BASICS
Guide for Authentic Assessment of Cognitive Skills

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Critical thinking, Creative thinking and Problem solving in Higher education

Building Assessment Scaffolds for Intellectual Cognitive Skills (BASICS)
Adapted from the AAC&U Valid Assessment of Learning in Undergraduate Education rubrics
Leveraging evidence of learning outcome development through the Queens Learning Outcomes Assessment Project

http://www.queensu.ca/qloa/assessment-tools/basics/
https://www.aacu.org/
http://www.queensu.ca/qloa/
1. Creating the assessment
How are students performing, what are their learning needs?

This document is intended to guide the development of authentic assessment to support student learning within a course using rubric-based assessment. All choices made regarding course-based assessment should consider the context of the program and institution.

**Student learning** relates to:

- Knowledge and understanding;
- Proficiencies and practices; and
- Attitudes and dispositions.

**Authentic assessments** can frame each of these, and combine different types of knowledge:

- Declarative (knowing “what”);
- Procedural (knowing “how”);
- Conditional (knowing “when”);
- Metacognitive (knowing “why”).

**Enrollment considerations**
The size of the class is? ___________
What prior knowledge do the learners have?
Are there any special needs?

**Is the learning context:**
- Face-to-face
- Blended
- Online

**Will the learners be working:**
- Individually
- In pairs or small groups
- Other ____________

**Will the “product” be:**
- Written e.g.
  + Advice letter/blog
  + Analysis (of research/product)
  + Book review
  + Design/research proposal
  + Feature article/editorial
  + Research essay
- Presented e.g.
  + Campaign proposal
  + Documentary/video
  + Oral Product demonstration
- Performed e.g.
  + Debate
  + Play
  + Dance/music recital

Bloom’s domains of knowledge:
- Cognitive
- Psychomotor
- Affective
Bloom, et al. 1956

Authentic assessment: Focuses on evaluation through meaningful contextualized learning

For more information on assessment decisions see: [Assessment design framework](http://www.assessmentdecisions.org/)

Support documentation for the BASICS rubric scaffold application [http://www.queensu.ca/qloa/assessment-tools/basics/]
## 2. Real-World Contexts

### The right question?

Learning activities for an authentic task revolve around a question that has relevance in the real world. Learners have the option of developing their own question, but the more open-ended the task, the more complex the assessment will become.

### Motivation and meaningful learning:

- The question is worth answering
- There is a real world application

### Complexity of the question:

Does the question begin with what, where, when, how, or why. The how and why questions often lead to integration and generalization. Once you have decided on the right question for your purpose, you need to determine the what material and how much support will be provided.

### Instructional scaffolding

The targeted learning behavior can be supported by providing learners with a specific set of materials and instruction on how to engage with the material.

### The task library

The task library should provide different types of information:

- Such as reports, articles, policy documents, newspaper reports, anecdotal information
- Including variety in data display and type
- As well as “distractors” to prompt analytical development, such as source material with incongruity, bias (blogs, propaganda etc.)

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### Learner’s role:

Meaning for learners can be enhanced by placing them in a real world role setting, e.g. analyst, consultant, journalist, product developer. The stakes can be increased by providing repercussions for an inaccurate response, e.g. the health of a friend is dependent on the recommendation.

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3. Creating the rubric

Go to [www.queensu.ca/qloa/assessment-tools/basics](http://www.queensu.ca/qloa/assessment-tools/basics) and follow the prompts

**Step 1:** Select the assignment type

Consider the cognitive skill set that aligns most closely with what the task is intended to elicit. Note: not all areas need to be assessed for all tasks, but it is possible to generate multiple rubrics and combine elements from each.

**Step 2:** Define the assignment topic

The prompt “this assignment is about…,” the content and context that the learners will be engaging with. The description provided here will be incorporated into the rubric. The language may need editing to suit the criteria. See example on page 6.

**Step 3:** Decide on the assessment dimensions

The dimensions are the breakdown elements of the cognitive skill. For skill development, coverage of the dimensions at some point in the course is suggested. See the definitions tab for contextual use of terms.

**Step 4:** Select the assessment components

Select the assessment components that are applicable to the assignment type and topic. Multiple components can be selected (text enlarges when component has been selected). See the definitions tab for contextual use of terms.

**Step 5:** Edit rubric scaffold to semantic preferences

The rubric app auto-fills the rubric based on the choices selected. The edit function allows for fine tuning of language. Note: levels displayed (developing, accomplished or advanced) are dependent on the year group identified. See page 6 for relative achievement levels.

The rubric is now downloadable in .csv format and can be formatted for preferred print layout. Using the search tab previously created rubrics are searchable by topic, institution, department, or year group.

**A rubric**

Is a scoring guide that indicates marking criteria. Analytical rubrics differentiate evaluative criteria, and quality definitions for those criteria at particular levels, with a scoring strategy ([Popham, 1997](http://www.queensu.ca/qloa/assessment-tools/basics)).
4. Interrelated skills

Definitions for common terms

**Assessment:** The process or means of evaluating academic work.

**Assignment (task):** Something assigned, as a particular task or activity

**Context:** The set of circumstances or facts that surround a particular event, situation, etc. (may refer to historical, social, cultural, political, or other)

**Issue:** A point, matter, or dispute, the decision of which is of special or public importance

**Problem:** Any question or matter involving doubt, uncertainty, or difficulty; question proposed for solution or discussion
5. Level of Achievement

Assessment levels
Levels for the rubric are labeled as developing, accomplished or advanced; these labels can be replaced to suit departmental or institutional needs.

