

Getting Information Literacy Assessment On a New Track: The RAILS Project

Rubric Assessment of Information Literacy Skills

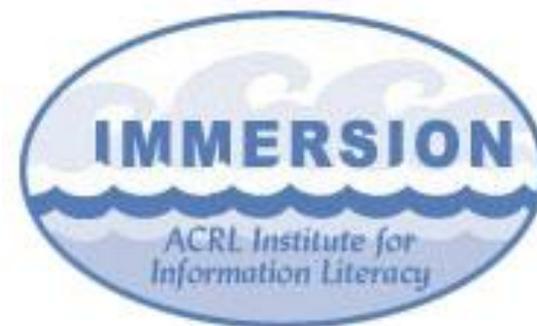
Megan Oakleaf | 9th Northumbria 2011 | www.railsontrack.info



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.



School of Information Studies
SYRACUSE UNIVERSITY



Project Purpose

- Investigate an analytic rubric approach to information literacy assessment in higher education
- Develop:
 - A suite of information literacy rubrics
 - A model of analyzing scores (reliability & validity)
 - Training materials for training/norming/scoring
 - Indicators of rater expertise
 - Website to disseminate assessment results & information about teaching/learning improvements as a consequence of rubric assessment



We want to learn...

- How can rubric assessment be used to improve IL instruction and services?
- Can librarians & disciplinary faculty use IL rubrics to provide valid & reliable scores of student learning?
- What skills/characteristics do librarians & faculty need to produce valid & reliable scores using IL rubrics?
- What training materials do librarians & faculty need to acquire these skills/characteristics?



Other Information Literacy Assessment Approaches

Surveys

Tests

Performance Assessments

Without rubrics, performance assessments sometimes lack interrater reliability.

Without reliability, open to validity problems too.



What's a Rubric?

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



Full-Model Rubrics

	Beginning	Developing	Exemplary
Eye Contact	Does not make eye contact with the audience.	Makes intermittent eye contact with the audience.	Maintains sustained eye contact with the audience.
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*



AAC&U's VALUE Rubric for Information Literacy

(Valid Assessment of Learning in
Undergraduate Education)

<http://www.aacu.org/value/rubrics/>



	Capstone 4	3	Milestones 2	Benchmark 1
Determine the Extent of Information Needed	Effectively defines the scope of the research question or thesis. Effectively determines key concepts. Types of information (sources) selected directly relate to concepts or answer research question.	Defines the scope of the research question or thesis completely. Can determine key concepts. Types of information (sources) selected relate to concepts or answer research question.	Defines the scope of the research question or thesis incompletely (parts are missing, remains too broad or too narrow, etc.). Can determine key concepts. Types of information (sources) selected partially relate to concepts or answer research question.	Has difficulty defining the scope of the research question or thesis. Has difficulty determining key concepts. Types of information (sources) selected do not relate to concepts or answer research question.
Access the Needed Information	Accesses information using effective, well-designed search strategies and most appropriate information sources.	Accesses information using variety of search strategies and some relevant information sources. Demonstrates ability to refine search.	Accesses information using simple search strategies, retrieves information from limited and similar sources.	Accesses information randomly, retrieves information that lacks relevance and quality.
Evaluate Information and its Sources Critically	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
Use Information Effectively to Accomplish a Specific Purpose	Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth	Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.	Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.	Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.
Access and Use Information Ethically and Legally	Students use correctly all of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrate a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly three of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly two of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly one of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.

Purposes of VALUE Rubrics

- Integrate assessment & learning
- Assess student learning in context, authentically, focusing on performance of outcomes
- Elevate expert judgments of student learning over tests
- Provide basis for discussion and comparison over time or across programs



VALUE Info Lit Rubric

- Strengths
 - ACRL Standards
 - Basis for conversation
 - Demonstrates need for “in progress” assessments
- Weaknesses
 - Formatting
 - Performance level labels
 - Inconsistent wording
 - Lack of mutually exclusive categories
 - Lack of specific details needed for scoring student work (more holistic than analytic)



