Creating and Using Rubrics to Assess Technology-Enhanced Learning
Part One: Using Rubrics

Facilitator’s Guide

<table>
<thead>
<tr>
<th>Workshop Outcomes:</th>
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<tbody>
<tr>
<td>• Understand the rationale for using rubrics</td>
</tr>
<tr>
<td>• Evaluate the effectiveness of a rubric</td>
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<tr>
<td>• Practice assessing technology-enhanced lesson products using a rubric</td>
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<tr>
<td>• Identify whether an analytic or holistic rubric is appropriate for the student work product.</td>
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<table>
<thead>
<tr>
<th>Facilitator Preparation:</th>
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<tbody>
<tr>
<td>• Read the case, <em>Click and Drag</em></td>
</tr>
<tr>
<td>• Read this guide to familiarize yourself with workshop activities</td>
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<tr>
<td>• Make copies for each participant of the Participant Guide</td>
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</tbody>
</table>

Login
To access the course readings and case, please go to [www.casenex.com](http://www.casenex.com) and login in the green circle.

Username: workshop4
Password: nyc

For help, contact info@casenex.com
Online Resources (These are accessible from the CaseNEX site. Go to class materials/virtual library/readings.)

- **Why Rubrics?** (Scroll through the various pages, clicking on interesting links as needed)
- **The Advantages of Rubrics**
- **Analytic vs. Holistic Rubrics** (Scroll to bottom of page and click on Rubrics Part Three to access this page)
- **Evaluating Rubrics**
Facilitator’s Guide, Introduction

**Introduction**

**Goal:** Participants will consider instruction issues related to the use of rubrics

**Facilitator’s Role:** Provide introductions, workshop focus, case summary, and facilitation of the discussion about the case.

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**Step 1, Introduce Yourself:**
Introduce yourself to the group, sharing information about your background in education and experiences using technology in schools.

(2 minutes)

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**Step 2, Provide Focus:**
Focus the group on the workshop topic by reviewing course outcomes. Briefly explain what a rubric is, why they are useful to assessing and enhancing student learning, and particular challenges of developing rubrics to assess technology-based lesson products.

(5 minutes)

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**Step 3, Summarize the Case:**
Transition into the *Click and Drag* case. Present the summary of this case and show the documents in “links to highlight.”
New Instructional Technology Director Kate Green observes technology integration in various classrooms in her district.

Nancy Tunick, a middle school teacher, gives her students a how-to-use PowerPoint lesson.

Melissa Mendel’s 4th grade students meet in the computer lab to write a compare-and-contrast paragraph.

For this workshop, you only need to present Scenes 2 and 3 in any detail, as follows:

Dr. Kate Green visits a high school, where she is impressed by ninth grade Earth Science teacher Shelby Duncan’s web-based unit on volcanoes. Shelby integrates technology into project requirements so that her students can gain necessary technology skills and practice. She works hard to utilize web-based materials and create assessments that will guide her students as they complete the assignment. She finds a rubric online that she adapts to fit her project requirements. While she knows her final rubric isn’t perfect, she’s fairly satisfied with it as she begins the unit. She’s disappointed, however, as the unit progresses and she realizes that James, a low-level reader, is only going through the motions of completing the assignment, while Shatoya, a gifted student, speeds through the project and finishes well ahead of her peers. After the unit is over, she sends Shatoya’s project to Kate as a model presentation, but hesitates to send James’ along as well.

Kate wonders how she can help teachers use technology effectively.

Key Issues:

- Adapting and developing rubrics
- Effective technology integration lessons
- Differentiating instruction to reach the needs of all learners
- Ensuring equal access to technology both in and out of school
- Finding websites with advanced content presented for low-level readers
- Managing behavior during technology-based lessons
- Creating effective technology-enhanced lessons

Scenes to focus on:

- Scene 2: Shelby developing her unit
Scene 3: Shelby realizing the flaws in her plan midway through the unit

Links to highlight:
- Scene 2: Click here to view the Multimedia Research Report Rubric Shelby bookmarked
- Scene 3: Click here to see the Project Assignment and Grading Rubric Shelby gave to her students
- Scene 4: Click here to see Shatoya’s presentation.
- Scene 4: Click here to see James’ presentation, which Shelby chose not to send to Kate

Concentrate on the process Shelby used to develop her rubric, showing both the site she visited (Scene 2) and the rubric she used to assess student work (handout). You might want to read aloud her conversations with James and Shatoya (Scene 3). Highlight the student work samples in Scene 4 and explain that they will be practicing using rubrics with these work samples and Shelby’s rubric.

