Assessment Rubrics

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Context and key issues

What is a rubric?

An assessment rubric is a matrix, grid or cross-tabulation employed with the intention of making expert judgments of student work both more systematic and more transparent to students. Rubrics explicate in summary form the bases upon which expert judgements are made. The rows set out the dimensions of the performance that have been selected as the aspects upon which the judgement will be focused. Each row corresponds to one dimension (aspect, property or characteristic) know as a criterion. Across the column heads of the matrix are set out the performance standards – typically four or five with labels indicative of each of the levels demonstrated (excellent, good, satisfactory, poor). Equivalently, a rubric may have its criteria listed as column headers and the standards as row labels. Ideally, the criteria are derived by analysing competent judgements about student performances to identify the dimensions that seem to explain the observed quality, and the standards set out the performance levels on those criteria. The information in the whole matrix is combined to arrive at an overall judgment of the quality of the student works.

Examples of criteria for three different assessment task types

Example 1 – essay

Criteria that might be relevant include: structure of essay; clarity of expression; logic of the argument; and currency of the literature used. This list is not intended to be definitive – there could be more or fewer, similar or different criteria that are appropriate for particular tasks. Variation would normally be expected across disciplines and across year levels within a degree program.
Example 2 – mathematical solution

In assessing a mathematical proof or solution we might be concerned not only with the correctness of the solution but also with the logic of the solution, its elegance or efficiency, and appropriate use of already established theorems.

Example 3 – musical performance

For a musical performance the criteria could include: performer confidence, technical proficiency and absence of errors, and expressiveness during performance.

These examples show how the criteria used in the appraisal of a student achievement, which often results in the production of an artefact or recording, are closely connected with the content and structure of the discipline. They can be discerned and distilled only by using analysis of expert discipline knowledge and how performances embody, or are expressions of, the students’ acquired level of performance.

How rubrics are used in higher education

As tools, rubrics are often used within a criterion- or standards-based assessment framework (see D. Royce Sadler, 2005). They are most often constructed and applied when expert qualitative judgements are made about the quality of a student’s performance of a task. This is a common situation in higher education. If you make judgments of this type in assessing student achievement, then, at least in principle, you should be able to analyse the thinking underpinning that judgement and, if necessary, use a rubric as one method of representing the basis of that judgement. Rubrics are not usually appropriate for so-called ‘objective’ assessments such as short answer, true-false, matching or and multiple choice items.

Most Australian universities now employ criterion- or standards-referenced assessment policies. Rubrics have a natural affinity with such approaches because they make explicit the criteria and standards against which assessment judgements are made. They also have the potential to reduce uncertainty for students as to the marks that can be expected for performances at various standards. It is also thought that rubrics can help to avoid disagreements over marks since the judgements and their bases are communicated openly. In some contexts, a standardised rubric is used across different courses and across assessment
tasks that call for similarly structured responses (such as an essay) as a means of improving quality assurance and enhancement focused on student learning outcomes for whole cohorts.

At a higher level of generality, rubrics have been useful in some disciplines for reporting the effect of the curriculum on student learning, in the aggregate; that is, across all students in the degree program. This is achieved by creating rubrics for program-level learning outcomes – which may include graduate attributes assessed in key courses – and then tallying the proportions of students whose performances are at each of the standards. Giving a snapshot of student learning of key program goals at selected points throughout the program, this provides a basis for reflection on, and improvement of, teaching methods and curriculum design and can inform claims about the quality of the program and aid in quality assurance and enhancement activities.

More detail about capturing the thinking expressed in a rubric

For each of the criteria in a rubric, various levels of performance could be described, either in general terms, or as specifics. As an example, consider the above case of the essay, and specifically the criterion Logic of the argument. Standards may be expressed in general terms such as Very poor; Poor; Mediocre; Good; and Excellent. Alternatively, specific descriptors may be developed and used: Mostly incoherent and difficult to follow; Weak progression of ideas and development; Moderately clear line of argument but with significant gaps; Ordered and basically logical; and Exemplary logical development throughout. Although in principle it may be appropriate to think of an underlying continuum of levels of performance, in practice that continuum is broken into a small number of ordinal categories (five in the example) that represent points along the quality continuum. In each of the intersecting cells of the rubric is entered the text that describes or characterises the quality of students’ performance for the criterion (the row) at each standard (the column). After this is carried out for all the nominated criteria the whole is summarized for convenience as the rubric, as shown below.
Completing the text-based description within the cells of a rubric can be challenging. It requires us to analyse and describe performances of various standards within each criterion. Some general models for classifying educational outcomes exist, and these can be useful in thinking through and articulating the achievement standards. One of the common models is the revised Bloom's taxonomy (Anderson & Krathwohl, 2001) which provides a logical sequence of learning development (remembering, understanding, applying, analysing, evaluating, creating) and the Biggs & Collis SOLO taxonomy (Biggs & Collis, 1982) for analysing student responses to assessment tasks in terms of their degree of their structure—pre-structural, uni-structural, multi-structural, extended abstract. These can provide useful triggers for thinking about a continuum of increasing complexity or sophistication of learning and its demonstration through assessment. Sometimes it helps to first develop the extreme ends of the standards continuum, followed by the mid-point, and from these developing the shades of grey that constitute other points on the continuum.

