

Using Teacher Feedback to Enhance Student Learning

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Mr. Robertson is handing back English papers to his seventh grade students and takes the opportunity to comment on various students' performance. As he returns Steve's paper he says, "You remembered to capitalize all the proper nouns in your report and all your cities, states, and countries were spelled correctly, too. Your work reflected careful attention to detail! I'm really proud of you!"

Mr. Robertson's feedback was designed to encourage Steve to continue his high-quality attention to writing mechanics. When he returned Kay's paper, he leaned over her desk and said, "Kay, you did an excellent job of remembering to capitalize the first word in each sentence and you remembered to capitalize the names of all the characters in your story. You also remembered to capitalize the names of cities and states. Don't for-

get that the names of streets also need to be capitalized. Can you find an example of a street name in your paper that needs to be capitalized? [Pauses for answer.] Yes, Elm Street should be capitalized. I bet you'll remember this when you write your next story!"

This time Mr. Robertson's feedback was designed to be encouraging and corrective to help Kay improve her writing mechanics in the future. When Mr. Robertson returned Bob's paper, he said, "Bob, this was a very entertaining story. You used interesting adjectives to describe your characters. You said Pete was earnest. What does *earnest* mean? [Pauses for response.] Yes, that's correct; it means *serious*. Earnest can also be used as a noun to mean money paid as an installment, especially to confirm a contract. Nice work, Bob."

This time Mr. Robertson's feedback was designed to be encouraging and to extend Bob's knowledge about words used in his story.

Mr. Robertson's verbal feedback took only a few minutes, but had the potential to influence his students' future performance in positive ways. Teacher feedback is the consequence (written or verbal) that follows a student action and shapes future behavior. Feedback is an important aspect of every school day and plays a critical role in the teaching/learning process. The primary purposes for providing feedback are to reinforce appropriate learner behavior, let students know how they are doing, and extend learning opportunities (Miller, 2002).

Unfortunately, it is easy to become engrossed in lesson content and many other teaching-related responsibilities and subsequently forget about the importance and benefits of providing high-quality feedback. Kea (1988) found that teachers of students with learning disabilities used only 4% of their instructional time to provide feedback to their students and that the most

frequent type of feedback was simple, positive feedback (“Yes, that’s correct”). Kea also found that specific corrective feedback in response to student errors was minimal and that explanatory feedback for correct responses (i.e., explaining why a student’s answer was correct) was nonexistent.

Although many variables contribute to effective instruction, the use of appropriate feedback consistently emerges as a powerful tool to promote student learning (Stronge, 2002). Researchers have identified a number of general characteristics that enhance the quality of teacher feedback. For example, planned, specific feedback is much more likely to influence student performance than haphazard, general feedback (Herschell, Greco, Filcheck, & McNeil, 2002). Additionally, high-quality feedback is timely, accurate, constructive, outcome-focused, encouraging, and positive (Baechle & Lian, 1990; Mastropieri & Scruggs, 1994; Silverman, 1992). Feedback should focus on what the student did correctly, as well as what needs to be done to improve future performance (Lenz, Ellis, & Scanlon, 1996). Teachers who pay attention to these general characteristics and who view feedback as an important part of the instructional process are likely to see positive outcomes from their students.

Various types of feedback are available to help facilitate student learning. It is important to select the appropriate type based on students’ needs and the instructional activities. This article provides information on the different types of feedback, along with suggestions about when to use each type.

What Type of Feedback Is Appropriate When Students Verbally Answer Teacher Questions?

Verbal questioning is an important instructional procedure. Teachers use questioning to evaluate and monitor student learning. Clear, concise questions help students understand the content, remain actively engaged in the lesson, and remember what they have learned. Teacher questions foster quality teacher-student dialogue and guide

students’ search for meaning and understanding of the content (Savage, 1998). Several types of teacher feedback are appropriate for productive question-answer sessions.

Three-Term Contingency Trial Feedback

When the questions being asked require factual knowledge answers (e.g., “Who was the first president of the United States?”), a feedback procedure known as *three-term contingency trial* is appropriate (Albers & Greer, 1991). In the three-term contingency trial, the teacher asks a question, the student answers the question, and the teacher consequences the answer (i.e., lets the student know if the answer is correct or incorrect) with statements such as “Yes, that’s correct,” or “No, let me help you with that one”. Increasing the number of three-term contingency trials increases the rate of correct student responses (Albers & Greer), which in turn enhances student

Providing feedback to students reinforces appropriate learner behavior, lets students know how they are doing, and extends learning opportunities.

learning. Students benefit from the immediate feedback that is provided during three-term contingency trials.