(5 - 10 minutes)
Creating and Using Rubrics to Assess Technology-Enhanced Learning
Part One: Using Rubrics

Facilitator’s Guide, Classroom Application

**Classroom Application: Examining the Use of Rubrics**

**Goal:** Participants will practice using rubrics, interpret the results from a variety of perspectives, evaluate the rubric, and explore analytic and holistic models.

**Facilitator’s Role:** Help participants form groups to practice using a rubric, facilitate role play activity, provide materials about analytic and holistic rubric models, and lead group discussions.

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**Step 1, Form Groups:**
Divide the class into small groups of three to five people based on grade level or content area.

*(5 minutes)*

**Step 2, Practice Using Rubric and Discuss:**
Review the handout of Shelby’s rubric. Individuals in each group should use Shelby’s rubric to assess Shatoya’s and James’ projects (located in Scene 4).

1. Within each group, compare and discuss assessment results.
   - Were there any areas of major disagreement?
   - Which criteria were most consistently scored?
   - In which areas was there more variability?
   - How do you account for such variability or consistency?
   - Are there areas of the student work samples that don’t “fit into the box”?
   - How might one handle these areas?
2. Review the criteria of effective rubrics, in the handout and based on the reading “Evaluating Rubrics.” Apply this knowledge to the rubric Shelby used with her students to evaluate their Volcano Projects.
   - What issues does Shelby’s rubric raise?

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• Where does Shelby’s rubric meet the criteria?
• Where – and how – might her assessment tool be improved?
• How might Shelby have used the rubric during the students’ work periods to help James and challenge Shatoya?

3. Revise Shelby’s rubric to meet the needs the group has identified and to make its usage more consistent.

4. Have groups present, either by criterion or for the rubric as a whole.

5. Note commonalities among the groups as they used Shelby’s rubric to assess the students’ projects.
   • What can we learn from the problems she faced?
   • How might a better-developed rubric have helped Shelby avoid the pitfalls she encountered as she taught her volcano unit?

(50-60 minutes)

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**Step 3, Role Play from Students’ Perspectives:**

1. In small groups, have members choose the role of either the teacher, Shelby, or her students, James, or Shatoya. Be sure each group at least has a “James” or “Shatoya.”
   • James is a hard-working, low-performing ninth grader with a severe reading deficit.
   • Shatoya, by contrast, is gifted and only taking this course as an eleventh grader because she doubled up math courses in ninth grade and so didn’t have room in her schedule for Earth Science.
   • Group members who don’t have roles should note issues that are brought up by the role playing.

2. Have “James” and “Shatoya” discuss his or her issues with the rubric:
   • initial response to the assignment criteria
   • parts they didn’t understand or didn’t pay attention to and why
   • use of it as a tool to guide thinking (whether it limited or expanded their thinking or didn’t affect it at all)
   • response to the actual grade received

3. “Shelby” might respond with a justification of her choices or by clearing up misunderstandings.

4. After the role play is over, the group as a whole should consider ways student perspectives might guide the development and usage of rubrics.
• How might having students self-assess or pair-assess one another affect achievement?
• How might having students develop individual rubrics help Shelby meet the wide range of learning needs of her students?

(10-15 minutes)

**Step 4, Examine Rubric Models:**

**Classroom Application: Analytic vs. Holistic Rubrics**

1. Use the Rubrics handout as a guide to review the definitions of these two terms.
   • Shelby used an analytic rubric with her class. Why do you think she chose this type of rubric?
2. Discuss benefits and drawbacks of each form and consider their appropriateness for various groups of students, grade levels, performance levels, etc.
   • Which type of rubric might Melissa (elementary school teacher in the case) choose? Why?
   • Which type of rubric might Nancy (middle school teacher in the case) choose? Why?
3. Divide the large group into small groups based this time on content area or grade level.
4. Have each group brainstorm a list of the types of technology-based work products they will be expecting students to produce over the course of a unit, semester, or school-year.
5. Then, have each group determine which type of rubric would be most appropriate and provide a rationale.

(20-25 minutes)
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Facilitator’s Guide, Closing

Closing

Goal: Participants will understand issues related to using rubrics and their uses in classroom assessment.

Facilitator’s Role: Facilitate the discussion on using rubrics with the classroom.

Bring the group back together to discuss follow-up options:

- Looking back at the case and knowledge from the work you’ve done this session, how might you characterize the rubric Shelby used, and what advice would you give her the next time she develops a rubric?

- For next session, think about a technology-based lesson or unit you are planning to teach in the near future. How might development of an effective rubric enhance that lesson or unit’s efficacy?

