Assessment for Learning Research Methods: A Multi-Faceted Terrain

Natasha Jankowski
Assistant Director, NILOA
HEA Social Sciences Conference
Overview

- National Institute for Learning Outcomes Assessment
- Research method outcomes
- Assessments
- Institutional examples
Established in 2008, the mission of the National Institute for Learning Outcomes Assessment (NILOA) is to discover and disseminate ways that academic programs and institutions can productively use assessment data internally to inform and strengthen undergraduate education, and externally to communicate with policymakers, families, and other stakeholders.

Case Studies ▪ Surveys ▪ Focus Groups ▪ Environmental Scans ▪ Occasional Papers ▪ Reports ▪ Transparency Framework ▪ Degree Qualifications Profile ▪ Measuring Quality inventory ▪ Newsletter ▪ Events ▪ Website ▪ Briefs ▪ Policy ▪ Resources

http://www.learningoutcomesassessment.org/index.html
Outcome Statements

• Type of Outcome:
  • Knowledge
  • Skill
  • Critical engagement
  • Mastery

• Outcome Statement Structure
  • Action verbs
  • Lead to “doing”
  • Embeds assessment

• Examples: design, apply, distinguish, formulate, evaluate, identify, outline, interpret, calculate, explain
Examples

• Evaluate the usefulness of two qualitative research methods for the study of a specific problem by selecting one of the options and justifying your choice
• Explain the usefulness and limitations of two alternative research methods for the proposed problem, issue or question
• Distinguish between causation and correlation
• Recognize and articulate the foundational assumptions, central ideas, and dominant criticisms of specific theories or approaches
• Critically review the methodology of a research study published in a discipline specific journal
• Describe the major ethical issues one must consider when planning a human-subjects study
• Determine and apply the appropriate statistical procedures to analyze the results of simple experiments
Philosophy Behind Structure

- Coverage of concepts
- Embedded
- Shared assignments
- Application and Problem solving
Level of Assessment

- Unit
- Course
- Program
- College
- Institution
Assessment

• Self-assessments
• Course evaluations

➢ Minute paper
➢ Mid-term of final paper
➢ Pre- and Post-assessments
➢ Systematic progression of assignments
➢ Rubrics
➢ Classroom polling techniques
➢ Reflective thinking activities
➢ Muddiest point exercises
➢ Portfolio
Sample Assignment Examples

• Students will develop and run a statistical model analyzing a ‘specified problem’ then write a data analysis preparation report describing data, steps in developing the model, and methodology.

• Students will formulate a set of 3 research questions and explain why these questions are of interest, relevant, and constitute a methodologically viable topic.

• Create a “mock” proposal tailored to a chosen grant or scholarship opportunity, including a description of the project, outline of research design including question, context, objectives, methodology, and contribution to the advancement of knowledge.
AAC&U Value Rubrics

QUANTITATIVE LITERACY VALUE RUBRIC

for more information, please contact value@aacu.org

Definition

Quantitative Literacy (QL) – also known as Numeracy or Quantitative Reasoning (QR) – is a "habit of mind," competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (will one) level performance.

<table>
<thead>
<tr>
<th>Interpretation</th>
<th>Calculation</th>
<th>Application / Analysis</th>
<th>Assumptions</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information. For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events.</td>
<td>Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations are also presented elegantly (clearly, concisely, etc.)</td>
<td>Uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.</td>
<td>Explicitly describes assumptions and provides compelling rationale for why each assumption is appropriate. Shows awareness that confidence in final conclusions is limited by the accuracy of the assumptions.</td>
<td>Uses quantitative information in connection with the argument or purpose of the work, presents it in an effective format, and explicates it with consistently high quality.</td>
</tr>
<tr>
<td>Provides accurate explanations of information presented in mathematical forms. For instance, accurately explains the trend data shown in a graph.</td>
<td>Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem.</td>
<td>Uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.</td>
<td>Explicitly describes assumptions and provides compelling rationale for why assumptions are appropriate.</td>
<td>Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explanation may be uneven.</td>
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<tr>
<td>Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units. For instance, accurately explains trend data shown in a graph, but may misjudged the slope of the trend line.</td>
<td>Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem.</td>
<td>Uses the quantitative analysis of data as the basis for competent judgments, although, is hesitant or uncertain about drawing conclusions from this work.</td>
<td>Explicitly describes assumptions.</td>
<td>Uses quantitative information, but does not effectively connect it to the argument or purpose of the work.</td>
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<td>Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means. For example, attempts to explain the trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends.</td>
<td>Calculations are attempted but are both unsuccessful and not comprehensive.</td>
<td></td>
<td></td>
<td>Presents an argument for which qualitative evidence is pertinent, but does not provide adequate explicit numerical support. (May use</td>
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</table>

Useful?

• What is it you want to know?
• What can this population realistically tell you?
• Will the results give you actionable data?
• Do you have the power to change anything based on the results?
Using Results to Improve

• Reflecting on results
• Making Meaning
• Making and tracking Changes
• Theories of change
• Actual improvements
Discussion and Questions

njankow2@illinois.edu

NILOA:
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