Differentiated Feedback

Another type of feedback that is appropriate for verbal question-answer sessions is *differentiated feedback*. When providing differentiated feedback, teachers vary their feedback based on the type of response they receive from the student. There are four types of student responses:

- Correct, quick, and firm.
- Correct, but hesitant.
- Incorrect due to a careless error.

- Incorrect due to lack of knowledge or understanding (Rosenshine & Stevens, 1986).

If a student’s response is correct, quick and firm, then a simple, short statement of acknowledgment is appropriate (e.g., “That’s correct, John”). If a student’s response is correct but hesitant (i.e., student gives the impression of uncertainty or states the response as a question rather than a firm answer), a short statement of acknowledgement along with an explanation to reinforce the student’s understanding is appropriate (e.g., “That’s correct, John. Fifty-six divided by 7 equals 8. We know that 56 divided by 7 equals 8 because 7×8 equals 56. We can always use multiplication to check our division answers”).

If a student’s response is incorrect due to carelessness rather than lack of knowledge or understanding, it is appropriate to simply provide the correct answer and continue on with the lesson.

If a student’s incorrect response is due to a lack of knowledge or understanding, prompts or cues that lead the student to the correct response are appropriate. Typically, two or three quick prompts are provided. If the student is still uncertain of the correct answer, the answer is provided for the student and then he or she is given another opportunity to answer the question.

Thus, the student-teacher interaction ends with the student feeling successful. Reteaching the content or providing additional practice activities at a later time is appropriate when student responses are incorrect due to limited knowledge. Sometimes it is difficult to determine whether student errors are the result of carelessness or lack of understanding. In such cases, additional assessment may be beneficial (e.g., written worksheet or additional verbal questioning).

Instructive Feedback

Another type of feedback that is used during verbal questioning is called *instructive feedback*. Instructive feedback involves consistently adding supplemental information to students’ responses. Thus, students acquire more

information in about the same amount of instructional time as it takes to simply recognize that the response was correct (Werts, Wolery, Gast, & Holcombe, 1996).

There are three types of instructive feedback: expansion, parallel, and novel (Werts et al., 1996). Expansion feedback provides the student with additional or *expanded* information related to the instructional topic. For example, the teacher might ask, “What does tranquil mean?” The student responds “calm.” The teacher then says, “That’s correct and the opposite of tranquil is restless.” The teacher expanded on the target skill (i.e., defining tranquil) by telling the student that the opposite of tranquil is restless.

When giving parallel instructive feedback, the teacher asks a question or presents material requiring a response and then presents the student with a different question or material that requires the same response. For example, the teacher might hold up a picture and ask a student, “What is the name of this animal?” The student responds by saying “It’s a penguin.” The teacher then presents the printed word *penguin* to the student and says, “Yes, and this word is *penguin*.”

The third type of instructive feedback is novel. When giving novel instructive feedback, the teacher gives new or unrelated information to the student after the student has supplied the correct target response. For example, the teacher might ask, “What is this shape?” The student says, “That’s a triangle,” and the teacher responds with “That’s correct, and the color of the triangle is red.” Students are not expected to respond to instructive feedback. It is simply provided as supplemental information (Werts, Wolery, Holcombe, & Gast, 1995). This type of feedback provides students with more content without taking much extra time (Griffen, Schuster, & Morse, 1998). Moreover, students with disabilities learn most of the supplemental information that is provided through instructive feedback (Werts et al., 1996), which makes it well worth the teacher’s time and effort.

Figure 1. Feedback Procedures to Use During Oral Reading Practice

Word Supply: Student is given the correct word after making an error, then repeats the supplied word and continues reading.

Word Drill: Student is given the correct word. A list of misread words is studied by student via flashcards.

Sentence Reread: Student is given the correct word, then begins reading at the start of the sentence where the error occurred.

End of Page Review: Student is given the correct word. Errors from one page are compiled and are reread by the student at the end of that page.

Word Meaning: Student is given the correct word in addition to its meaning (similar to instructive feedback techniques).

Phonic Analysis: Student is asked to sound out the (phonemes in the) misread word. Student continues to sound out until the entire word is pronounced correctly (Use of the phonic analysis method is recommended for students who demonstrate adequate phonemic awareness skills which are necessary to benefit from this type of corrective feedback.)

Corrective Cues: This is a combination of sounding out an unfamiliar word and guessing the word using context cues.

Meaning-Based: Student is asked questions, provided visual or verbal cues, explanations, and/or comments when oral reading indicates that the authors’ message is not being understood.

Tape-Assisted: Student reads aloud while simultaneously listening to the story on tape through headphones.

What Type of Feedback Is Appropriate When Students Are Engaged in Oral Reading Practice?

