Assessing Projects

Project-based learning demands a more progressive means of assessment where students can view learning as a process and use problem-solving strategies to meet or exceed project expectations. Rubrics and scoring guides have been implemented into today's classrooms to give students a better understanding of what is being assessed, what criteria grades are based upon, and what clear and compelling product standards are addressed. The focus of rubrics and scoring guides is to monitor and adjust progress rather than just to assess the end result.

Rubrics and scoring guides offer several advantages for assessment:

- Student performance is improved by clearly showing them how their work is assessed and what is expected.
- Students become better judges of the quality of their own work.
- Students have more informative feedback about their strengths and areas in need of improvement.
- Students become aware of the criteria to use in providing peer feedback.
- Criteria are determined in specific terms.
- Assessment is more objective and consistent.
- Amount of time spent assessing student work is reduced.
- Effectiveness of instruction is examined using multiple methods.
- Progress is measured and documented against benchmarks.

As a guide for planning, rubrics and scoring guides give students clear targets of proficiency. With these assessments in hand, they know what quality looks like before they start working. When students use such assessments regularly to judge their own work, they begin to accept more responsibility for the end product. It cuts down on the "Am I done yet?" questions.

As a gauge for monitoring progress while the project is under way, rubrics and scoring guides can be handy tools to help keep students on target. Students can compare their progress with where they want to be on the proficiency scale, and refer to this in order to remind themselves of their goal.

Finally, as a summative assessment, rubrics and scoring guides can be used to assess projects, student groups, or individual students. Students can use the same rubrics and scoring guides for self-assessment as individuals, in groups, and for peer feedback.

In order to be effective, the language used within each rubric and scoring guide needs to be understandable to students. Using first-person language helps reinforce student ownership of the assessment process. Rubrics and scoring guides become even more powerful when students help develop them. Students must actively focus on and discuss the characteristics of effective performances, products, and behaviors, giving them much deeper understanding and insight. Developing their own criteria for assessment also empowers students and as a result, their learning becomes more focused and self-directed.

Rubric Definitions

Rubrics come in a variety of forms and levels of complexity, however, they all contain common features which:

- Focus on measuring stated objectives which are often defined by **traits** or dimensions (of performance, behavior, or quality)
- Describe performance for each **trait** at several levels with **descriptors**

In the *Assessing Projects* exemplary library, all rubrics have **4 levels** of quality or competency arranged from highest to lowest level. *Assessing Projects* rubrics are defined as general or trait-specific. General rubrics provide a big picture overview of the objective and are defined by specific traits. This Collaboration rubric is a trait-specific:

Collaboration Rubric

Traits	4	3	2	1
Contribution to Group	I contribute consistently and actively to the group discussions I accept and perform all of the tasks I take on I help the group set goals I help direct the group in meeting our goals	I contribute to the group discussions I complete my assigned tasks I contribute to setting our goals I contribute to meeting our goals	I contribute inconsistently to the group I complete my assigned tasks with encouragement I contribute sporadically in setting our goals I have trouble in meeting goals	I choose not to participate I do not complete my assigned tasks I get in the way of the goal setting process I delay the group from meeting goals
Cooperation with Group	I share many ideas and contribute relevant information I encourage other members to share their ideas I balance my listening and speaking I'm concerned about others' feelings and ideas	I share ideas when encouraged I allow all members to share I can listen to others I show sensitivity to other people's feelings and ideas	I share ideas occasionally when encouraged I allow sharing by most group members I listen to others sometimes I consider other people's feelings and ideas sometimes	I don't like to share my ideas I do not contribute to group discussions I interrupt when others are sharing I do not listen to others I'm not considerate of others' feelings and

				ideas

This rubric is a general rubric that does not define specific traits for critical thinking:

General Critical Thinking Rubric

4	3	2	1
I can tell what the most important parts of the information I'm studying are. I use my own knowledge to make inferences and draw conclusions about information and check to see if I'm right. I do whatever I need to do to learn more about ideas and concepts that are new to me. I can thoroughly and clearly explain in speaking or writing my opinion on a topic and give reasons for it.	I can usually tell what is most important about information. I use what I know to draw conclusions and make inferences about information, and I usually check to see if I'm right. I make an effort to learn more about ideas and concepts that are new to me. I can explain my opinion and give good reasons for it.	Sometimes I get important ideas mixed up with unimportant details. With help, I make inferences about information, but sometimes I do not have good reasons for them. If someone reminds me, I learn more about ideas and concepts that are new to me. I can usually explain my opinion, but I do not always have good reasons for it.	I usually can't tell the difference between what's important and what isn't. I have difficulty making inferences. I am usually happy with what I already know about information and do not bother to find out more. I cannot explain my opinion.

