Ten Tips for Designing Effective Rubrics

Webinar

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Dr. Lance Tomei

Brought to you by:
Overview

• Setting the stage
  – My preferred definition of a rubric
  – Rationale for using rubrics

• Ten helpful tips in designing effective rubrics, with a primary focus on analytic rubrics

• Some final thoughts on designing effective rubrics
Rubric Definition

“Rubric – 1. a tool for scoring student work or performances, typically in the form of a table or matrix, with criteria that describe the dimensions of the outcome down the left-hand vertical axis, and levels of performance across the horizontal axis. The work or performance may be given an overall score (holistic scoring), or criteria may be scored individually (analytic scoring). Rubrics are also used to communicate expectations to students.”

Western Association of Schools and Colleges (WASC) Glossary
(available on line at www.wascasenior.org/lexicon/14#letter-r)
Why Use Rubrics?
(Cornell University Center for Teaching Excellence)

• Rubrics help instructors:
  – Assess assignments consistently from student-to-student.
  – Save time in grading, both short-term and long-term.
  – Give timely, effective feedback and promote student learning in a sustainable way.
  – Clarify expectations and components of an assignment for both students and course TAs.
  – Refine teaching skills by evaluating rubric results.

• Rubrics help students:
  – Understand expectations and components of an assignment.
  – Become more aware of their learning process and progress.
  – Improve work through timely and detailed feedback.
Tip #1
Select the Right Assessment Tool

Outcome(s) to be Assessed:
- Skill(s) - Checklist, Holistic Rubric, Analytic Rubric
- Knowledge - Objective Test
- Dispositions - Various
- Perceptions - Survey
Tip #2
Determine How You Plan to Use the Rubric

- Assessing a single activity or artifact
  - Formative
  - Summative
- Assessing target competencies at multiple levels of development during a program (you must decide how many different stages of development will be assessed)

- THIS WILL HELP YOU DETERMINE HOW MANY LEVELS OF PERFORMANCE ARE REQUIRED
Tip #3
Identify the Competencies to be Assessed and the “Must See” Indicators for those Competencies

• A basic design approach: “must see” indicators become the criteria that are assessed
  – Assumption is that indicators also manifest at multiple levels of development
  – Establishing these indicators as assessed criteria helps generate actionable data

• An alternative, additive approach: presence of specific indicators defines performance level
<table>
<thead>
<tr>
<th>Beginning (1)</th>
<th>Emerging (2)</th>
<th>Maturing (3)</th>
<th>Accomplished (4)</th>
<th>Exemplary (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One, two, or three</strong> of the Maturing indicators are met.</td>
<td><strong>Four or five</strong> of the Maturing indicators are met.</td>
<td><strong>ALL</strong> of the indicators below (1-6) are met.</td>
<td><strong>ALL</strong> of the Maturing indicators plus indicator #7 are met.</td>
<td><strong>ALL eight</strong> indicators are met.</td>
</tr>
</tbody>
</table>

1. Complete and relevant data are provided for all measures (or an explanation is provided for incomplete or missing data due to extenuating circumstances).
2. Data reporting is accurate and thorough (see supporting narrative).
3. Results for each measure indicate whether the target for that measure has been met.
4. Reflective statements are provided either for each outcome or aggregated for multiple outcomes.
5. Report includes one or more implemented and/or planned changes linked to assessment data and designed to improve student learning, program quality, or unit operations. If no such changes are indicated, an explanation is provided including a strategy to improve IE assessment data collection.
6. Assessment instruments associated with the report and not previously submitted with the plan are provided via attachment or URL if not proprietary.

7. Data collection and analysis are used to assess the impact of implemented changes, demonstrating a fully “closed loop” process.

