Designing rubrics to assess the quality of projects and assignments
Developed in collaboration with Stephen Wills

Understanding the problem...
When students are not aware of the criteria for which their work will be evaluated, they are left to their own resources to guess and assume what is expected or important. As a result, students guess incorrectly and thus often put energy into aspects of the project that may not be all that important, and at the same time, fail to attend to dimensions of the assignment that are important.

Likewise, if the teacher has determined in advance the specific criteria for which a project and assignment will be evaluated, then this educator is considerably more likely to teach to these skills to ensure students perform them well as they engage in their assignments.

Pre-established rubrics also help facilitate use of peer-evaluation and self-evaluation because students have a more clear understanding what is they should be looking for when conducting the evaluation.

Well-constructed rubrics for authentic assessment provide many students with special needs with the structure needed for them to succeed with little or no modifications. If modifications are needed in the assessment, rubrics can be made more detailed and specific or they can be simplified to focus on just a few elements of work. Rubrics are very flexible and can be easily individualized for students with disabilities and gifted students.

A key to the solution...
Before assigning a project to students, establish the criteria for which the assignment will be evaluated and the rubric that will be used. When introducing the assignment to students, review with them the criteria and rubric that will be used to evaluate the project.

Plan on evaluating two separate dimensions of students’ work.
Dimension 1: Sophistication of subject-matter knowledge concerns evidence of the depth and breath of students’ knowledge about the topic that is reflected in the product.

Dimension 2: Quality of Product concerns how well the product communicates ideas and includes such features such as neatness, spelling accuracy, use of color, and so forth.
Effective rubrics reflect the following characteristics:
The rubric contains specific criteria to communicate expectations and ensure objective scoring.

High school example of an effective rubric

Rubric for Scientific Drawing

A The drawings are striking in how realistic the student has drawn the objects. Amazing detail is provided. A very precise scale is used consistently. The scale uses the metric system when possible. Labels are used to help convey information. The principals of artistic composition are well employed in this drawing.

B The drawings show the details of the structure of the object. The student has drawn the object to a scale that is clearly marked. A metric scale is used. Enough views of the object are drawn to provide the viewer with a complete picture of the structures under study. Accurate details of color, pattern, and texture are shown. Labels are accurately used to provide needed information. An accompanying text accurately and clearly explains the science that is intended to be shown. The drawings are neat and presentable and the space of the paper is well used.

C The drawings are like those receiving a rating of B except there are two or three elements that are not presented effectively.

D The drawings do not show much detail of the structure. The drawings are not done to a consistent scale. The drawings are not metric when metric could be used. Details of color, pattern and texture are not used well. Details are incorrect or lacking. An accompanying text to explain the science intended to be shown is missing or inaccurate. The drawings are not neat.

F The drawings are very poorly done; incomplete, missing major elements.

Example of a poorly designed rubric for high school students

Rubric for a Scientific Drawing

<table>
<thead>
<tr>
<th>Element</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detail</td>
<td></td>
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<tr>
<td>Scale</td>
<td></td>
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<tr>
<td>Labels</td>
<td></td>
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<tr>
<td>Explanations</td>
<td></td>
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<tr>
<td>Overall Neatness</td>
<td></td>
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Total Score ____
The reading and comprehension level of the rubric is on the level of the student. The rubric is a tool that needs to communicate expectations to the student on his/her level.

Consider the following scenario....

Background
We have just finished reading *Wilfred Gordon McDonald Partridge*, and have learned that memories can create many different feelings.

Task
Make a memory box you might have shared with Miss Nancy.

Procedure:
1. Find a shoebox and decorate it.

2. Choose five things to add to the box the way Wilfred Gordon did. Be sure to use the answers he got to “what is a memory?” to help you choose your objects.

3. On a note card explain why you chose each object. (For example, I chose this object as something as precious as gold because.....)

4. Share your memory box with the class.
5. When sharing your box, be prepared to tell us if you liked Wilfred Gordon’s choices for his memory box.
6.