Adapting for Specific Classes & Assignments

	1	2	3	4
Describe the scope of information needed	Effectively define the scope of the research question to focus. Effectively determine the scope. Types of information sources selected directly relate to scope or answer research question.	Define the scope of the research question to focus completely. Use determine the scope. Types of information sources selected relate to scope or answer research question.	Define the scope of the research question to focus comprehensively (even an ongoing answer to lead to the focus on.) Use determine the scope. Types of information sources selected partially relate to scope or answer research question.	The difficulty defining the scope of the question to focus. The difficulty determining the scope. Types of information sources selected do not relate to scope or answer research question.
Access the needed information	Access information using effective, well-designed search strategies and search approaches. Information sources	Access information using variety of search strategies, but could improve information search. Information ability to refine search.	Access information using single search strategies, but some information from needed and not relevant.	Access information inefficiently, but some relevant. Few better relevant and quality.
Evaluate information and its sources critically	Recognize (consciously and not automatically) evidence and other assumptions and methods necessary for relevance of sources when assessing a source.	Identify (not and often) assumptions and several relevant sources when assessing a source.	Question some assumptions. Identify several relevant sources when assessing a source. May be more aware of other assumptions that they use in their work.	Blacks on ongoing awareness of general assumptions. Examine their sources as assumptions. Pages or directly state certain assumptions/assumptions.
Use information effectively to accomplish a specific purpose	Communicate, organize and synthesize information from sources to fully address a specific purpose, with depth and depth.	Communicate, organize and synthesize information from sources. (Detailed planning is advised)	Communicate and organize information from sources. The information is not as synthesized as the student progress is not fully advised.	Communicate information from sources. The information is fragmented and not synthesized. Information is not as synthesized as the student progress is not advised.
Access and use information ethically and legally	Understand and correctly use of the following information use strategies: cite of sources and references, direct of paraphrasing, summarize or writing, using information in ways that are not original content, distinguishing between common knowledge and their original authorial and determine a full understanding of the ethical and legal practices in the use of published, copyrighted and/or proprietary information.	Understand and correctly use of the following information use strategies: cite of sources and references, direct of paraphrasing, summarize or writing, using information in ways that are not original content, distinguishing between common knowledge and their original authorial and determine a full understanding of the ethical and legal practices in the use of published, copyrighted and/or proprietary information.	Understand and correctly use of the following information use strategies: cite of sources and references, direct of paraphrasing, summarize or writing, using information in ways that are not original content, distinguishing between common knowledge and their original authorial and determine a full understanding of the ethical and legal practices in the use of published, copyrighted and/or proprietary information.	Understand and correctly use of the following information use strategies: cite of sources and references, direct of paraphrasing, summarize or writing, using information in ways that are not original content, distinguishing between common knowledge and their original authorial and determine a full understanding of the ethical and legal practices in the use of published, copyrighted and/or proprietary information.

Determine the extent of information...

	Performance Level	Performance Level	Performance Level	Performance Level
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description

Use effective research strategy...

	Performance Level	Performance Level	Performance Level	Performance Level
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description

Identify relevant information sources...

	Performance Level	Performance Level	Performance Level	Performance Level
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description

Evaluate information effectively...

	Performance Level	Performance Level	Performance Level	Performance Level
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description
Criteria	Description	Description	Description	Description

2010-2011

The 1st Five Institutions

- 5 “lead” librarians met for intensive rubric training and developed draft rubric customized for their institution.
- Lead librarians secured examples of student work ($100+ \times 5 = 500+$) and raters ($10 \times 5 = 50$).
- PI visited each campus to lead rubric revision, norming, scoring.
- Analysis ensues.



Rubrics Online & Adaptable

www.railsontrack.info



participant login ▶

home about updates publications & presentations press
contact rubrics forum training results closing the loop

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 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!

Rubric Categories

- General
- Define Information Needs
- Evaluate Information
- Locate Information
- Non-Instructional Library Services
- RAILS Cohort 2010-2011
- Trinity University
- University of Kentucky

Rubric Norming Process

1. Think aloud through scoring several examples.
2. Ask raters to independently score a set of examples that reflects the range of services libraries produce.
3. Bring raters together to review their scores to identify patterns of consistent and inconsistent scores.
4. Discuss and then reconcile inconsistent scores.
5. Repeat the process of independent scoring on a new set of examples.
6. Again, bring all raters together to review their scores to identify patterns of consistent and inconsistent scores.
7. Discuss and then reconcile inconsistent scores. This process is repeated until raters reach consensus about applying the scoring rubric. Ordinarily, two to three of these sessions calibrate raters' responses.