8. Follow-up data collected to assess the impact of implemented changes show improved outcomes.

**NOTE:** If none of the indicators are met or if a program or unit fails to submit a report, a rating of “No effort (0)” will be assigned.
Tip #4

Consider Pros & Cons of Multiple Levels of Mastery (for summative and competency-based rubrics)

• Including multiple levels of mastery can result in poor reliability and validity
  – the highest level often becomes the default target learning outcome . . .
  – so lower levels of mastery become compromised

• If including multiple levels of mastery is done with great care and integrity, most students won’t achieve the highest level, resulting in better data but at what cost?
Tip #5
Gather Anchor Artifacts

• Possible sources:
  – Historical student artifacts (identities redacted)
  – Pilot course assignments (identities redacted)
  – Faculty engineered artifacts (last resort)

• Assessed by multiple expert evaluators with strong consensus regarding the level of performance for each assessed criterion
Tip #6
Populate Performance Level Narratives

- For single-use summative or multiple-use competency rubrics, start with the column that represents the program’s target learning outcomes for the assessed competencies
  – NOTE: If multiple levels of mastery are included, be sure to populate the lowest level of mastery first!
- For single-use formative rubrics, start with the column that reflects expected performance at that level of progression in the program
Tip #7
More on Populating Performance Level Narratives

• For each criterion, check to ensure that the performance descriptors flow seamlessly from one level of performance to the next
  – There should be no overlaps in performance
  – There should be no gaps in performance between levels
  – All possible outcomes should be included

• Avoiding double- and multiple-barrel criteria will help with this and will improve actionability of the resulting assessment data
Tip #8
More on Populating Performance Level Narratives

• Ensure that narrative descriptors provide clear, concrete, *qualitative* distinctions between levels
• Pay special attention to “critical break points” (the division between success and failure)
• If subjective terms are used to distinguish between levels, provide supporting narrative and/or sample artifacts to help assessors and students clearly understand the distinctions between performance levels
Tip #9
Rubric Calibration/Norming & Assessor Training

- Using the gathered anchor artifacts, conduct rubric calibration/norming and assessor training
- Primary goal is consensus. Suggested benchmarks:
  - 80% concurrent agreement
  - 100% collective concurrent and adjacent agreement
  - No disagreements across “critical break points”
- First implementation of any new or revised rubric should be viewed as a pilot
Rubric Norming/Calibration

- Step 1: Review the assignment to be assessed
- Step 2: Review the rubric to be used
- Step 3: Review a sample “anchor” artifact
- Step 4: Facilitator* demonstrates use of the rubric by “walking through” assessment of the sample artifact
- Step 5: Working independently, assessors review and assess a sample artifact
- Step 6: Facilitator collects scores and announces results. Group discusses results with a focus on what evidence was used to assign particular ratings.

NOTES:
- Records result, key discussion points, and any resulting recommendations.
- Goal of the norming/calibration session is to achieve consensus
- Repeat Steps 1 through 6 with additional sample artifacts as needed to achieve consistent ratings

*Facilitator should be a faculty member with detailed knowledge of the rubric—typically someone who was actively involved in the rubric development.
Tip #10
Piloting and Continuous Quality Improvement

• The first application of any new or revised rubric should be viewed as a pilot
• Expect that pilot to reveal opportunities for improvement to any of the following: the rubric, the assignment instructions, and assessor training
• Even after full implementation, always view your rubrics as works in progress, but manage ongoing revisions with care!
Some Final Thoughts on Designing High Quality Rubrics
Design Attributes of an Effective Rubric

1. Rubric and artifact or activity to be assessed are well-articulated

2. Each criterion assesses an individual construct
   – No overly broad criteria
   – No double- or multiple barreled criteria

3. Rubric has construct and content validity

4. Performance descriptors:
   – Provide concrete, qualitative distinctions between performance levels
   – Show progression of development with no gaps or overlaps in performance levels