The criterion appearing in the rubrics are dependent on the year group selected in first step of the application. For example, when “first year” is selected the rubric app displays criteria at level 0, 1, and 2.

For analytical marking, a number could be attached each level to derive a score for the assessment. For example developing =1, accomplished =2, advanced =3.

6. Implementation

Example rubric

<table>
<thead>
<tr>
<th>Critical Thinking</th>
<th>Developing</th>
<th>Accomplished</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues</td>
<td>Compares issues, stereotypes and omissions involved in gender representations in popular media</td>
<td>Critiques key issues, stereotypes and omissions impacting on gender representations in popular media</td>
<td>Debates key issues, stereotypes and omissions impacting on gender representations in popular media</td>
</tr>
<tr>
<td>Evidence</td>
<td>Interprets and explains propaganda and point of view presented in gender representations in popular media</td>
<td>Weighs strengths and weaknesses of propaganda and point of view presented in gender representations in popular media</td>
<td>Comprehensively and objectively analyzes propaganda and point of view in gender representations in popular media</td>
</tr>
<tr>
<td>Context / assumptions</td>
<td>Explains contexts, mainstream and alternate viewpoints, and perspectives as they relate to gender representations in popular media</td>
<td>Analyzes key contexts, mainstream and alternate viewpoints, and perspectives and their impact on gender representations in popular media</td>
<td>Synthesizes contexts, mainstream and alternate viewpoints, and perspectives to objectively bring bearing on gender representations in popular media when presenting a position</td>
</tr>
<tr>
<td>Position</td>
<td>Student’s argument and position acknowledges more than one perspective</td>
<td>Student’s argument and position takes into account complexities and perspectives</td>
<td>Student’s argument and position demonstrates synthesis of varying viewpoints, complexities and perspectives, and recognizes limitations</td>
</tr>
<tr>
<td>Conclusions</td>
<td>Coherently articulates conclusions, perspectives, and consequences regarding gender representations in popular media</td>
<td>Logically presents conclusions, perspectives, and consequences that converge around gender representations in popular media</td>
<td>Comprehensively evaluates gender representations in popular media to present wide-ranging, sophisticated conclusions, perspectives, and consequences</td>
</tr>
</tbody>
</table>

Using rubrics to improve learning
These rubrics are intended not only as assessment tools to provide feedback, but also as teaching tools (”feed forward”) to support student learning, making expectations clear and to promote the development of higher-order thinking skills.

Key questions to consider:
- Will learners be active in the rubric development process?
- Will the assessment rubric be shared with the learners prior to the learning activity?
- Are the learners contributing to the assessment process (e.g. peer-evaluation/ self-evaluation)?
- Will there be an opportunity for learners to get feedback prior to the final submission date?
7. Evaluating the Assessment

1. Review the rubric to determine if it describes your intended outcomes.
2. Review the assigned task brief to evaluate the likelihood of it eliciting demonstration of the desired outcomes.

Learning by design

1. Identify desired results
2. Determine assessment evidence
3. Plan learning experiences and instruction
4. Evaluate effectiveness

Strategies
- Clarify the terms
- Define the problem
- Determine the contexts
- Mindmap the concepts
- Brainstorm potential solutions
- Debate the issues
- Find the flaws

Pathways for learning
- Evaluate prior knowledge
- Assign roles/set goals
- Seek opportunities/investigate/research
- Learning activities/labs
- Team meetings/evaluate progress
- Reflect on learning

Feedback from peers
- This task engages students in a productive learning activity
- Task parameters communicate clear expectations to students
- Sufficient feedback opportunities are provided
- Feedback focused on learning rather than on marks
- Feedback is linked to the purpose of the assignment and to criteria
- Feedback is acted upon by students to improve their work or their learning

"Statements without evidence are just opinions”

John Hattie

Backward design is an educational strategy, beginning with goal setting, then defining what it is that constitutes learning, followed by selection of instructional methods for meaningful learning. Wiggins & McTighe, (2005). Understanding by design.
8. Assessment Protocol

Calibration

Rater training should be undertaken by all markers. This is led by a facilitator, and includes:
1. Close reading of the rubric
2. Discussion of the terms
3. Practice scoring a work sample one row at a time
4. Opportunity for participants to explain their reasoning and offer evidence to support their scores.
5. Discussion of the level awarded; consensus of decision
6. Repetition of practice marking until a common understanding of the standard is determined

Moderation

Assessment moderation processes involve review of work samples, and marking judgments. It is designed to support fair and equitable grading. Moderation groups are collaborative nature, can build peer relationships, and may be undertaken:
• Within departments
• Within faculties
• Across institutions
• Between institutions

Example of a assessment criteria and identification of evidence in a work sample

<table>
<thead>
<tr>
<th>Dimension of the Critical Thinking VALUE Rubric</th>
<th>Specific position is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student's position</td>
<td></td>
</tr>
</tbody>
</table>


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