

Using Rubrics to Assess Students' Math Performance

EDEC 303: Mathematics Theory & Instruction

What is a rubric?

- a scoring tool that lists the criteria for a piece of work or 'what counts.' *
- includes a description of the levels of quality for the product (an holistic rubric)
- includes a description of the levels of quality for each of the criteria (an analytic rubric)
- includes a description of the required level of quality for each criteria and leaves room for narrative comments on success or shortcomings (single-point rubric)
- The levels of performance may be written as ratings (Outstanding, Meets the Standard, Needs Improvement) or as numerical scores (3,2,1)

What are the different types of rubrics*?

Holistic Rubrics: Define 3-5 levels of performance and consider the product as a whole.

Pros: Easy to develop & apply

Cons: They provide limited feedback

Score	Description
Excellent (3)	
Meets the Standard (2)	
Needs Improvement (1)	

*<https://www.cultofpedagogy.com/holistic-analytic-single-point-rubrics/>

What are the different types of rubrics*?

Analytic Rubrics: Break the assignment into parts & define levels of performance for each part.

Pros: Provide targeted feedback

Cons: Development time & Wordy

Criteria/Description	Excellent	Meets Standard	Needs Improvement
Understands the Problem			
Implements an Effective Plan			
Arrives at a Solution			

*<https://www.cultofpedagogy.com/holistic-analytic-single-point-rubrics/>

What are the different types of rubrics*?

Single-Point Rubrics: Break the assignment into parts & describes the required level of performance. Areas of concern and excellence are open-ended.

Pros: Less wordy & highlights learning, rather than particular grades.

Cons: Areas of concern and excellence are open-ended, that is less defined.

Concerns	Meets Standard	Advanced
	Understands the Problem	
	Implements an Effective Plan	
	Arrives at a Solution	

Check out Edutopia's [article](#) on Single-Point Rubrics.

*<https://www.cultofpedagogy.com/holistic-analytic-single-point-rubrics/>

Why do teachers use rubrics?

- Rubrics help teachers communicate the important elements of an assignment to students & to parents.
- Rubrics provide specific feedback to students.
- Rubrics encourage student self-assessment.
- Rubrics provide a way for teachers to inform their teaching.

Teachers and students can develop rubrics by examining examples of student work, listing ingredients of quality work, defining gradations of performance, drafting a rubric, practice using the draft rubric to assess work, and revising the rubric.

When teachers & students do this, student performance improves.

Let's practice!

Our Pets

I do (the instructor): Make a rubric for Our Pets Questions 1 & 2

We do (instructor & whole class): Make a rubric for Our Pets Questions 3 & 4

You do (in small groups): Make a rubric for Our Pets Questions 5 & 6