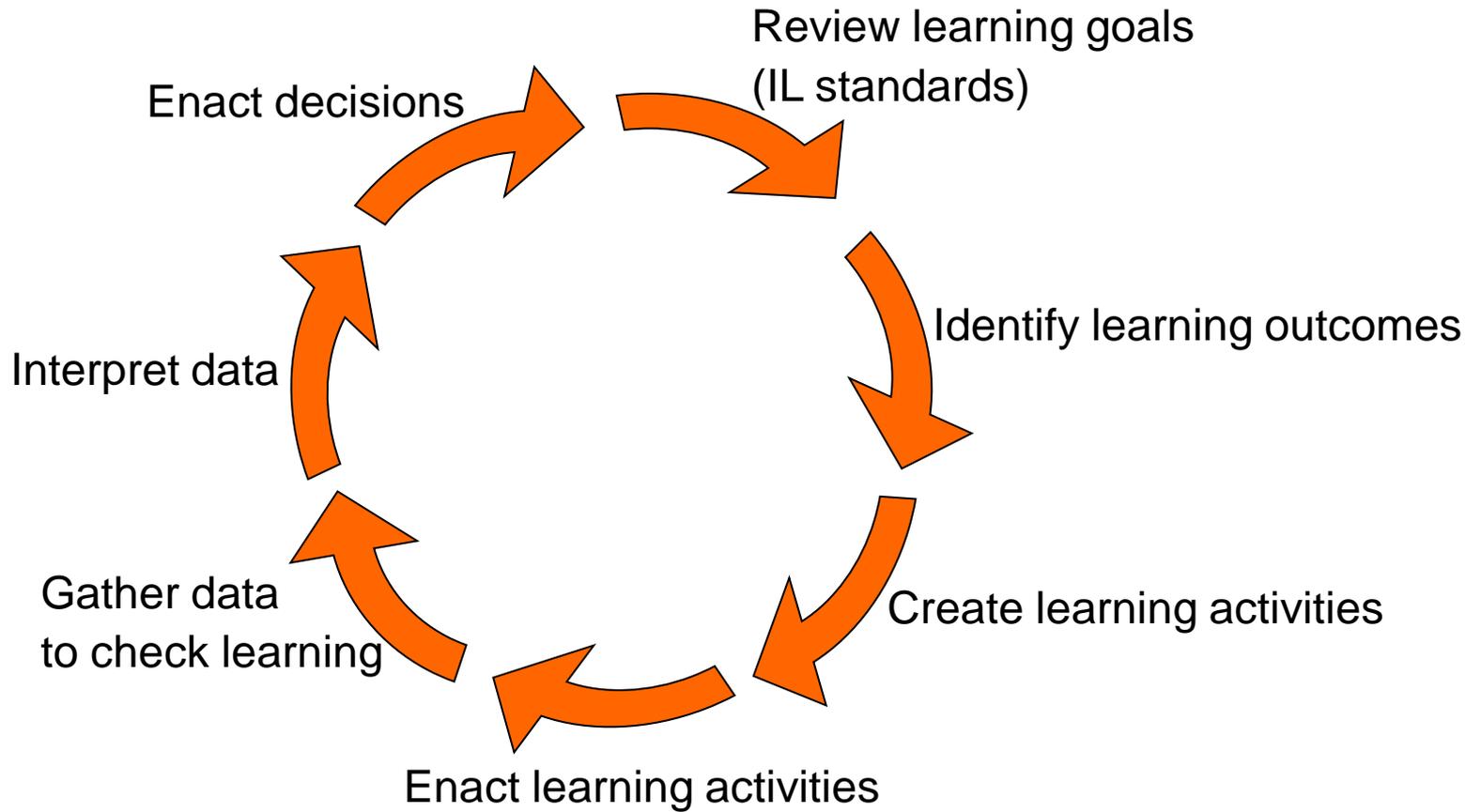


- Partner with those *required* to publish research
 - LIS Faculty
 - LIS doctoral students
 - LIS masters students

