



Presentation

FULL DETAILS AND TRANSCRIPT

Prescriptive Feedback

November 2007

Topic: Encouraging Girls in Math and Science
Practice: Prescriptive Feedback

Highlights

- Teacher feedback can powerfully affect how students view their abilities—sometimes not in the way intended.
- Student self-confidence can be vulnerable when only students who are easily succeeding are praised. Student effort needs to be rewarded.
- Teachers should focus on the learning process rather than the outcome—how to solve math and science problems, not getting the correct answer.
- Students who focus on performance goals avoid things that involve risk of failure or of looking less smart.
- Teachers should avoid simple right/wrong responses, and should encourage mistakes as part of the learning process.

Full Transcript

Slide #1

Welcome to the overview on providing prescriptive, informational feedback.

Slide #2

Like most students, Rebecca loves positive feedback from her teacher. So, she was on top of the world when her science teacher said she got a perfect score on her first test. Her teacher even called her a “science whiz!”

As the next test approached, however, the material became much more complicated and difficult. Rebecca didn’t think she’d get a perfect score this time, and she worried about how her teacher would react. So, on the day of the exam she complained of a stomachache and stayed home from school.

Rebecca’s teacher had no idea that the praise she gave after the first exam actually made Rebecca avoid the second exam. She knew that teacher feedback could impact how students’ perceive their abilities, but she didn’t realize that it could sometimes result in unintended effects.

Slide #3

Teacher feedback impacts three important elements of student learning:

- self-confidence
- learning goals, and
- their knowledge and skills

Slide #4

A student’s **self-confidence** in her academic abilities can go up or down depending on her interactions with her teacher. Students are particularly vulnerable when they are struggling with new concepts or at the beginning of a new class.

For example, a student who is struggling with algebraic equations can begin to doubt his overall ability in math if a teacher only praises the students who are easily succeeding.

How can teachers build self-confidence in their students?

First, use a genuine, positive tone to build a supportive classroom environment where mistakes are seen as a growth opportunity—a chance to explore something new.

Second, when giving back test results, comment on effort as well as scores. Help students understand that test scores are an indication of their current understanding of a topic—not a fixed level of ability.

For example, instead of telling a student he is “really smart,” a teacher should say, “You’re working really hard.” This attributes a student’s success to a specific behavior rather than his fixed ability.

Slide #5

When it comes to **learning goals**, teachers need to focus on the learning process rather than the outcome. This means focusing on *how* to solve math and science problems, rather than simply getting the answer correct.

In contrast, when students focus on **performance goals**, they put their effort into looking smart and getting high test scores.

Research has consistently shown that students with performance goals avoid doing anything that involves the risk of failure or looking less smart. And these students are less able to emotionally deal with failure than students with process-oriented learning goals.

So, how can teachers help students to focus on learning rather than performance?

First, avoid simple right and wrong responses. Instead, spend time elaborating on the problem-solving process.

Create opportunities for students to show their work. Reward students for detailing the steps of their reasoning or for sharing early drafts of their work.

And when students find the material too easy, encourage them to take on more interesting and challenging problems.

Finally, emphasize that mistakes are part of the natural process of learning—rewarding students for solving difficult, challenging tasks—not just simple ones.

Slide #6

Remember, when providing feedback on the learning process, teachers need to be as explicit as possible - helping students understand the specific learning strategies they are using.

Did the student follow all the necessary steps? Did she show an understanding of the concept and process? This kind of specific feedback will help her better understand how to solve problems for herself.

Teachers should...

Frequently check for understanding, trying to catch misunderstandings as early as possible.

Remind students that mistakes are a natural part of the learning process. It's how we discover new things.

Regularly review difficult material by walking through a problem-solving process step-by-step.

And, whenever possible, show students that there are different ways to solve the same problem.

Most importantly, useful feedback does not focus solely on "right" or "wrong." It should explain *why* something is correct or incorrect, and help students understand the specific steps required to correctly solve a problem.

It's this kind of feedback that turns mistakes into **learning opportunities**.

Slide #7

Here are some additional tips for providing prescriptive, informational feedback.

Slide #8

Some students, especially in the secondary grade levels, prefer to get feedback in a one-on-one context. Try to individually talk with students who need personalized encouragement and support.

In addition, teachers should provide structured opportunities for feedback throughout the learning process.

For example, give feedback on drafts of student work so they have time to revise it before it is graded.

If there's no time to provide individual feedback, make specific, process-oriented comments to the whole class. For example, "Everyone worked hard today! I see a lot of you trying to tackle this assignment in really creative ways."

Slide #9

A class review following a test is also a good opportunity to provide students with prescriptive, informational feedback on their progress. In addition to clarifying the material, students can share their study strategies with each other or provide constructive peer feedback.

Slide #10

Lastly, try not to place student achievement in a competitive context. Placing the importance on "good grades" and test scores takes the focus away from learning. Praising the whole class for their effort reduces

competitiveness and puts more focus on the learning process and overall progress.

Slide #11

In conclusion, prescriptive, informational feedback emphasizes process rather than outcome—helping students adjust their strategies and overcome challenges.

And when students experience success, informational feedback helps them understand how and why they were successful—making it easier to accomplish new learning goals in the future.

This kind of teacher feedback is especially important for girls in math and science, because it helps them overcome false gender stereotypes about girls' abilities in these subjects—teaching them that academic achievement is tied to process and effort, rather than innate abilities.

Slide #12

To learn more about prescriptive, informational feedback please explore the additional resources on the Doing What Works website.