Involving Students in Learning Through Rubrics

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Fourth graders are creating an exhibit on invasive species for an upcoming Earth Day celebration. The focus for their display is an essential question: How can we protect our native environment from invasive species? *The students work in groups to investigate an endangered ecosystem (e.g., forest, beach, wetland) and plan their presentations. Each display will identify native plants and animals and explain the impact of invasive species on the natural balance that exists in the ecosystem.*

In a nearby middle school, students are working on their projects for an upcoming History Day exhibit. To address this year's theme, "Taking a Stand," each student is researching a person in history who took a stand and made a difference. The class has agreed that every project will address two essential questions: How do people take a stand? *and* Why is it important to take a stand?

The above examples represent a student-centered approach that engages youngsters in exploring "big ideas." In each case, the project reflects a schoolwide, inquiry-focused approach to learning that encourages students to create personal knowledge by:

• Asking meaningful questions

• Planning and executing an investigative strategy

• Accessing and evaluating information in a variety of sources

• Organizing information for an effective presentation

• Expressing a personal point of view about the topic or theme

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Projects like these present natural opportunities for library media specialists to partner with teachers. In both of these examples, the library media specialists support learning by helping plan instruction and teaching important skills. They also take responsibility for assessing learning related to the information search process.

In inquiry environments, assessment is integral to the learning process. This means that students not only assess their own work, but they also help identify the criteria for assessment and design the tools for measuring the quality of the performance. One critical assessment tool, which is being used in countless classrooms, is the rubric. Increasingly, educators accustomed to using rubrics as a tool for improving students' writing are applying the same strategy to monitoring and assessing a range of authentic learning tasks. Rubrics make quality the standard for assessing both teaching practices and student achievement. They encourage students to shift their thinking from "What have I learned?" to "How well have I learned it?"

Designing Rubrics

A well-constructed rubric identifies the criteria for a successful performance and describes the qualities of strong, adequate, and weak performances (Harada and Yoshina 2005). Students who are involved in the process of creating a rubric have a better understanding of what must be done to reach expectations. With the rubric as a guide, they learn to monitor their own progress and make improvements in a timely manner.

Heidi Goodrich Andrade (n.d.) has identified key guidelines in developing sound rubrics. We have extended Andrade's guidelines (see fig. 1) by indicating how the instructors and students might work together to design useful rubrics. We have used the two examples introduced in the beginning of the article to explain how library media specialists might be involved in the creation and use of rubrics.

Elementary School Example: Invasive Species

Wendy, the library media specialist at the elementary school, plans a series of lessons on aspects of the information search process that are critical to investigating the topic of invasive species. Because questioning is at the heart of the inquiry process, she decides to focus her first lesson on helping fourth grade students improve their questioning skills. She uses the following six-step guidelines (see fig. 1) for developing and using rubrics.

Step 1: Examine models representing different performance levels.

Wendy reproduces sample question webs collected from a previous project. She asks students to compare the webs and explain why some are better than others. Here are some of the comments overheard:

"These questions don't make sense."

"These don't have anything to do with the essential question."

"How can you tell whether it's native or invasive if you don't ask where it came from?"

Through these conversations, students learn to recognize the kinds of questions that are needed to address the essential question and complete their projects.

Step 2: List criteria for a successful performance.

Wendy calls attention to the performance task and asks students to think of questions that will help them successfully complete the project. She also asks them to consider what they will need to find out to address the essential question. After some discussion, Wendy helps them express these two criteria as student-friendly "We can" statements:

- **We can** ask questions that address the essential question.

- **We can** ask questions that will help us with our project.

Using these goal statements as a starting point, Wendy begins to draft a rubric for questions. She refers to the question

Figure 1: Guidelines for Developing and Using Rubrics

	Guidelines	Role of instructors	Role of students
1	Examine models representing different performance levels.	Select work samples representing different levels of quality.	Engage in discussions about what quality work looks like.
2	List criteria for a successful performance.	Synthesize discussion, helping students identify criteria.	List criteria for a quality product.
3	Create a rubric describing different levels of quality.	Draft the rubric. Explain the rubric to students. Use feedback to revise it.	Ask questions about the draft rubric. Provide feedback for revision.
4	Practice using the rubric on a work sample.	Demonstrate how the rubric is used to assess a work sample.	Work in groups to assess work samples with the rubric.
5	Use the rubric to guide independent practice.	Incorporate self-assessment and peer assessment into practice session.	Use feedback to self-assess and make improvements.
6	Use the rubric to assess the final product or performance.	Use the rubric for final assessment.	Use rubric to assess the final product.

webs introduced in step 1 and involves students in identifying criteria for meeting each goal.

Step 3: Create a rubric describing different levels of quality.