In combining the information in a rubric to come to a conclusion about overall quality the different criteria do not have to be weighted equally and neither at a technical level do the columns of standards (but that is considerably more difficult to conceptualise and work with). It is reasonable and appropriate in many circumstances to weight the criteria unequally. The

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure of essay</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
</tr>
<tr>
<td>Logic of argument</td>
<td>Mostly incoherent and difficult to follow</td>
<td>Weak progression of ideas and development</td>
<td>Moderately clear line of argument, but significant gaps</td>
<td>Ordered and basically logical</td>
<td>Exemplary logical development throughout</td>
</tr>
<tr>
<td>Clarity of expression</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
</tr>
<tr>
<td>Currency of literature used</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
<td>[general term or descriptive text]</td>
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main point is to create and use a rubric that best communicates the basis upon which the overall judgments about the quality of different student works will be made.

**Benefits of rubrics**

If given to the students along with the assessment task specifications, students can know in advance the ways you will be “looking at” their performances on the set tasks. This can help them to understand what they need to do in order to get a particular grade. It can also help them see the things that you place relatively more, and less, emphasis on in your assessment of their work; they can then apportion their efforts accordingly.

After the assessment is completed, students can see more clearly why they received the grade awarded. This can help reduce inquiries and disputes about the results.

Students themselves can come to grasp the ways experts in the field think, practice, express ideas and appraise each other’s work. This helps scaffold the development of students’ own expertise in the field.

**How to use rubrics effectively**

Effective use of rubrics relies as much on avoiding some common pitfalls as it does on implementing some positive practices. The key point to remember is not to assume that because the rubric makes sense to you it will make sense to your students.

- Never simply give students your rubric thinking that even after you “talk it through” they will perfectly understand the full meaning of the performance standards you have described.
- Use rubrics as a learning device, not just an assessment device, by getting students to engage with the idea of using rubrics as a guide, helping them (and you) to make and record judgments about performances and to understand what those judgements were based upon. If students can use the rubric process to improve their ability to accurately and realistically judge performances (including their own work) against achievement standards they should be able to perform better as a result.
• Create opportunities in class for students to look at examples of work of varying standards from an assessment task similar to the one they are going to be assessed on. They need to analyse these examples to identify the criteria and how they connect with the ways in which the quality of the performance will be judged and thereby discern variation between the good and poor examples of performance.

• Have students devise their own rubric based on their observations in class, either as a discussion activity for the whole class, in pairs, or as individuals.

• Share your rubric with your students and talk through the differences between their ideas for criteria and the standards for each, and yours as captured in your rubric. Remember – you are the expert judge and the task is to help them come to some convergence between their understanding and yours.

• Use the rubric to frame the feedback you give. Rubrics are essentially qualitative appraisals in that a performance is judged by selecting the pattern of descriptors in the cells of the rubric that best matches the qualities of a performance. Thus, by returning the completed rubric to students they can get diagnostically useful feedback on their work.

**Limitations of rubrics**

Despite their benefits, assessment rubrics do have their limitations. Two of the most important are: (a) it is impossible to capture every conceivable criterion or allocate to performance standards every possible aspect of all possible performances; and (b) as a device for developing students’ learning they are restricted by the problem that what the lecturer writes in the rubric from his/her expert point-of-view may be inscrutable and inaccessible to students, and so meaningless as an aid to learning (Kohn, 2006; D.R. Sadler, 2009).

Sadler (2009) identified these serious flaws in the logic of rubric use. Although a rubric looks like a scheme for explicating the implicit or tacit knowledge underpinning expert judgements, that very task is, in principle, impossible to do completely – especially in a summarised form such as a rubric. There will always be some other criterion, or some aspect of a performance at a particular standard, that goes un-explicated; no attempt to capture all aspects of expert judgement can escape this problem of the indeterminacy of the criteria and standards descriptors. To appreciate the problem imagine that you have been working with a rubric and
a student challenges the mark they were awarded, claiming that they believe their performance was at a higher standard than the one you judged it to be. As part of your defence you will probably find yourself having to draw on elaborations of the two standards in question (in other words, invoking nuances of, or even extra, criteria within the defined standards). This was what rubrics were meant to eliminate. Furthermore, by definition a rubric is based on an analysis of your expert judgement of holistic performances on assessment tasks, but when analysis is done, the judgement of the whole is necessarily atomised and thereby reduced to the individually-assessed criteria and standards. It is often observed that these do not completely capture all the aspects of a performance, leaving some “remainders” that cannot be explicitly justified in terms of the limited rubric descriptors.

Another problem is that rubrics developed by individual lecturers necessarily represent their ways of thinking about, and understanding of, the content and how they want students to demonstrate their learning through the assessed performance. As a teaching tool that is meant to help students come to an understanding of how expert judgements are made in a discipline, it suffers the flaw that a rubric is usually delivered to students as a prepared structure, not one that students themselves have had a hand in constructing and applying. It is therefore more difficult for them to integrate it with their prior knowledge, experience and understanding. Experiencing a rubric as somewhat foreign runs exactly counter to the earlier expressed hope that the explication helps students learn to make qualitative judgments.

References


