



Chocolate Chip Cookies and Rubrics

Helping Students Understand Rubrics in Inclusive Settings

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What can students learn from chocolate chip cookies? What are the qualities of a great cookie? How about one that didn't quite make the taste test? How do such analyses relate to school? How can we use this familiar content to "treat" students to an awareness of their own performance?

Here's one answer: Rubrics.

Rubrics are becoming increasingly popular in classrooms as a way for students to understand the expectations of assignments and, in turn, for teachers to assess their individual performance. As special education students become more involved in high-stakes assessment, teachers need to be aware of how rubrics can help determine their students' understanding of a given task. This article can help you familiarize your students, with and without disabilities, with the terminology and the use of rubrics (see box, "What Are Rubrics?").

Why Use Rubrics?

One positive aspect of using a rubric is that it allows teachers to examine instruction and assessment in a matrix format. The rubric should clearly delineate the teacher's expectations for performance so that all students, including those with special needs, understand what they need to accomplish.

By using a rubric, students with disabilities can begin to evaluate their work; thus, students become more aware of their potential strengths and weaknesses in completing assignments. The rubric can also serve as a communication tool among teachers, students, and parents when examining specific strengths and weaknesses of students' performance.

Designing a Rubric

The following six steps are helpful in designing a rubric:

- Describe an exemplary response of all attributes that describe a quality performance. This step will encourage students to perform at an expert level. For example, What is the best response? What sets this apart from others?

- * Brainstorm the qualities of an exemplary response and all essential components of the desired performance. At this point, you and your students make a checklist of all criteria.
- * Categorize the criteria. Here, you will translate the components into descriptors of the task or project. You and the students can then check the descriptors against expected student performance.
- Select the rubric format (i.e., analytic or holistic). In doing this, consider the purpose of the assessment; number of expected outcomes; number of students in the class; and usefulness of the rubric to all, including you as

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the teacher and students with and without disabilities.

- Design the rubric by describing the levels, exemplary to poor. Other rubrics have used scales such as *novice* to *expert* or a 1-4 numerical scale.
- Select the scale to be used. Few teachers and students can make reliable discriminations in performance across five or more categories. Thorndike (1997) recommends using a 4-point scale to minimize student confusion and enhance student performance.

Thorndike (1997) stated that the best scoring rubrics provide clear criteria for evaluating student performance and proficiency and are somehow related to the student's educational objectives. In the same way that you write the behavioral component of an objective, you should avoid using analogous words that may confuse the meaning of the performance criteria. Examples of analogous words are *good*, *proper*, *many*, or *appropriate*. To clarify the terms for students, for example, you could define "good" as "only one spelling error per paragraph." Gunning (2001) stated,

The foundation of a rubric is the set of evaluative criteria that will be used to assess students' work. The criteria should function as an instructional guide so that the teacher can use them to plan lessons and activities that will help the students master the skills being taught. (p. 134)

In developing the rubric scale, ensure ease in use for students with and without disabilities. The highest point value should describe a truly exemplar performance. Use precise language that clearly defines the characteristics of the performance to be evaluated. Also, the language should clearly describe the various levels of quality so those students with and without disabilities can easily discriminate between points on the scale.

A Practice Exercise: Determining the World's Best Chocolate Chip Cookie

Here is an effective activity to assist students with disabilities in understanding

What Are Rubrics?

Rubrics, as defined by Venn (2000), are "scoring criteria that describe an array of possible responses and specify the qualities and characteristics that occur at different levels of performance" (p. 641). There are two basic types of rubrics—analytic and holistic:

- An *analytical rubric* assesses a product through consideration of essential features of the product (see Figure 1). The analytical rubric helps teachers diagnose specific strengths and weaknesses in students' work. An analytical rubric can act as a framework for the teacher and the student. This type of rubric is typically in matrix form and designates a score for each criterion (Marzano, Pickering, & McTighe, 1993).
- * A *holistic rubric* assesses a product on the basis of an overall impression. When using a holistic rubric, you can react to the product as a whole, rather than by the individual elements of the product. The product is assessed by its overall effectiveness: Does it work? Am I convinced? You can write a holistic rubric for a specific task or as a generic rubric for tasks that are similar in nature. For example, you may write a rubric that addresses a specific writing assignment comparing two main characters in a story, or you could write a rubric that students can use for most writing assignments.

rubrics. It involves six steps, with heterogeneous groups of five to six students each:

- Each group of students receives a bag of chocolate chip cookies containing at least six different brands of cookies that vary in size, shape, and texture. Ask the groups to discuss and describe what the best chocolate chip cookie would look and taste like.
- Students brainstorm the essential components of the World's Best Chocolate Chip Cookie.

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- Each group shares their list with the class to develop and agree on five descriptive categories (e.g., Texture, Appearance, Taste, Contents, and Smell).
- The students select the format they wish to use for the rubric. For this particular activity, the analytic format was chosen because students are asked to analyze the best cookie.
- Students design the levels of the rubric from *poor* (1) to *exemplary* (4). Students examine their cookies and brainstorm characteristics that would be placed under each numeric or descriptive level. Once the levels have been determined, each group of students selects a characteristic and describes it across all four levels.
- They decide the type of scale that will be used, which may include numeric or descriptive values. For this activity, a numeric scale was chosen as an example, but students may choose to use the words *outstanding*, *best*, *good*, and *poor* (see Figure 1).

