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ABSTRACT

This pamphlet discusses the pivotal role that feedback can play in the instruction of adult learners with learning disabilities and provides strategies to enable teachers to constructively design and present effective feedback. The paper begins by describing and instructional techniques that can be used to create interest and provide feedback including: lectures, group discussions, debates, directed observation, case-study analysis, role playing, games, simulations, questions, and responses to questions. The paper describes elements of feedback instruction that research indicates are most effective for teaching individuals with learning disabilities, and general principles of feedback instruction. Ten principles of effective feedback instruction are explained: (1) plan for feedback; (2) use frequent feedback when appropriate; (3) provide feedback on a consistent basis; (4) provide feedback as closely as possible to the learner's response time; (5) whenever possible, provide feedback on an individual basis; (6) help students change their beliefs about who is in control of success; (7) strive for self-evaluation and self-correction; (8) include feedback that is positive; (9) provide feedback that is specific and corrective; and (10) establish goals for improvement. (Contains 11 references.) (CR)

National Adult Literacy and Learning Disabilities Center
A Program of the National Institute for Literacy

Feedback:
Enhancing the Performance of Learners with Learning Disabilities

Adrienne Riviere

Research clearly indicates that feedback, effectively used, is a potentially powerful instructional tool. In fact, Walberg (1984) ranked feedback as the third most effective in a list of 26 instructional variables that can affect student achievement. This same report, a synthesis of 95 different studies conducted with K-12 students, indicated that feedback consistently provided during the instructional process raised the average student's score from the 50th to the 89th percentile. Given the pivotal role that feedback plays in the instructional process, teachers need to know how to constructively design and present effective feedback.

Are literacy and adult education practitioners who work with students with suspected learning disabilities aware of the critical part feedback plays in well-designed instruction? Are these instructors incorporating effective feedback into their instructional strategies? Studies suggest that this essential element in the instructional process may not be provided frequently enough and, when provided, is often not the kind of feedback that is most beneficial to the learner (Kline, 1989).

Feedback is defined as ...

that mechanism through which the instructor relates to the learner how things are going in the learning process. It is the information that learners need in order to understand what it is they are doing effectively and what behaviors need to be changed and improved. It is through feedback that students are provided information about their performance that ultimately leads to increased independence. Feedback further serves as a source of motivation in that it enables learners to evaluate their progress, to understand the level of their competence, and to maintain their efforts in striving to reach realistic goals.

Broadly speaking, feedback can be considered any event, occurring at any time following the learner's response, that informs the learner of the appropriateness of that response. As such, feedback can be received from instructors, peers, other individuals, as well as through self-assessment.

Feedback can take many different forms: written comments, verbal comments, graphic records, study groups and team efforts, a nod, a smile, a pat on the back, a handshake, or even body posture. A variety of instructional techniques can be used to create interest and provide feedback: lectures, group discussions, debates, directed observation, case-study analysis, role playing, games, simulations, questions, and responses to questions. Feedback, as well, is that component in the instructional process received by the instructor from the learner that provides the instructor with information about the effectiveness of his/her teaching performance. The emphasis in this discussion will be on (1) those elements of feedback instruction that research indicates are most effective for teaching

individuals with learning disabilities, and (2) general principles of feedback instruction.

The above mentioned sources of feedback give the reader an idea of the wide-ranging mediums through which feedback can be delivered/received. The content of the feedback can vary as widely as the medium, but the end result, ultimately, is feedback of one of two types: **(1) knowledge-of-results feedback,** or **(2) elaborated feedback**. Knowledge-of-results feedback conveys to the learner the correctness/incorrectness of a response, while elaborated feedback provides the learner with additional information--how or why a response is correct or incorrect and how to correct it.

Although elaborated feedback demands more of the teacher in terms of providing accommodation for individual differences, the efforts ultimately are realized in terms of student achievement. According to Good, Grouws, and Beckerman (1978), "highly effective teachers," defined in terms of consistent student achievement, were twice as likely to provide elaborated feedback as they were simple knowledge of results. What follows are highlights, presented within the framework of the two above identified types of feedback, of major research-based findings.

Studies established to identify well designed instruction for students with learning disabilities indicate ...

that elaborated feedback is much more effective than knowledge-of-results feedback (Kline, 1989). Kline states that "a major advantage of elaborated feedback centers around its power. The use of elaborated feedback results in larger academic gains than the use of knowledge of results." Furthermore, Kline, Schumaker, and Deshler (1991) found that the use of elaborated feedback significantly reduced the amount of instructional time required for students to master certain educational goals. The authors state, "Any instructional routine capable of significantly improving the efficiency with which instruction is delivered is of major importance to remedial teachers, given the large number and/or magnitude of deficits typically evidenced by students with LD." Without the benefit of receiving elaborated feedback, low-achieving students often practice incorrect responses, thus delaying the mastery of targeted skills.