To save time, Wendy crafts the remainder of the rubric, incorporating students' suggestions wherever possible. After students have an opportunity to review the rubric and offer feedback, it is revised and distributed. Each group uses the rubric (see fig. 2) as they work on question webs for their invasive species projects.

The rubric for questioning is an example of a process rubric. It is developed to guide students through a critical aspect of the information search process. With the rubric as a tool, Wendy is able to determine early on whether students are able to ask the questions needed to frame the inquiry.

Step 4: Practice using the rubric on a work sample.

Armed with copies of the revised rubric, students work in small groups to assess one of the question webs used as a work sample. Wendy and the classroom teacher facilitate the practice session by providing feedback, focusing on the proper use of the rubric. After students have an opportunity to share the results of their assessment and reflect on what they learned, they are ready to apply the rubric to their own work.

Step 5: Use the rubric to guide independent practice.

Students work in groups to create question webs for their own projects. As they develop their webs, they use the rubric to assess the quality of their questions and make adjustments. (See fig. 3 for a web developed by a group focusing on wetlands.)

After using the rubric to assess their questions, the students expand their webs by adding the following spin-off questions:

- How can you tell the difference between native and invasive species?

- Where do the invasive species come from? How did they get here?

- How do they harm native species?

- What will happen if we don't do anything about the problem?

- What solutions have already been tried? Did any of them work? Why or why not?

Step 6: Use the rubric for a final assessment of question webs.

The same rubric that is used to structure learning is used to assess how well students have learned the skill. Students post their completed question webs, and teams use the rubric to assess the webs created by other teams. Students offer comments and questions to explain their ratings.

Wendy and the classroom teacher use the rubric to assess students' ability to

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Figure 2: Rubric for Questions

We can write questions that relate to the essential question: How can we protect our native environment from invasive species?

Criteria	Advanced	Proficient	Novice
Our questions will help us: 1 Describe the environment. 2 Identify native and invasive species in that environment. 3 Identify the problem. 4 Explain the causes and effects of the problem. 5 Suggest possible solutions. 6 Examine the pros and cons of each solution. 7 Explain the importance of protecting the ecosystem.	Our questions relate to all the criteria.	Our questions relate to five or six of the criteria.	Our questions relate to four or fewer of the criteria.

We can write questions that will help us with our project.

Criteria	Advanced	Proficient	Novice
Our questions will help us: 1 Create an accurate likeness of the plants and animals that live in the ecosystem. 2 Correctly label native and invasive species in the ecosystem. 3 Develop an accurate and detailed model or display.	Our questions address the three criteria.	Our questions address two of the three criteria.	Our questions address one of the three criteria.

Figure 3: Sample Question Web
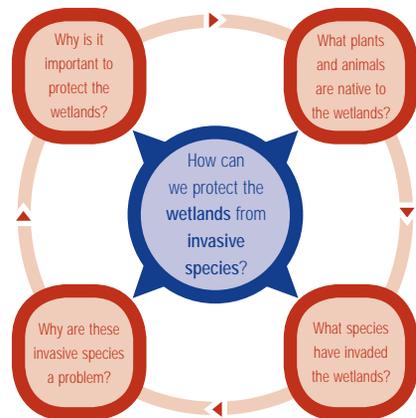
"A well-constructed rubric identifies the criteria for a successful performance and describes the qualities of strong, adequate, and weak performances."

ask powerful questions that provide direction and frame the inquiry. Students place the question web and the rubric in their portfolios to be shared with parents as evidence of learning.

Secondary School Example: History Day

The History Day project focuses on the construction of an informational poster board. Because students research their topics with the end product in mind, they need to know at the outset what the expectations are for their poster boards. The instructional team decides to involve students in designing a rubric for their History Day projects.

Figure 4: Criteria for Poster Board

Students' Comments

"This one is confusing to look at."

"What does this have to do with the theme?"

"The facts don't have anything to do with the main idea."

"This doesn't sound right to me."

"This one really grabs my attention."

Assessment Criteria

The main idea is clear when you first look at the poster board.

The main idea is connected to the theme and is expressed in the thesis statement.

Facts and details support the main idea.

All the information is accurate and related to the topic and theme.

The presentation is creative, original, and attractive.

Step 1: Examine models representing different performance levels.

Ron, the library media specialist, helps students determine criteria for assessing their poster boards. He engages students' interest by taking them on a gallery walk featuring poster boards saved from previous projects. As they walk through the gallery, students write comments and questions on sticky notes that are placed on the projects.

Step 2: List criteria for a successful performance.

Ron uses students' comments to help them formulate criteria for their own products. Students' comments can be turned into assessment criteria (see fig. 4).

Step 3: Create a rubric describing different levels of quality.

Ron uses the criteria (see fig. 4) to draft a rubric for the History Day poster board. He gives students the opportunity to review the rubric and suggest changes. (See fig. 5 on page 14 for the revised rubric.)

Step 4: Practice using the rubric on a work sample.