A glimpse of what we're learning...



	Advanced	Developing	Beginning
Style conventions	Follows style guide conventions with few errors. 22%	Follows style guide conventions with frequent errors. 65%	Does not follow style guide conventions. 13%
Correspondence of bibliography and in-text citations	Bibliography and in-text citations correspond. 39%	Bibliography and in-text citations do not correspond. 53%	Does not include a functional bibliography and/or in-text citations. 8%
Common knowledge and attribution of ideas	Consistently distinguishes between common knowledge and ideas requiring attribution. 33%	Inconsistently distinguishes between common knowledge and ideas requiring attribution. 59%	Does not distinguish between common knowledge and ideas requiring attribution. 8%
Paraphrasing, summarizing, quoting	Summarizes, paraphrases, or quotes in order to integrate the work of others into their own. 43%	Summarizes, paraphrases, or quotes, but does not always select appropriate method for integrating the work of others into their own. 53%	Does not summarize, paraphrase, or quote in order to integrate the work of others into their own. 4%

	Accomplished	Developing	Inadequate
Evaluates Authority	Student shows sufficient evidence of the author's credentials and qualifications. 46%	Student briefly identifies the author's credentials and qualifications. 35%	Student does not identify the author's credentials or qualifications. 19%
Evaluates Currency	Student comments on the source's publication year and retrieves the source that is published within the last five years. 68%	Student either comments on the source's publication year or retrieves a source that is published in the last five years, but does not do both. 26%	Student does not comment on the source's publication year and does not retrieve a source that is published in the last five years. 6%
Evaluates Reliability	Student shows adequate evidence of whether or not the source is trustworthy. 23%	Student shows superficial evidence of whether or not the source is trustworthy. 53%	Student does not show evidence of whether or not the source is trustworthy. 24%
Evaluates Accuracy	Student provides a thorough explanation of the accuracy of the source. 21%	Student provides superficial explanation of the accuracy of the source. 51%	Student does not explain the accuracy of the source. 28%
Evaluates Perspective	Student identifies the author's point of view in detail. 27%	Student briefly identifies the author's point of view. 53%	Student does not identify the author's point of view. 20%

Note: Partial Rubric Only

All institutions report improved *teaching*.

- Faculty: “My teaching in [course] improved and the students’ work improved also.”
- Librarian: “I learned that grading the assignments in the RAILS project was an empowering act for me. It will strengthen my teaching the next time because I now understand what the students really are not getting. This rubric creation and rating experience has facilitated valuable reflection on my teaching practice and I hope to weave what I now understand into my teaching the next time around.”
- Student comment about improved instruction reported by faculty: “The day that we went as a class to the library...was probably one of the most beneficial days of my semester.”



All institutions report increased *assessment* activity.

- “Participating in RAILS has enabled us to develop and pilot a process for collecting and assessing student work.... As a result of RAILS, we have **developed a student consent form** for collecting and using student work. We were also able to **work out how best to approach faculty** to ask their permission to use class work and talk to their students, as well as **how best to talk to students about why and how we would use their work**. This was an unexpected opportunity to **make more visible to students what is actually involved in doing research**. In short, RAILS has enabled us to put systems and procedures in place that we will draw on for all subsequent assessment efforts!”
- “All the librarians who participated in RAILS are ‘on board’ with the idea of assessment; however, not many of us were collecting final papers/artifacts. Seeing this final work helps us to build up a much richer picture of our teaching and of student learning, and **we are now planning to collect final papers routinely from targeted classes.**”