5. Rubric contains no unnecessary performance levels

6. Resulting data are actionable
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Unsatisfactory</th>
<th>Developing</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubric Alignment to Assignment.</td>
<td>The rubric includes multiple criteria that are not explicitly or implicitly reflected in the assignment directions for the learning activity to be assessed.</td>
<td>The rubric includes one criterion that is not explicitly or implicitly reflected in the assignment directions for the learning activity to be assessed.</td>
<td>The rubric criteria accurately match the performance criteria reflected in the assignment directions for the learning activity to be assessed.</td>
</tr>
<tr>
<td>Comprehensiveness of Criteria</td>
<td>Multiple critical indicators for the competency being assessed are not reflected in the rubric.</td>
<td>One critical indicator for the competency being assessed is not reflected in the rubric.</td>
<td>All critical indicators for the competency being assessed are reflected in the rubric.</td>
</tr>
<tr>
<td>Integrity of Criteria</td>
<td>Multiple criteria contain multiple, independent constructs (similar to “double-barreled survey question).</td>
<td>One criterion contains multiple, independent constructs. All other criteria each consist of a single construct.</td>
<td>Each criterion consists of a single construct.</td>
</tr>
<tr>
<td>Quality of Performance Descriptors (A): Coverage</td>
<td>Performance descriptors are not distinct (i.e., mutually exclusive) AND collectively do not include all possible learning outcomes.</td>
<td>Performance descriptors are not distinct (i.e., mutually exclusive) OR collectively do not include all possible learning outcomes.</td>
<td>Performance descriptors are distinct (mutually exclusive) AND collectively include all possible learning outcomes.</td>
</tr>
<tr>
<td>Quality of Performance Descriptors (B): Differentiation</td>
<td>Distinctions between performance levels are purely quantitative, subjective, or inconsequential with no qualitative component.</td>
<td>Distinctions between performance levels are qualitative but not concrete.</td>
<td>Performance levels are qualitatively differentiated and provide students with clear descriptions of acceptable performance at each level.</td>
</tr>
</tbody>
</table>
Some International Rubric Design Tips

• Andrew Miller, Instructional Coach at Shanghai American School:
  – Use parallel language
  – Use student friendly language
  – Use the rubric with your students
  – Don’t use too many columns (i.e., limit the number of performance levels)
  – Common rubrics and templates are awesome
  – Rely on descriptive language

• Education Services Australia on writing performance descriptors:
  – Refer to specific aspects of the performance which will be different at different levels
    (e.g., analyses effects, describes effects, lists effects…)
  – Use qualitative adjectives, adverbs (e.g., provides a complex explanation, provides a
    detailed explanation, provides a limited explanation…) supported by work
    samples/exemplars to make the differences clear to students and assessors
  – Refer to the degree of assistance needed by the student (e.g., correctly and
    independently uses, uses with occasional peer or teacher assistance, uses with teacher
    guidance, attempts to use)
Some Additional Rubric Design Tips
Craig A. Mertler, Bowling Green State University

• Re-examine the learning objectives to be addressed by the task. This allows you to match your scoring guide with your objectives and actual instruction.
• Identify specific observable attributes that you want to see (as well as those you don’t want to see) your students demonstrate in their product, process, or performance. Specific the characteristics, skills, or behaviors that you will be looking for, as well as common mistakes you do not want to see.
• Brainstorm characteristics that describe each attribute. Identify ways to describe [different levels of performance] for each observable attribute . . .
• Collect samples of student work that exemplify each level. These will help you score in the future by serving as benchmarks [and can be used as “anchor artifacts” during rubric training/norming/calibration].
• Revise the rubric as necessary. Be prepared to reflect on the effectiveness of the rubric and revise it prior to its next implementation [pilot new and revised rubrics].
References

- Miller, Andrew (2012), *Tame the Beast: Tips for designing and using rubrics*, available online at: [https://www.edutopia.org/blog/designing-using-rubrics-andrew-miller](https://www.edutopia.org/blog/designing-using-rubrics-andrew-miller)
Questions/Comments?