(5 minutes)

Extending Learning:
For a more in-depth look at this and related topics, CaseNEX also provides online, collaborative, fully-facilitated courses. Visit the CaseNEX web site at www.casenex.com, and click on “Programs and Courses” for a complete list of course offerings.
## Volcano Project Rubric

<table>
<thead>
<tr>
<th></th>
<th>6</th>
<th>12</th>
<th>18</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Effects/Appearance</strong></td>
<td>Default slide scheme is used with no additional media or animation.</td>
<td>Some additional media is used, but presentation lacks interest. Animation is not used.</td>
<td>Presentation includes media related to topic, appealing slide scheme, and slide transition animation where appropriate.</td>
<td>Presentation includes a variety of media and hyperlinks where appropriate. Presented with appealing slide scheme and slide transition animation to organize the presentation of material.</td>
</tr>
<tr>
<td><strong>Organization</strong></td>
<td>Information is not organized in a meaningful way. Topics do not transition smoothly.</td>
<td>Information is organized in a meaningful way. Transitions are evident, but choppy.</td>
<td>Information is organized in a meaningful way. Transitions are utilized to further organization and flow.</td>
<td>Information is organized in a meaningful way, adding to the interest of the presentation. Transitions are utilized to further organization and attract interest.</td>
</tr>
<tr>
<td><strong>Content Counts twice (40 points)</strong></td>
<td>Information presented on the topic is inaccurate and incomplete. Includes little of the required information. Cites one or no sources.</td>
<td>Information presented on the topic is either accurate or complete. Includes most required information. Cites one source.</td>
<td>Information presented on the topic is accurate and complete. Includes all required information. Cites two sources.</td>
<td>Information on the topic is detailed, accurate and complete and is presented in a unique or creative way. Includes additional information beyond the required elements. Cites more than two sources.</td>
</tr>
<tr>
<td><strong>Work Habits</strong></td>
<td>The student is repeatedly off task and is willing to settle for less than personal best.</td>
<td>The student is sometimes off task and is willing to settle for less than personal best.</td>
<td>The student uses class time wisely while working toward personal best.</td>
<td>The student uses class time wisely while working toward personal best, puts in extra effort, and uses outside time if necessary.</td>
</tr>
</tbody>
</table>
Rubrics

Why use rubrics?

They provide teachers with:
- Concrete, observable criteria for assessing student progress
- A directly stated description of excellence to serve as a goal for students
- Steps showing students how to reach excellence
- A rationale for assigning grades
- A way for students to guide their progress and evaluate their own work
- Performance-based, authentic assessment
- A communication tool for addressing parent and student performance concerns

Given out in advance of work on a product, they provide students with:
- A directly stated description of excellence for students to aim for
- Steps showing how to reach excellence
- A description of what they must do to achieve their learning goals
- An understanding of what they are expected to achieve
- A clearly stated rationale for their grades
- A way to guide their progress and evaluate their own work, allowing them to focus attention on strengths and develop weaknesses
- Performance-based, authentic assessment


What makes up a rubric?

Rubrics include:
- Traits, dimensions, or criteria being measured
- Definitions of each trait, dimension, or criteria
- A scale on which each dimension is being assessed
- Grade-appropriate standards of excellence for each dimension being measured (the top of the scale)

Points are usually assigned to various traits on a scale, such as:
- Emerging ⇔ Developing ⇔ Achieving
- Novice ⇔ Apprentice ⇔ Distinguished
- No evidence ⇔ Partial evidence ⇔ Complete evidence
- Beginning ⇔ Developing ⇔ Accomplished
- Keep practicing! ⇔ You’re getting it! ⇔ You’re there!

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What is the difference between holistic and analytic rubrics?

Holistic rubrics:
- assess the product as a whole
- are quick and easy to use and understand
- provide general, rather than specific, feedback on individual skills or content
- are usually more general and transferable to a variety of work products

Example of a holistic rubric:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>You’re there! Your short story got my attention and kept it. You’ve got an interesting beginning, lots of details in the middle, and an ending that completes the story. The characters seem like real people.</td>
</tr>
<tr>
<td>2</td>
<td>You’re getting it! Your story caught my attention, but sometimes I got lost as I read along. I wanted to know more details so that your ending would really finish the story. Some characters seemed like real people, but not all of them did.</td>
</tr>
<tr>
<td>1</td>
<td>Keep practicing! I wasn’t sure where you were going with this story. More details would help make sense of the beginning, middle, and end. I didn’t know enough about the characters for them to come alive.</td>
</tr>
</tbody>
</table>