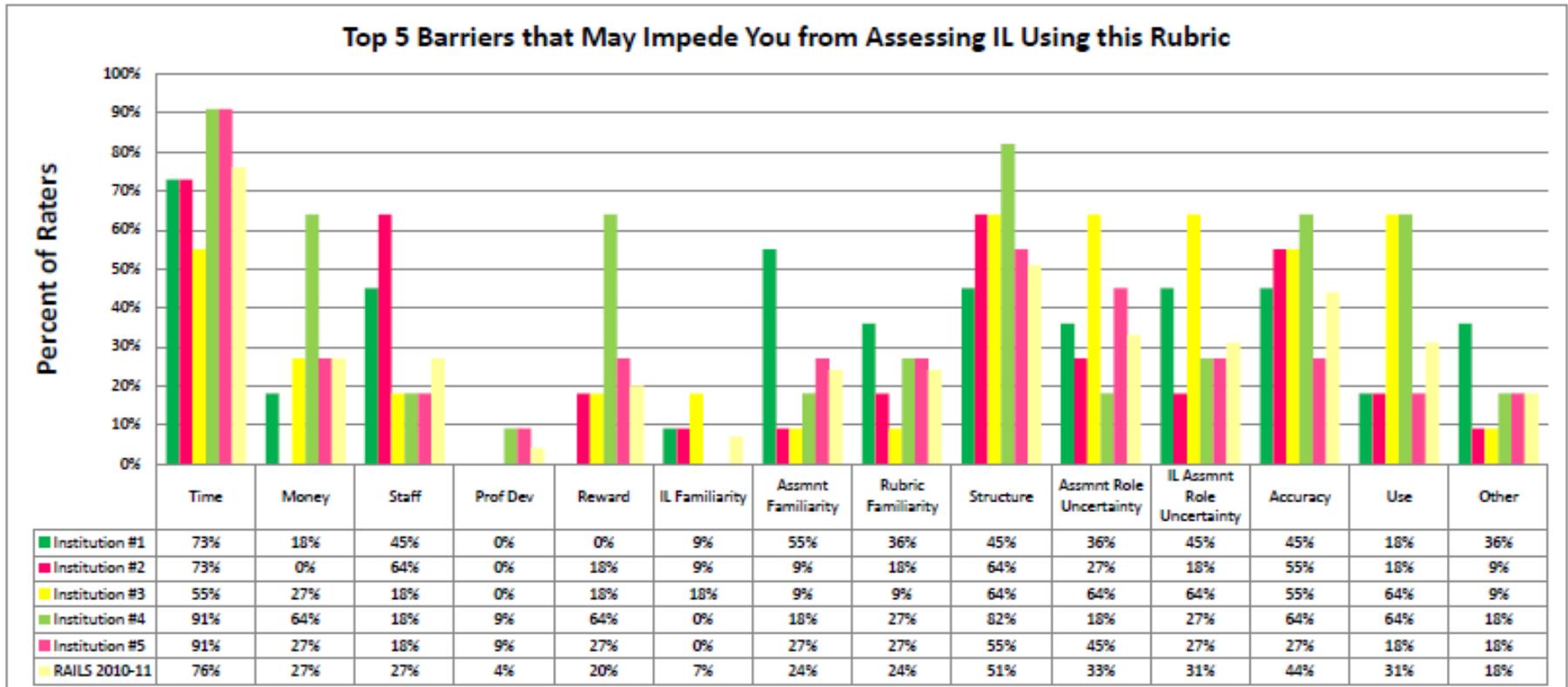
And more...

- 5 of 5 are disseminating results via publications/presentations locally and nationally.
- 3 of 5 document more collaboration with institutional colleagues (faculty, staff, administration, co-curricular professionals).
- 2 of 5 are developing add-on research projects.



Barriers

<http://railsontrack.info/results.aspx>



Barriers

- Top 2:
 - Lack of time
 - Lack of coordinated structures for assessment
- Also of concern:
 - Insufficient financial resources
 - Lack of staff
 - Assessment role uncertainty
- For colleagues:
 - Lack of familiarity with rubric assessment in general
 - Lack of rewards for participating in assessment activities



Preliminary Findings

- Faculty, librarians, etc. need to increase their awareness and knowledge of rubric assessment.
- **Norming is critical** for establishing shared understanding of the rubric and achieving greater inter-rater reliability.
- Analytical rubrics appear to be more practical for assessing student artifacts than holistic rubrics.
- Participants appear to be more confident about their ratings when student artifacts under analysis were **concrete, focused, and shorter in length**.
- Large scale analysis of rubric assessment results is faster and more convenient when an appropriate **assessment management system** is a part of the process.



Statistically Speaking...

- Pearson correlation is overinflated in these cases.
- Cohen's kappa is overly strict in these cases and doesn't work well unless you have a trustworthy gold standard rater.
- Krippendorff's alpha appears to be a good middle ground...
- But analysis is ongoing.