Students with disabilities frequently have difficulty with oral reading skills. They make more errors than their peers without disabilities and lack strategies for self-correction. Researchers have noted that students with disabilities need more engaged reading opportunities than they currently receive (Chard & Kameenui, 2000; Vaughn, Hughes, Moody, & Elbaum, 2001). High quality feedback enhances oral reading practice. Corrective feedback shapes future

reading skill and also influences student attitudes about reading.

Listed in Figure 1 are a variety of feedback procedures that teachers may use during oral reading practice (Crowe, 1003; McCoy & Pany, 1986; Shany & Biemiller, 1995). Most of the feedback procedures (i.e., word supply, word drill, sentence reread, end of page review and word meaning) involve telling the student the unknown word while he or she is reading and then providing additional practice with the missed words at a later time. Providing the unknown word allows the student to continue reading in a fluent manner. Most reading experts agree that increased fluency results in increased comprehension of the passage (Vaughn et al., 2000). If, however, the instructional objective is to provide practice figuring out unknown words rather than comprehending the passage, then phonic analysis or corrective cues are appropriate feedback procedures.

Providing corrective feedback to students with learning disabilities who miscall words during oral reading prac-

Feedback should focus on what the student did correctly, as well as what needs to be done to improve future performance.

Steps in Elaborated Feedback

- The teacher grades the student's completed assignment using error analysis to categorize specific types of errors. These categories of errors are used to plan the feedback that will be given.
- The teacher returns the work to the student with the expectation that the student will make needed corrections.
- The teacher checks the student's corrected work and notes any changes to the error categories.
- The teacher schedules an individual conference with the student and attempts to obtain positive statements from the student regarding the work product. If the student is incapable or unwilling to give positive statements, the teacher provides at least three, specific, positive statements regarding the student's work (e.g., "You remembered to include a topic sentence in each paragraph. You capitalized the names of cities and you included a summary paragraph").
- The teacher describes one of the student's error categories and provides examples (e.g., "I noticed that two incorrect problems involved multiplying by the number one. In each case, the answer was very close. It was one number higher than it should have been"). Next, the teacher describes and models a strategy the student can use in the future to avoid making this type of error and then assists the student in practicing the strategy.
- After the student independently completes at least one example correctly, the teacher explains the next error category using the same feedback process.
- After all error categories have been addressed, the teacher summarizes the feedback conference by reviewing the error categories discussed and explains what the student is to do in the future. The teacher includes a statement of high expectation (e.g., "I know you will remember the multiplication rule for ones tomorrow. I bet you'll reach mastery with no problems!").

Figure 2: Tips for Implementing Elaborated Feedback When Teaching Large Groups of Students

- Solicit assistance from paraeducators or adult volunteers.
- Provide elaborated feedback to small groups of students who are displaying similar errors in their work.
- Provide elaborated feedback to the lowest performing students in the class.
- Rotate the provision of elaborated feedback (e.g., particular students receive this type of feedback on Monday, others receive this type of feedback on Tuesday).
- Provide elaborated feedback to individual students as other students are engaged in independent seatwork.
- Teach peer tutors how to provide elaborated feedback.
- Provide feedback on only one type of error per session.
- Increase instructional reviews to reduce the number of students who need elaborated feedback.

tice has a positive effect on their comprehension of the passage without fostering student dependency on teacher assistance (Penney, 2002). It is, however, important for teachers to select reading passages that are at the students' instructional reading levels (i.e., a passage for which students are familiar with most of the words, but not all) so that a reasonable amount of feedback is provided. If passages are too easy, students are not challenged enough. If passages are too difficult, an overabundance of corrective feedback is provided and students are likely to become very frustrated. Ultimately, this adversely affects students' self-esteem with regard to their reading abilities. A good rule of thumb for teachers to use is to restrict oral reading feedback to errors that disrupt meaning of the text (Gardner, 1998).

What Type of Feedback Is Appropriate for Class or Homework Assignments?

Elaborated Feedback Routine

Elaborated feedback involves providing in-depth verbal feedback to students after they have completed an important written assignment. This type of feedback extends beyond simply identifying correct and incorrect answers. Elaborated feedback routines typically involve a one-to-one conference between the teacher and student that

focuses on the student's strengths and areas needing improvement. Kline, Schumaker, and Deshler (1990) identified several steps in an effective elaborated feedback routine (see box, "Steps in Elaborated Feedback").

Although elaborated feedback is more time consuming than other types of feedback, one of the advantages is that students will master the content sooner. Thus, the extra time devoted to the feedback routine ultimately reduces the amount of required instructional time for mastery of the skill (see Figure 2 for tips on implementing this type of feedback when teaching large groups of students). Elaborated feedback routines are particularly appropriate when students are learning challenging, new content (Miller, 2002) or when student progress in a particular skill area is slower than expected.