Analytic rubrics:
- divide the product into individual components, and the student or teacher can assess each component separately
- define and describe each component
- are specific and detailed
- are appropriate for more advanced students

Example of an analytic rubric:

<table>
<thead>
<tr>
<th>Level/Points</th>
<th>Understanding</th>
<th>Strategies, Reasoning, Procedures</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning = 6 points</strong></td>
<td>Incomplete solution; parts of the problem are not understood</td>
<td>Strategy is partially useful, but does not completely solve the problem</td>
<td>Incomplete explanation</td>
</tr>
<tr>
<td></td>
<td>The solution addresses some, but not all, of the mathematical components of the task</td>
<td>Evidences some mathematical reasoning</td>
<td>Some appropriate notation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Could not carry out mathematical procedures</td>
<td>Some mathematical terminology and notation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some parts may be correct, but the final answer is not</td>
<td></td>
</tr>
<tr>
<td><strong>Developing = 8 points</strong></td>
<td>The solution shows an understanding of the problem and concepts necessary to solve it</td>
<td>Strategy solves the problem</td>
<td>Clear explanation</td>
</tr>
<tr>
<td></td>
<td>The solution addresses all of the components of the task</td>
<td>Uses effective mathematical reasoning and procedures</td>
<td>Accurate mathematical representation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All parts are correct</td>
<td>Effective terminology and notation</td>
</tr>
<tr>
<td><strong>Accomplished = 10 points</strong></td>
<td>The solution shows a deep understanding of the problem, identification of appropriate mathematical concepts, and the information necessary to solve it</td>
<td>Efficient and sophisticated strategy leads to a direct solution</td>
<td>Detailed explanation of problem’s solution with all steps included</td>
</tr>
<tr>
<td></td>
<td>The solution completely addresses all mathematical components of the task</td>
<td>Uses complex reasoning</td>
<td>Mathematical representation used to communicate ideas related to solving the problem</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applies procedures correctly and accurately</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Verifies solution</td>
<td>Precise use of terminology and notation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes mathematically relevant observations</td>
<td></td>
</tr>
</tbody>
</table>

How can I tell if this is a good rubric?

Evaluate a rubric by asking:
• Does the rubric directly address the outcome being measured?
• Does it cover important components of student performance? Are the components clearly described?
• Is there a clear basis for assigning scores at each level?
• Can different scorers apply the rubric consistently?
• Does it reflect current conceptions of excellence in the field appropriate for your students?
• Is the rubric developmentally appropriate for your students?
• Are there no more than six components described?
• Is it easy for students and parents/caregivers to understand the rubric?
• Can the rubric be applied to a variety of tasks or is it easily adapted to assess a variety of assignments?
• Is the rubric fair and free from bias?
• Is the rubric useful and practical for you?

How can I develop a rubric?

1. Use an existing rubric as-is; some districts create general rubrics (for instance, to measure writing skills at different grade levels) that all teachers use. Many rubrics can be found online.

2. Adapt an existing rubric, by
   • Combining rubrics
   • Rewording parts of the rubric
   • Dropping or changing one of the criteria in an analytical rubric
   • Interchanging scales from different rubrics
   • Changing the rubric to match the criteria for a different grade
   • Dividing a holistic rubric into its components, so that it becomes an analytical scale

3. Make your own rubric, from scratch (many programs available online to create your own rubrics).

How do I use rubrics with students?

1. Present the rubric to your students as you begin the unit, project, or task you are working on. Go over each dimension being measured and ask frequent questions to check for student understanding.

2. Show work examples (either create your own or use authentic student products with names removed) at each step on the scale. Review with students how and where these work samples meet the requirements and the grade each sample received.

3. As students develop their products, ask them to self-assess using the rubric to guide their work.

4. Use the rubric to give students feedback throughout the work cycle. (“Looks like you’ve met the requirements for inserting photos into your slideshow. Text counts, too. Let’s see what the rubric shows about requirements for text, and then work on that.”)

5. When final products are turned in, assess them using the rubric to provide feedback.

How can I use rubrics while differentiating instruction?

1. Leave one or more dimensions of the rubric blank.

2. Working either in consultation with you or on their own, students can develop these blank dimensions to reflect their particular learning challenges. For instance, if a student needs to demonstrate mastery of decimal points in long division, they could enter that as one dimension on the rubric, while another student could have as his or her personalized category, mastery of long division (without decimal points).

3. Each student’s assignment will have the same total point value, but the dimensions they are being assessed on will vary to meet their needs.