2011-2012

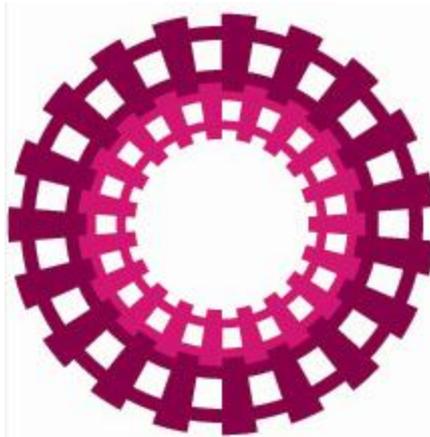
- More training for lead librarians
 - Working with faculty to secure student work
 - Completing IRB/human subjects process
 - Test-driving rubrics early on
 - Revising draft rubrics
- More norming practice for raters
- Shorter artifacts
- More precise rubrics
- Gold standard rater needed (to run Cohen)



Selected Readings

www.meganoakleaf.info

- Oakleaf, Megan. "Are They Learning? Are We? Learning and the Academic Library." *Library Quarterly*. 81.1. 2011.
- Oakleaf, Megan. "Dangers and Opportunities: A Conceptual Map of Information Literacy Assessment Tools." *portal: Libraries and the Academy*. 8.3. 2008.
- 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. "Staying on Track with Rubric Assessment: Five Institutions Investigate Information Literacy Learning." *Peer Review*. 2011.
- 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.
- Oakleaf, Megan. "Using Rubrics to Collect Evidence for Decision-Making: What Do Librarians Need to Learn?" *Evidence Based Library and Information Practice*. 2.3. 2007.
- Oakleaf, Megan, Millet, Michelle S., and Leah Kraus. "All Together Now: Getting Faculty, Administrators, and Staff Engaged in Information Literacy Assessment." *portal: Libraries and the Academy*. 11(3). 2011.



Extra Slides

Rubrics – Benefits, 1 of 2

Learning

- Articulate and communicate agreed upon learning goals
- Provide direct feedback to learners
- Facilitate self-evaluation
- Can focus on learning 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 & implement



Rubrics – Limitations

- May contain design flaws that impact data quality
- Require time for development

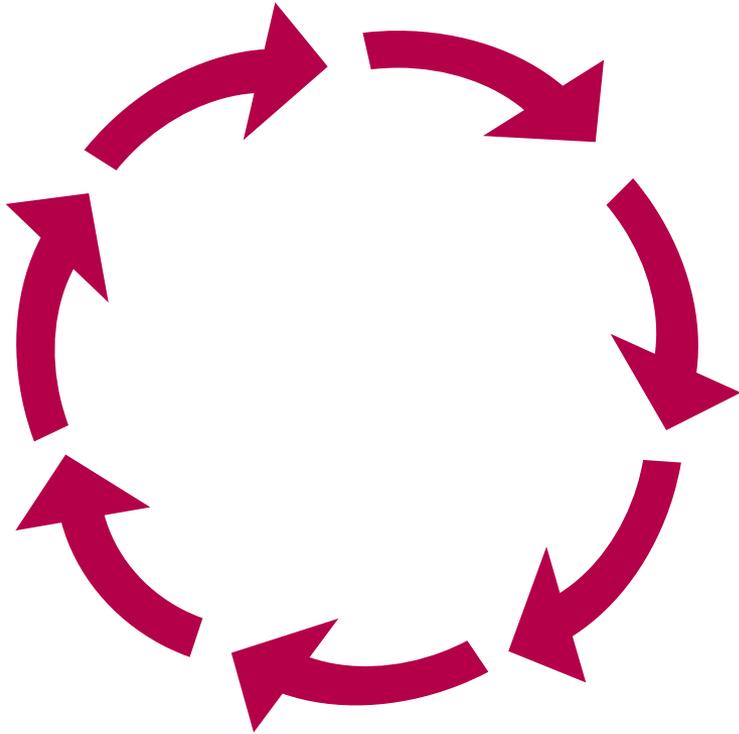


Weighting & Grading

- Can weight some criteria more than others
- Use zeros? Or not?
- Calculate grades logically, not mathematically
- Don't assess all outcomes or criteria at once



Using Your Assessment Results



Three choices:

- Change/improve the instruction
- Change/improve the assessment
- Celebrate!