

PROVIDING FEEDBACK

-  “Good job!” “Needs Work” “Look carefully”
- What does this feedback tell a student about the work?
- How could vague feedback allow misconceptions to continue?

Marlowe Is a Fourth Grade Student

Marlowe enjoys school though she is a struggling student. Her reading comprehension is far below grade level, so everything academic is difficult for her. She has an IEP with special accommodations for test situations and works with the special education teacher weekly. Marlowe has strong support at home.

Marlowe worked hard when the class studied area and perimeter. She liked the hands-on activities her teacher provided and was very proud of the 100's she got on her worksheets. When she worked with a partner who read the story problems with her, Marlowe successfully identified which tasks involve area and when perimeter calculations were required.

School Is Important to Marlowe

Everyone was pleased with Marlowe's success; her teacher used one of Marlowe's sketches with the perimeter of the figure clearly labeled during a class discussion. At home Marlowe proudly displayed her math worksheets to her mother.

Toward the end of the unit the teacher provided a review sheet as classwork. There were three questions on the front – one that directed students to give the area and the perimeter of four different figures. The other two questions were word problems - one involving perimeter of a garden and the other directing students to draw a figure with an area of 24. Students were told to label the figure with the dimensions of the perimeter.

Marlowe completed all of the work successfully.

The Review Sheet

The tasks on the back were all review – keeping computational skills sharp and questions about parallel and perpendicular lines. Marlowe made an error in one multi-digit multiplication, but answered the other computations correctly.

She correctly identified the examples of parallel lines but was not successful with the last two tasks that involved perpendicular lines. Rather than drawing figures that modeled perpendicular lines, she drew a triangle (scalene) and a hexagon, carefully labeling the imaginary lengths of the sides.

Expecting to have another assignment with a 100 and a big smiley face, Marlowe was crushed when the work was returned to find the last two figures marked with X's. Because her teacher always sought ways to encourage Marlowe, she had written “good job” on the front and “look carefully” beside the directions for the final two tasks.

A Disappointment

After dinner when her mom asked about homework, Marlowe reluctantly pulled papers from her book bag. The review sheet was crumpled up and stuck in the back of the work folder. Her mom smoothed the page, commented on how proud she was with Marlowe's work as she looked at the front of the worksheet.

When her mother turned the paper over, Marlowe spoke up. "I don't understand. I got the perimeter questions right on the front, and I don't know why I missed them on the back. The sides are labeled and I added them correctly."

"Read the questions to me," her mother directed Marlowe as she looked at the worksheet.

The Misunderstanding

“Draw and label a figure with lines that are perimeter,” she read.

“Look carefully,” her mother pointed to the word *perpendicular* that Marlowe had just read as *perimeter*. “What is this word?”

“Perimeter – no, perpendicular. Perpendicular lines are like this,” said Marlowe as she drew correct examples. She used the edge of her book to trace a right angle and then extended one of the sides.



Marlowe’s mother realized that the mistake was not due to a lack of mathematics understanding but rather a reading error.

Supporting Learning Through Feedback

Thinking about feedback: Marking an item on a worksheet or test as incorrect and not following up in some way may leave students in the same situation as Marlowe. That is, students may not understand why answers are wrong. The feedback of “look carefully” was not helpful since Marlowe continued to misread the word perpendicular as perimeter.

Sometimes a class discussion is the appropriate form for feedback when many students seem to share the same misconception. Other times, such as Marlowe’s example, a two minute conversation between teacher and student can identify a misunderstanding, an incomplete grasp of the content, a careless error, or a misread word. Each situation may be unique, but there are numerous, similar situations across all classrooms in which preventing misconceptions or confusions can and should be remediated right away before they become part of students’ ideas about mathematics.

Supporting Understanding Through Feedback

Reminder: Grades rarely tell students what thinking is correct or incorrect and when they are likely to be going down an unproductive path. Nor do grades help students correct their misconceptions.

Steps to Take in Your classroom: When students make mistakes,

1. Be certain they can read and understand the directions.
2. Whenever possible, discover **why** the mistake is made – not enough information, misreading the text, answering a different misconception, correct but incomplete knowledge.
3. Identify the error and ask the student to explain his/her thinking; plan next steps so that the mistake becomes an opportunity to learn.
4. Focus on what is correct as a platform upon which to build.

What Do You Think?

In your classroom, when have you had this kind of situation - a student misreading a word or question?

Why is it important for a teacher to look for the thinking behind a student's wrong answer?

How might not addressing the reasons for students' mistakes impact his or her long-term learning?

(The name of the student in this true story has been changed. The story was first shared in *INFORMative Assessment: Formative Assessment to Improve Math Assessment, K-6*; Joyner and Muri, Math Solutions, 2011).