***Documenting
&
Reporting
Results***



ILI Assessment Cycle
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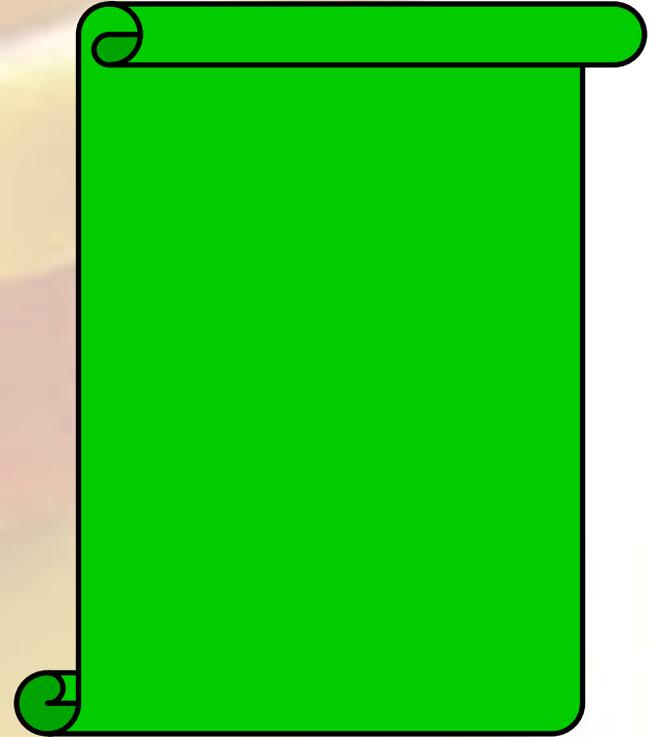
Why Document & Report Results?

- 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.

Bresciani

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



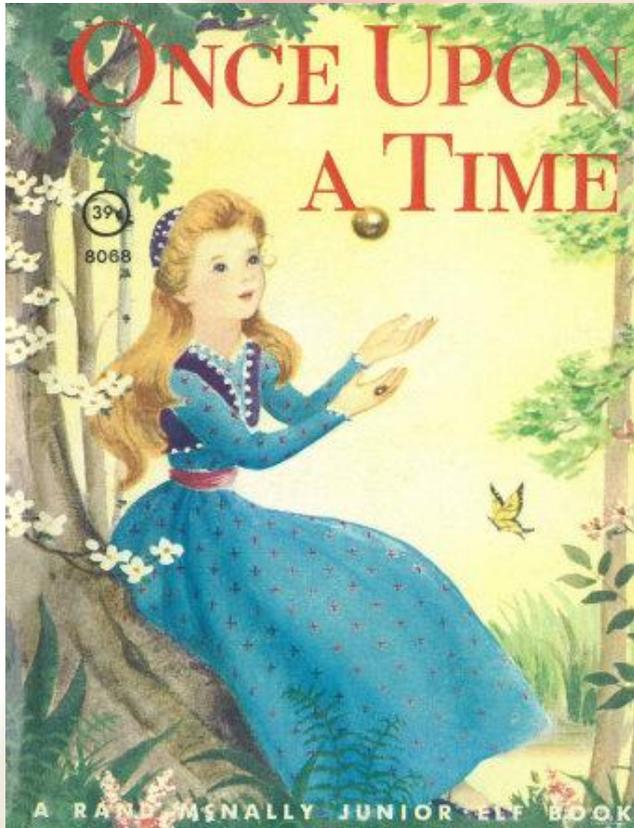
The Reporting Process



- 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. Bresciani

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?

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

Bresciani; Oakleaf & Hinchliffe

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Questions?



Follow-up Readings

- Bresciani, Marilee J. *Demonstrating Student Success: A Practical Guide to Outcomes-based Assessment of Learning and Development in Student Affairs*. In Press.
- Radcliff, Carolyn J. et. al. *A Practical Guide to Information Literacy Assessment for Academic Librarians*. Westport, CT: Libraries Unlimited, 2007.
- Oakleaf, Megan. "Are They Learning? Are We? Learning and the Academic Library." *Library Quarterly*. In press. 2010.
- Oakleaf, Megan. "Dangers and Opportunities: A Conceptual Map of Information Literacy Assessment Tools." *portal: Libraries and the Academy*. 8(3). 2008.
- Oakleaf, Megan. "Using Rubrics to Assess Information Literacy: An Examination of Methodology and Interrater Reliability." *Journal of the American Society for Information Science and Technology*. 60(5). 2009.

Follow-Up Readings

- Oakleaf, Megan. "The Information Literacy Instruction Assessment Cycle: A Guide for Increasing Student Learning and Improving Librarian Instructional Skills." *Journal of Documentation*. 65(4). 2009.
- Oakleaf, Megan and Lisa Hinchliffe. "Assessment Cycle or Circular File: Do Academic Librarians Use Information Literacy Assessment Data?" *Proceedings of the Library Assessment Conference*. Seattle, WA: Association of Research Libraries, 2008.
- Oakleaf, Megan. "Writing Information Literacy Assessment Plans: A Guide to Best Practice." *Communications in Information Literacy*. 3.2. 2010.
- Oakleaf, Megan and Neal Kaske. "Guiding Questions for Information Literacy Assessment in Higher Education." *portal: Libraries and the Academy*. 9.2. 2009.