What are the characteristics of elaborated feedback that are particularly advantageous to learning for the low-achieving student?

Many individuals with learning disabilities need one-on-one, individualized instruction. As a result, they benefit from the learning situation that incorporates those attributes associated with elaborated feedback.

Simply knowing which items are correct, which items are incorrect, and which items the learner is expected to redo, with no accompanying elaboration, may not be sufficient information to result in learner improvement. Elaborated feedback provides the learner with the opportunity to know how or why a response is correct or incorrect and thus provides the basis for knowing how to improve performance in the future. Specifically, elaborated feedback (1) enables the student to understand the types of problems he or she is encountering; (2) enables the teacher to translate that information into

a plan to solve the problems; and, finally, (3) provides the means for implementing the plan to improve the student's performance.

Another advantage lies in the personal nature of the interaction between the teacher and the student, since elaborated feedback is generally provided on an individual basis. This individualized instruction enables the instructor to help the learner begin to examine his/her own work critically. The learner is provided the opportunity to benefit from the critical judgment making process involved at the error detection and correction stage and, as such, important learning takes place. The opportunity to participate in, and thus to model, this process is an important element in the learner's steps towards independent functioning.

Finally, the complexity and uniqueness of content in elaborated feedback almost necessitates the use of verbal language, a factor that greatly increases the likelihood of an individualized, one-on-one learning environment in which most individuals with learning disabilities thrive. Complex tasks generally require complex feedback in the form of cues, prompts, procedural information, models, examples--all sources of elaborated information that lend themselves to verbal, one-on-one communication that benefits the low-achieving learner.

10 Principles of Effective Feedback Instruction

1. Plan for feedback.

(a) Establish clear criteria. Learners need to understand the basis on which feedback is made. The most useful feedback interprets learner progress in relation to stated objectives, expectations, or standards; it reflects how well a learner's performance is meeting these established mastery criteria. The more straightforward the expectations are and the more clearly they are communicated, the more likely students will meet them first time around.

Against established and agreed-upon criteria, the learner gauges his/her attention to future practice and performance. Under these conditions, learners are less likely to think that the feedback received represents an instructor's bias or personal opinion. "We agreed that the pre-test standards were ..." In fact, the more learners are involved in helping to plan or select feedback criteria and, as such, understand the rationale for their use, the more likely they are to be receptive to the feedback.

(b) Compare student responses to the criteria (error analysis). When students do not meet criteria, the specific information about how they do not needs to be communicated. In order to communicate that information, teachers need to collect and collate it in a clear and understandable fashion. That's what error analysis is. Teachers compare a student's work against the criteria and find out which criteria are not being met.

Two useful devices for demonstrating the relation of actual performance to mastery criteria are *checklists* and *charts* or *graphs*. A *performance checklist* helps the instructor and the student know the most common errors, error categories, and what the student is doing right. A follow-up error analysis will indicate if the student is making a number of distinct errors or repeating one error several times; it provides clues to the way a student thinks (Kline, 1989) and provides insight into the student's current understanding of the

material/process under instruction. Patterns are identified and reported to the student within the framework of the specified criteria. Errors made that are not within the sphere of the current instruction, and therefore not within the framework of defined criteria, can be ignored.

Type of Error	*Essay* 1	*Essay* 2	*Essay* 3
Capitalization	2	2	1
Punctuation	1	1	0
Spelling	5	6	1
Incomplete Sentence	0	0	0

[Numbers represent errors]

Using categories such as those indicated above, the teacher and the student can evaluate written assignments over a period of time, e.g., weeks or months, to get a clear picture of patterns of errors, as well as patterns of improvement.

Graphing or charting feedback, like above, focuses on the increments of improvement that occur with each task performance; such feedback can serve as a source of learner motivation because it makes progress more concrete and shows a record of increasing improvement. For these reasons, this kind of feedback can be particularly motivating to students with learning disabilities or low-achieving students. Another advantage of using self-comparison for improvement gains is that it "reduces feelings of competitiveness or presssure from evaluation based on how other members of the learning group are performing" (Wlodkowski, 1985).

Sometimes, a general comparison of a student's performance with those of other members of the group is appropriate. For instance, in terms of evaluating an essay assignment, it might be useful for the instructor to share with the students a list of the group's most common errors and to read an example of a good answer. This good answer can be contrasted to a poor answer that has been created by the instructor. Obviously, assignments directed toward less tangible outcomes, e.g., appreciating Impressionist art, require extra effort in the planning phase to build in the kinds of criteria that make feasible the assessment of progress (Smith, 1982).