Written Feedback

Written feedback from teachers can improve the academic performance of *all* students (McLaughlin, 1992). Many

Instructive feedback involves consistently adding supplemental information to students' responses.

Figure 3. Science Demonstration Rubric

Science Demonstration

Student Name: _____ Date: _____ Period: _____

Process	Needs Improvement	Satisfactory	Excellent
1. Selected appropriate topic	1 2	3 4	5 6
2. Used time wisely	1 2	3 4	5 6
3. Acquired necessary knowledge	1 2	3 4	5 6
4. Prepared materials ahead of time	1 2	3 4	5 6
5. Used teacher feedback	1 2	3 4	5 6
Product			
1. Prepared attractive visuals	1 2	3 4	5 6
2. Used high-quality narrative	1 2	3 4	5 6
3. Provided accurate information	1 2	3 4	5 6
4. Demonstrated thoroughness	1 2	3 4	5 6
5. Integrated creativity	1 2	3 4	5 6

Total Points _____ ÷ 60 × 100 = _____%

Teacher Comments:

teachers use written comments to provide individualized feedback on class or homework assignments. To be effective, written feedback should be specific and more informative than simply providing a letter grade on the paper. Moreover, written feedback should contain more information than simply indicating whether responses are correct or incorrect (Stronge, 2002). Using answer keys to check student work promotes the habit of simply marking correct or incorrect responses without attending to student error patterns or faulty strategies evident in the student's work. When answer keys are used, it is beneficial to examine the student's work after marking correct or incorrect responses to determine what type of

specific, written feedback would help the student improve his or her performance in the future.

Written feedback should include positive remarks about the student's work and provide corrective feedback in a prominent manner (e.g., using a highlighter pen to indicate the need to capitalize the first letter of each sentence and including a written comment about the error and how to correct it). Specific comments are more beneficial than simply circling or underlining the student's errors.

If the assignment is a hands-on activity, feedback forms specifically designed for the assignment are beneficial (see Figure 3) for providing information to the student. Teachers may also consider

using a journal that is exchanged with the student on a regular basis to encourage feedback and dialogue about class or homework assignments.

Written feedback can be used for any type of work product and is an especially efficient method to give individualized feedback when large class size or lack of time prevents one-to-one conferences with students.

Final Thoughts

Teachers who consistently use high-quality feedback can expect student learning to be affected in positive ways (see box, "What Does the Literature Say?"). Effective teacher feedback assists students in understanding why their answers are correct or incorrect, helps students develop appropriate strategies for improving their school performance, prevents students from continuing to practice error responses, and provides additional opportunities to increase learning. Teacher feedback increases instructional efficiency and is particularly beneficial to students with disabilities and students who are low achieving. It is extremely important for all students to feel successful in school. They need to know about their strengths as well as areas where improvement is needed. Carefully planned teacher feedback provides this important information in a supportive manner and helps students become effective and efficient learners.

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What Does the Literature Say About Feedback?

Numerous researchers have noted the importance of teacher feedback related to student learning (Albers & Greer, 1991; Danielson, 1996; Gunning, 1996; Stronge, 2002). Fortunately, over the past decade, researchers have refined their knowledge about feedback and have identified specific procedures that can be used in classroom settings.

- Werts, et al. (1995) reviewed 23 research studies, involving 113 students (94.6% with disabilities), and found that *instructive feedback* was an effective instructional strategy. Researchers, in this review of literature, found that students acquire and maintain most of the instructive feedback information. They also found that providing instructive feedback takes less than 1 minute of increased instructional time. Moreover, instructive feedback was effective in a variety of instructional arrangements (i.e., one-to-one, small group, large group, computer-assisted) with pre-school-age students through secondary school-age students. Griffin, et al. (1998) also investigated the effectiveness of instructive feedback and found that students with mild disabilities and students with moderate

disabilities learned the supplemental information that was provided.

- Kline, et al. (1991) investigated the effectiveness of *elaborated feedback* routines in a study involving 27 teachers and 54 students with learning disabilities. Use of this type of feedback significantly reduced the number of student trials to mastery and the number of student errors in subsequent practice trials. Results also indicated that teachers were able to effectively integrate the feedback routines into their teaching.
- Page (1992) investigated the effects of *written comments* on student achievement and found that personally designed comments (i.e., specific comments that were written based on knowledge of the student and details of their work) were more beneficial than prespecified comments determined by grade assignment (i.e., A = Excellent; B = Good Work; C = Perhaps try to do still better?; D = Let's bring this up; F = Let's raise this grade!). Interestingly, use of these prespecified comments was better than no comments at all.

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