<table>
<thead>
<tr>
<th>Example of a poorly designed rubric for students in the primary grades</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong>  The decoration of the memory box was creative and neatly done. The chosen objects in the memory box were appropriate and corresponded to the question “What’s a memory” from the book. Note cards explaining the reasoning for the objects gave thorough explanations and used proper grammar and spelling. The presentation to the class demonstrated preparedness.</td>
</tr>
<tr>
<td><strong>B</strong>  The decorating was well done. The objects chosen were present and directions were followed. Note cards with explanations were present and for the most part grammatically correct. The presentation was complete.</td>
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<tr>
<td><strong>C</strong>  One or two parts of the assignment were missing or incomplete.</td>
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<tr>
<td><strong>D</strong>  More than two parts of the assignment were missing or incomplete.</td>
</tr>
<tr>
<td><strong>F</strong>  Project is very poorly done.</td>
</tr>
</tbody>
</table>
Example of an effectively designed rubric for primary school students

1. Is the memory box decorated?
   - Terrific
   - OK
   - Needs Work

2. Are there five objects in my memory box?
   - Terrific
   - OK
   - Needs Work

3. Was each object chosen to go along with an answer to the question, “What’s a memory?” from the book?
   - Terrific
   - OK
   - Needs Work

4. Is there a note card for each object that explains why it was chosen?
   - Terrific
   - OK
   - Needs Work

5. Are complete sentences used on the note cards?
   - Terrific
   - OK
   - Needs Work

6. Did I tell the class whether or not I liked Wilfred Gordon’s choices?
   - Terrific
   - OK
   - Needs Work
**Teaching Tips...**

**Step 1:** Identify as specifically as possible the specific categories of knowledge students should demonstrate in their project.

For example, rather than using a traditional paper/pencil subjective test to evaluate student’s understanding of the US. Constitution, Doris, the social studies teacher, created a project whereby her students were asked to design a school constitution the principles of which were to be based on the US Constitution. Specific categories of subject-matter knowledge identified for this project included:

- specification of students’ rights and assurances they would be protected
- elements of school constitution parallel those of UUS Constitution (preamble, bill of rights, and specific rules governing student & teacher behavior).
- School constitution must reflect a specific philosophy of governance (democracy, anarchy, oligarchy, theocracy, etc.)

**Step 2:** Identify indices of quality with regard to product. Decide what specific features of the product will be evaluated relative to how well the product serves as an effective communication device. Examples of features that might be included as categories to evaluate include:

*Features of written products:*
- All words spelled correctly
- Sentences complete
- Ideas flow in a logical manner
- Adheres to conventions of print (punctuation, capitalization, etc.)
- Appropriate use of grammar

*Features of oral presentations*
- Clear, articulate voice with sufficient volume
- Free of grammatical errors
- Appropriate posture

*Features of artwork*
- Ideas communicated in unusual ways
- Uses color to draw attention to important ideas

To continue with the school constitution example, Doris decided that the “quality product” features that were important to evaluate would be:
Below is an example of the rubric Doris created. Notice that the rubric reflects both indices of knowledge and quality product.

### Student-designed School Constitution

#### Rubric & Score Sheet

Name _____________________    Date ____________

**Sophistication of knowledge**

*Your school constitution needs to show depth of knowledge about the US Constitution. Your school constitution will be evaluated on the following dimensions:*

0 1 2 3 4 5  **Accuracy and Depth of Understanding**  
Constitution reflects need to protect students’ rights & need for a structured, ordered school

0 1 2 3 4 5  **Depiction of Essential Information**  
Constitution contains a preamble, a general bill of rights, and specific rules regarding student and staff behavior.

0 1 2 3 4 5  **Cohesiveness**  
Components of constitution consistently reflect a specific philosophy

0 1 2 3 4 5  **Connections and Extensions**  
Constitution parallels US Constitution amendments with appropriate adaptations

**Quality of product**

*Your constitution should be an effective communication device. It will be evaluated on the following dimensions:*

0 1 2 3 4 5  **Precise and Informative Title**
For examples of rubrics for use when evaluating students projects, use of thinking skills, collaboration behaviors, and other processes associated with performing tasks, see Project-based Learning.