2. Use frequent feedback when appropriate. Some studies indicate that the more often feedback is provided, the more rapidly people seem to learn. Frequent feedback probably is most helpful when new skills are first being acquired. It seems that frequently provided feedback is of the greatest benefit to the learner when improvement is most possible. The more frequently provided feedback ideally prevents an accumulation of errors that, once established, are difficult to change (with or without subsequent feedback). When possible, feedback should be offered each time a new learning task is performed until a reasonable standard of performance has been achieved (Wlodkowski, 1985). With low-achieving learners, it may be that the shorter the interval before feedback is given, the more likely that learners will participate in order to receive feedback. For example, doing one problem with the assurance that feedback will follow may seem much more attractive than doing ten problems before feedback can be expected (Deshler, Ellis, Lenz, 1996).

3. Provide feedback on a consistent basis. To increase learners' awareness of their progress, mastery, achievement, and responsibility in the learning process in a manner that enhances confidence, self-determination, and intrinsic motivation, feedback should be provided on a consistent basis (Knox, 1986). Consistently given feedback provides the learner with a sense of control and predictability in the learning situation.

4. Provide feedback as closely as possible to the learner's response time. This means that it is important to provide feedback immediately *following* a task performance, as well as immediately *before* the next practice attempt is begun. Although most instructors are aware of the importance of giving feedback promptly after students complete their work, they often forget how important the provision of feedback can be right before the next response/performance is made. This is particularly important for low-achieving students. A reminder before beginning the next task helps students to be aware of responses to avoid and to develop independence by transforming the feedback into improved performance.

Prompt feedback is effective because it tends to increase the student's feelings of control and responsibility for learning. This is one of the reasons that computer-assisted instruction can be so highly motivating and immediately rewarding. The constant back-and-forth "dialogue" between the computer and the learner gives the learner a strong sense of control in the learning process.

There is evidence that "sometimes a moderate delay in feedback aids retention and enhances learning because such delay allows learners to more easily forget incorrect responses and, therefore, to have less cognitive interference with learning the appropriate or correct response" (Wlodkowski, 1985). This effect is dependent on the particular task and the particular learner and takes careful monitoring by the instructor. In general, it is best to be quick in providing feedback in order to prevent the possible effects of excessive delay--a decrease in learner motivation and an increase in learner anxiety. It is important to remember that, while much learning is dependent on formalized follow-up feedback, considerable learning is provided through **ongoing, immediate,** and **specific-to-the-needs-of-the-learner feedback** that occurs in the form of discussions, questions, responses to questions, comments, and non-verbal communication such as a smile or a nod.

5. Whenever possible, provide feedback on an individual basis. This is especially important for students with learning disabilities. Generally, feedback given to groups of students has relatively little impact on changing a student's performance. If, however, there is a rational basis for deciding which students will receive feedback in small groups, e.g., the error analysis of the group members' work shows that they are all making similar errors, feedback can be used for a few students within a large group (Kline, 1987).

6. Help students change their beliefs about who is in control of success. At this point, it is useful to briefly discuss the part feedback can play in attribution retraining. Attribution retraining refers to the process of helping students change their beliefs about who is in control of success. Many students with learning disabilities tend to attribute their success to factors beyond personal control, e.g., "I was just lucky today," rather than to their own positive attributes, e.g., "I'm doing well at this." Also, these students all too often attribute failure to personal qualities, e.g., "I'm not very smart," or "I'm not any good at this," or "I can't learn this." Changing these beliefs about individual responsibility for success can be incorporated into the instructor's feedback. "This accomplishment is evidence of your determination and hard work. Congratulations!"

What the teacher is striving to do is help students believe that success is due largely to their efforts in accomplishing the defined task. Students also should know that making errors is part of the learning process. Feedback, therefore, should focus on the role that the student's effort plays in achieving success.

7. Strive for self-evaluation and self-correction. While self-monitoring is an ideal feedback characteristic in terms of fostering self-determination and self-direction, it is not easily accomplished with individuals with learning disabilities. Self-monitoring is a skill that is learned in relation to the use of a strategy; specifically, it refers to the regulation or monitoring of a learning strategy. Strategies can be taught to individuals with learning disabilities; as such, these learners can be taught to provide their own feedback and thus to self-monitor (Deshler, Ellis, and Lenz, 1996; Lenz, Ellis, and Scanlon, 1996; Schumaker, Deshler, Nolan, and Alley, 1994).