Scoring Guide Definitions

Assessing Projects, distinguishes scoring guides from rubrics in that they include points or ratings at each level to help in determining scores. This example looks very similar to a rubric, except for the addition of a multiplier to add weighting for each trait:

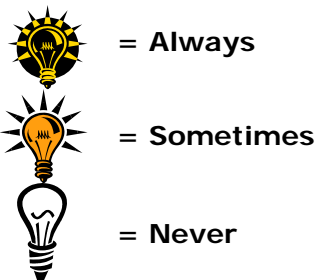| 4	3	2	1
Key equations and mathematical solution _____ x 8 = _____			
Equations show mastery of understanding and organization.	Equations show good understanding and organization.	Equations show developing understanding and organization.	Equations are limited or nonexistent.
Excel graph showing a mathematical representation _____ x 5 = _____			
Graph is logical and has sufficient detail. The visual solution is clearly evident.	Graph is reasonable. All parts are shown, and the solution is evident.	Graph is limited, and the visual solution is incomplete.	Graph is incomplete or absent.

Comments and problem insights _____ x 2 = _____			
Comments are highly effective, and the message enhances the solution.	Comments are relevant, and the message supports the solution.	Comments need additional work, but the message relates to the solution.	Comments are incomplete, and the message does not support the solution.

This example of a scoring guide looks similar to a checklist, but includes **indicators** for rating the expectations:

5	4	3	2	1
Exceeded expectations. Expectations were met and expanded on, well beyond the scope of the project.	Met all expectations and included some extra elements or details to enhance the project.	Met the expectations.	Came close to meeting the expectations but was missing one or two minor elements or details.	Did not meet the expectations and was missing crucial elements.

Expectations		Weight	Score	
Research paper and presentation provided an overview of genetic engineering in agriculture.		X 2		
Research paper and presentation provided a supported investigation of the social, ethical, and monetary issues around the benefits and risks of GE agriculture, especially related to the concerns of Ixtapa.		X 5		

This example of a scoring guide below asks primary students to rate how well they worked on a project. The key provides some information for rating, but is not as detailed as rubric descriptors or the indicators for the scoring guide example above.

Scoring Guide Key

= Always

= Sometimes

= Never

I worked hard.			

I helped my group complete the slide with the correct information.			

Grading with Rubrics

Using rubrics to assign grades to performance tasks requires educating students and parents, who are accustomed to tests and quizzes. Grades derived from rubrics reflect a wider variety of knowledge, skills, strategies, and processes than traditional exams do, and, consequently, they require a more sophisticated understanding of quality. The following sections show how three different kinds of rubrics can be used to assign grades to products and performances.

Trait-Specific Rubrics with Single Descriptors

Trait-specific rubrics can be converted into scoring guides for grading by assigning point values to levels of performance. The possible point value of a trait should take into account the relative value of different traits. In the example below, organization of data is assessed, but is not given more points than complete data.

Learning Log Scoring Guide

	10	9	8	7
Data	My data is detailed, thorough and complete.	My data is complete.	My data is somewhat complete, but some pieces might be missing.	My data is incomplete and several important pieces are missing.
	5	4.5	4	3.5
Organization	My data is organized so that I can quickly and easily find the information I need. Other people can also find information if they need it.	My data is organized so that I can find the information I need.	My data has an organizational plan, but it is sometimes difficult to find what I need.	My data is not organized carefully. It is very difficult for me to find the information I'm looking for.
	5	4.5	4	3.5
Appearance	My log is neat and attractive, and my writing is easy to read.	My log is neat, and my writing is easy to read.	Parts of my log are messy, and sometimes my writing is hard to read	My log is messy, and often my writing is hard to read.
				Total Points 19/20

Trait-Specific Rubrics with Multiple Descriptors

Assigning grades using rubrics with multiple descriptors at each level requires a more comprehensive look at the trait. Descriptors within a level of a trait may not all be equally important. A particular product might meet some descriptors at one level of a trait and others at a different level. Sometimes, the number of descriptors is not consistent in different levels. Some components, creative interpretations, for example, while significant in the higher levels of the rubric, would simply not appear in the lower levels.

When using detailed rubrics to assign grades to complex performance tasks, circle or highlight the descriptors that apply to a particular piece of student work. Then use professional judgment to assign a grade by giving points for each trait or by looking at the overall quality of the work

The following example shows how a rubric that has multiple descriptors at each level of a trait can be used to give a grade. This kind of grade is somewhat subjective in that the teacher must generate a score that seems appropriate without actually adding up specific points. If the scores are consistent and fair, students adjust to this kind of grade and appreciate the more detailed feedback from this style of scoring.