With Ron's assistance, each group assesses one of the sample projects that they viewed earlier in their gallery walk. After reaching a consensus on the level of quality represented by the project, the groups use the rubric to explain their decisions to the entire class. Ron synthesizes the activity by engaging students in a discussion of how rubrics might help them with their own projects.

Step 5: Use the rubric to guide independent practice.

As students work on their projects, instructors stop them periodically to self-assess their work in relation to the rubric. Based on self-assessment and peer feedback, students revise their projects to reflect the quality described by the rubric.

Step 6: Use the rubric to assess the final product or performance.

The same rubric that is designed and used by students throughout the process is used to assess the final product. During the History Day exhibit, each project receives the following four assessments: self-assessment, peer assessment, instructor assessment, and assessment of a team of judges representing the community. These assessments are described below:

- Each student uses the rubric to reflect on how his or her project measures up in terms of the criteria for a quality performance. This final reflection, along with comments on the rubric itself, is displayed with the project in the History Day exhibit.

- Teams of students are assigned display boards to assess. After rating a project in relation to each criterion, the team provides written feedback that can be used to revise the project in preparation for the next round of competition.

- Throughout the process, the instructors have used the rubric to keep students focused on the criteria for a quality performance. Now they use the same rubric to provide an objective assessment that tells students how well they have done. The end result is a continuous focus on helping students achieve standards for quality work.

- Judges use the rubric to assess each of the projects in the History Day exhibit. Because the rubric identifies the criteria for a successful project and describes different levels of quality, it serves as a guide to determine which of the projects are deserving of recognition. Many of the judges also use the rubric to offer informal advice to students.

Benefits of Rubrics

Comments from teachers and library media specialists who have worked with us on rubric design and implementation attest to the benefits of rubrics. While the process involves considerable effort, they maintain the value of student involvement is immeasurable. Here are some of their reflections:

"When students are involved in designing rubrics, assessment becomes front and center. As students examine models and discuss issues of quality, they set goals for their own work. Rubrics are a great tool for continuous assessment and improvement."

"I find the rubric to be invaluable when it comes to helping individual students. If something needs correction, I refer to the rubric. Usually, the student knows what I mean and makes the adjustment by himself."

"Everyone knows the expectations. When students participate in creating the rubric, they set expectations for their own work. As one of my students put it: 'There is really no excuse for not doing well. Everyone knows the expectations because we helped set them.'"

"Rubrics put the kids in the driver seat."

A Final Word

Rubrics are just one of the many tools in the assessment toolbox. They erase the divide that often exists between instruction and assessment. When students are involved in designing and using rubrics, they also learn to recognize and strive for quality (Andrade 1999). ∎

Works Cited

Andrade, Heidi G. 1999. "When Assessment Is Instruction and Instruction Is Assessment: Using Rubrics to Promote Thinking and Understanding." In L. Hetland and S. Veenema, eds. *The Project Zero Classroom: Views on Understanding.* Cambridge, MA: Harvard Graduate School of Education. 10 March 2006 (www.lookstein.org/heterogeneous/hetero_edu_rubrics.htm).

Andrade, Heidi G. n.d. *Understanding Rubrics.* Cambridge, MA: Harvard Graduate School of Education and Project Zero. 10 March 2006 (http://learnweb.harvard.edu/ALPS/thinking/docs/rubricar.htm).

Harada, Violet H. and Joan M. Yoshina. 2004. *Inquiry Learning Through Librarian-Teacher Partnerships.* Worthington, OH: Linworth.

Harada, Violet H. and Joan M. Yoshina. 2005. *Assessing Learning: Librarians and Teachers as Partners.* Westport, CT: Libraries Unlimited.

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Figure 5: Rubric for Assessing Informational Poster Boards

Criteria	Advanced	Proficient	Novice
Ideas/Content knowledge	The main idea is related to the theme and is expressed in the thesis statement. Examples, quotes, and other details support the main idea. All information is accurate and complete. The information explains how the person changed society by taking a stand.	The main idea is related to the theme and is expressed in the title. There are enough details to support the main idea. Most of the information is accurate. The information shows how and why the person took a stand.	The main idea is not clearly stated. There are few details to support the main idea. Not much of the information is accurate. The information does not show how and why the person took a stand.
Visuals	All visuals help others understand the message. All captions connect the visuals to the theme.	Most of the visuals relate to the topic. Most of the captions connect the visuals to the theme.	Few visuals relate to the topic. Few captions connect the visuals to the theme.
Overall appearance	The board is attractive, well organized, and neat. The board makes you want to stop and read it.	The board is attractive, well organized, and neat. The board is easy to read and look at.	The board needs more work. It is not attractive. You walk right by the board without noticing it.
Conventions	There are no errors in spelling/grammar.	There are few errors in spelling/grammar.	There are many errors in spelling/grammar.