The process of learning a strategy can be related to the construction of a structure that initially is supported by scaffolding, with the scaffolding gradually dismantled over time (Kline, 1989). Through *scaffolded support*, the teacher provides the necessary cues and prompts, followed by withdrawal of such support once it is no longer required. During the process, the student learns to internalize self-regulatory behavior; the learner actually is shifting from an external dependency to an internal autonomy.

The process of teaching an individual a learning strategy, or teaching that person "how to learn" and how to effectively use what has been learned, is presented by Lenz, Ellis, and Scanlon (1996). First, the instructor provides directive feedback, which includes an examination of the critical features of performance and involvement in the thought modeling process designed to accomplish the expected performance. Directive feedback is replaced by mediated feedback which shifts the responsibility for monitoring and adjusting behavior from the instructor to the student. The instructor cues the students to diagnose the problem and to generate their own solutions. Ultimately, the students take full responsibility for "analyzing" the appropriateness of their performances and thus providing their own feedback. Eventually, the learning strategy becomes an established routine, the same steps repeated in the same order, enabling the student to anticipate the next event and to assume responsibility for it. "Self-correction means that learners take over the corrective functions themselves. They understand the performance standard, know what to do to get there, and can evaluate the evidence that they have arrived. When learners can do this, their self-confidence is significantly enhanced. They have learned how to instruct themselves" (Knox, 1986).

It is important to remember that an overriding instructional goal of learning stratgey instruction is to develop active and independent learners. Emphasis is placed on active academic responding because of its close correlation to academic achievement. The use of effective feedback is an intregal part of the instructional process that seeks to make students active and independent participants in the learning process.

8. Include feedback that is positive. Feedback should focus on correct responses as well as recognize errors. Positive feedback emphasizes improvement, progress, and correctness rather than deficiencies and errors. It increases the learners' feelings of well-being, self-esteem, and sense of com-

petence, while fostering intrinsic motivation and a receptive attitute toward the one who has provided this information. Even if the student's performance is not strong, positive feedback can communicate the instructor's recognition of a sincere effort and belief that improvement can be made over time. The instructor can emphasize a decrease in errors by stating, "You are making fine progress. You have solved 70 percent of these problems correctly. Let's work together on the remaining 30 percent."

When feedback on errors is given, it is important to relate that information to a particular task or performance, not to the student as a person. In other words, comments should be presented within the framework of the pre-established mastery criteria. It helps the learner's self-esteem if critical comments are balanced with compliments about aspects of the task in which the student succeeded. Ideally, feedback communicates positive mastery information and encouragement to take personal ownership of that mastery.

9. Provide feedback that is specific and corrective. Specific feedback should include suggested corrective procedures. Because it is difficult for a learner to correct a response, a performance, or a behavior for which only general feedback has been received, the instructor needs to use specific terms and to make specific suggestions for improvement. This approach improves learning, increases motivation, and decreases learner frustration.

Students need to be made aware of the specific aspects of their performance that are incorrect. Within the framework of the defined mastery criteria, the instructor (1) specifies the category of errors to be addressed, (2) specifies what needs to be done, and (3) models the correct procedures and thought processes involved in establishing error-correction strategies. This approach helps the learner to assume increasing responsibility for future problem solving, leading to increased independence.

10. Establish goals for improvement. Effective feedback includes establishing goals for improving specific behaviors for future performance. Encouraging students to establish goals regarding future performance places more responsibility on them, tends to ensure they are clear about the expected behavior, and plays an important motivational role. "For this assignment, you wrote 60 words and misspelled 15 of them. Let's set a goal of reducing the number of spelling errors in the next assignment. How many spelling errors are you going to reduce that number to?"

Kline (1989) makes note of the following regarding the potential effectiveness of goal setting. "If students set goals for future behavior based on the feedback provided ... and then review the goals before their next response, the goals might act as a reminder of the feedback at the time of the review."

Effective feedback also entails...

◆ creating a climate in which students feel comfortable enough to open up and ask for help. Feedback is most acceptable when it comes from a trusted person, when it is descriptive and related to a specific situation or task, and when personal qualities are not being judged.

◆ frequently asking adult learners what they would like feedback on. Individual needs

and concerns may be different from those assumed by the instructor. Incorporating their responses into the instructional process can make feedback for those individuals more relevant and motivating.

◆ making a special effort to ensure that feedback has been understood at times when learners seem anxious or when feedback presented has been complex.

◆ remembering that sometimes the best form of feedback simply is allowing learners to move ahead to the next challenge after successfully performing the prior task

◆ finally, soliciting feedback from students. Students should be encouraged to describe what was particularly difficult or unexpected. Students can be asked to write short phrases summarizing three key concepts or main ideas about the day's topic; at end of class, they can work in pairs to provide the instructor with feedback.

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