Poster

	4	3	2	1
Content (60 points possible) **Your Points** **57/60**	My poster demonstrates in-depth understanding of relevant concepts. My poster has a purpose and conveys a theme that says something important and interesting about the topic. The theme and purpose of my poster are surprising, original, and meaningful.	My poster demonstrates understanding of major concepts. My poster has a purpose and conveys a theme that says something about the topic. The theme and purpose of my poster are meaningful.	My poster demonstrates that there are gaps in conceptual understanding. My poster attempts to reflect a purpose and theme that say something important about the topic, but the theme is shallow or poorly conveyed, and the purpose is vague and confusing. The theme and purpose of my poster are predictable.	My poster shows significant gaps in conceptual understanding. My poster does not reflect a theme or purpose related to the topic.
Design (15 points possible)	I effectively and creatively use lines, shapes,	I effectively use lines, shapes, mass,	I use lines, shapes, mass, texture, and	My use of lines, shapes, mass, texture,

Your Points **13/15**	mass, texture, and color to make my poster interesting, attractive, and meaningful. My images are relevant to the content and add meaning to the overall meaning of poster. My poster is balanced, and all the elements work together to create a focused message.	texture, and color to make my poster interesting, neat, and attractive. My images are relevant to the theme of the poster. My poster is fairly balanced and most of the elements work well together.	color in predictable ways, and my poster does not attract a viewer's attention. Some of the images relate to the content of the poster. My poster is slightly unbalanced and some elements detract from the overall message.	and color is careless and sloppy, and my poster is unattractive and unappealing. My poster is unbalanced and the elements do not work together to present a unified message. Few of my images relate to the overall poster. OR My poster has no images.
Creativity (15 points possible) **Your Points** **12/15**	I use text, graphics, and layout in unusual, surprising, and appropriate ways to communicate meaning in my poster.	I use text, graphics, and layout in unusual and appropriate ways to make my poster interesting and attractive.	I try to use text, graphics and design in unusual ways, but they are not always effective. OR My poster is generally predictable in appearance and theme.	The unusual elements I include in my poster are inappropriate or ineffective. OR I make no attempts to include unusual elements in my poster.
Conventions (10 points possible) **Your points** **10/10**	My poster contains no errors in written conventions My poster manipulates conventions effectively, when appropriate, to make my poster more interesting and meaningful.	My poster has a few errors in written conventions that do not distract the reader from the meaning.	I have some errors in written conventions that detract from the meaning of my poster.	Multiple errors in writing conventions distract from the meaning of my poster.
Grade: 92/100				

General Rubrics
General rubrics that do not specify individual traits can also be used to assign grades, but they provide students with little concrete information about their performances..

This rubric about a persuasive speech describes what speeches that receive different grades look like in general. It does not give specific feedback, such as which public speaking skills could be improved but does give students a general idea of how their speech compares to standards.

Persuasive Speech

A	B	C	D
The student used effective public speaking skills, such as eye contact, posture, and volume. The student showed an awareness of the audience. The student used many credible facts and sources to persuade the listeners. The speech began with an introduction that engaged the audience and ended with a good conclusion.	The student used effective public speaking skills, such as eye contact, posture, and volume, most of the time. The student showed some awareness of the audience. The student used some credible facts and sources. The speech began with an introduction and ended with a conclusion.	The student sometimes failed to use effective public speaking skills. The student showed limited awareness of the audience. Some of the student's facts were not credible. The speech did not have either an introduction or a conclusion.	The student rarely used effective pubic speaking skills. The student showed little awareness of the audience. The student included no facts or facts that were not credible. The speech was missing an introduction and a conclusion.

Helping Students and Parents Understand Grading with Rubrics
Students and parents who are accustomed to grades from tests and quizzes, need to learn how grades derived from rubrics reflect a wider variety of knowledge, skills, and processes than traditional exams. Grading with rubrics can never be as precise as counting correct answers to a multiple-choice test. This is to be expected because work that requires deep understanding and higher-order thinking is not as easy to describe and assess as facts or basic skills. It is important to communicate how to use rubrics to assign grades, particularly if students have not been graded with this method in the past. Teachers can avoid misunderstanding by showing examples of rubrics and how grades were calculated so that students and their parents, will learn the reasoning behind grading with rubrics.

Some of the anxiety over grades can also be avoided when students' learning has been assessed in a variety of ways throughout a unit. Multiple assessments can

prepare students for final grades on projects by letting them know frequently where their weaknesses and strengths are. If students are having trouble with a particular skill, strategy or topic, a final product assessment will not be the first time they hear about it.

The primary reason to use rubrics and scoring guides is to increase the quality of work. They define clear expectations and force students to be responsible for the work they create. With the use of rubrics, students are able to articulate what they've learned and know exactly what they need to do to be successful. Rubrics and scoring guides are assessments that provide for clear communication with students, teachers, and parents. This communication allows everyone involved to understand the expectations and ensures student learning and success.