To conclude this activity, each group of students shares their completed rubric for comparison and contrasting purposes. They then sort their cookies according to the rubric they have developed (if any have survived all the taste tests).

As the facilitator, you should review the process of developing a rubric and stress the importance of using the criteria on the rubric as a guide when completing a project or assignment. Be ready for a lively class discussion as students debate between exemplary and poor examples.

Figure 1. Chocolate Chip Cookie Rubric

Characteristic	4	3	2	1
Texture	The cookie is crispy on the outside, is chewy on the inside, and includes moistness but is not greasy.	The cookie is crisp on the outside and chewy on the inside.	The cookie is fully cooked but only crisp or only chewy.	The cookie is overcooked or undercooked.
Appearance	The cookie is whole, golden brown, 4" in diameter, with at least 4 visible chips. It is thicker in the center and thinner on the edges, uniquely shaped, and presented on an aesthetically pleasing plate or napkin.	The cookie is whole, golden brown, 2"-4" in diameter with at least 4 visible chocolate chips.	The cookie is golden brown and less than 2" in diameter.	The cookie is broken or burnt or raw or contains no visible chips.
Taste	The cookie is oven fresh with a sweet, rich, buttery flavor. A real chocolate taste in each bite complements the rich, flavored dough.	The cookie is fresh with a sweet, buttery flavor. A real chocolate taste complements the rich, flavored dough.	The cookie is semi-fresh with a buttery flavor and a chocolate flavor.	The cookie is stale, salty, and dry. The chocolate chips are tasteless with bland flavored dough.
Contents	The cookie has a 50:50 dough-to-chip ratio. The chocolate chips are large chocolate chips. The chocolate chips are the highest quality.	The cookie has a 50:50 dough-to-chip ratio. The chocolate chips are standard, commercial morsel size.	The cookie has a few (1-2) chocolate chips.	The cookie has no chocolate chips or no distinguishable chocolate chips.
Smell	The cookie has a rich, buttery and chocolatey smell from 6' away. The smell makes your mouth water and want a cookie.	The cookie smells rich, chocolatey, and buttery when held at an arm's length.	The cookie has a buttery or chocolatey odor when held near the nose.	The cookie smells burnt or unpleasant, or has no smell at all from any distance.

Source: *Genesee Valley Schools and Higher Expectations for All*, by Genesee Valley Board of Cooperative Educational Services (BOCES) School Improvement (1997). Adapted by permission.

Current Uses of Rubrics

Special education students in inclusive classrooms can more readily participate in assignments and assessments when they understand the expectations and grading process. The use of rubrics in the classroom informs students about the expectations so that they know what an exemplary performance should look like. Popham (2000) noted, "Appropriately

designed rubrics can make an enormous contribution to instructional quality" (p. 292).

In some preservice teacher education classes, instructors provide models of rubric use by providing students rubrics for each assignment. The purpose of the rubric is to guide students in developing and completing their work. By providing students with the

expectations ahead of time, students are given the opportunity to ask questions, clarify expectations, and understand the grading procedure that will be utilized. The rubric facilitates a shared understanding of the expected performance between students and teachers. The rubrics also make it easier and less time consuming for the teacher to grade the assignment because of clearly delin-

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ated expectations. Other examples of where rubrics have been introduced and used are the New York State Learning Standards Assessments. Fourth-grade classrooms typically include students with wide ranges of abilities who may pursue multiple pathways to learn effectively, participate meaningfully, and work towards attaining the curricular standards. At the fourth-grade level, students are tested in English Language Arts (ELA), Mathematics (Math), and Science. Student performance on the ELA and Math assessments are evaluated on a 1 (not proficient) to 4 (highly proficient) scale. Each numeric value is defined by a set of performance skills, and students in a given level can perform the majority of what is described. For example, in the math assessment a "1" would include the following skills: basic addition and subtraction, count groups of objects, and recognize simple data. A "4" would include ordering decimals, use of percents, use of estimation, applying graphical data, and drawing conclusions. To prepare students for these assessments, many teachers are developing parallel tasks and using New York's rubrics to evaluate student work.

Final Thoughts

Using the chocolate chip cookie activity as an introduction to the process of developing rubrics allows students to develop necessary self-evaluation skills. Through rubric usage, self-evaluation skills can then be generalized to all subject areas. An added benefit of using

rubrics is enhanced student performance because students have a better understanding of what is expected of them.

As educators, we can see rubrics not only as an assessment tool but also as an instructional tool. Students with disabilities are just one group that can benefit from knowing what is expected of them in terms of academic performance. Rubrics can be beneficial to all members of the school community—from students to parents and teachers to superintendents. As teachers pursue the use of rubrics in their classroom, they know that the time spent in developing clear expectations for assignments will be a benefit to students and teachers alike.

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