
CHAPTER 5

Academic Monitoring

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A. The Research Literature

Brophy and Good (1986) made the following observation on the importance and complexity of the teaching role:

Elitist critics often undervalue teaching, or even suggest that anyone can teach. ("Those who can, do; those who can't, teach.") The data reviewed here refute this myth as well. Although it may be true that most adults could survive in the classroom, it is not true that most could teach effectively. Even trained and experienced teachers vary widely in how they organize the classroom and present instruction. Specifically, they differ in several respects: (a) the expectations and achievement objectives they hold for themselves, their classes, and individual students; (b) how they select and design academic tasks, and (c) how actively they instruct and communicate with students about academic tasks. Those who do these things successfully produce significantly more achievement than those who do not, but doing them successfully demands a blend of knowledge, energy, motivation, communication and decision-making skills that many teachers, let alone ordinary adults, do not possess [p. 370].

The decision-making skill that Brophy and Good referred to clearly distinguishes between effective and ineffective teachers. Effective teachers make instructional decisions that adjust instruction based on the needs and performance of their students, whereas ineffective teachers present instructional material on a random or a rigid, prescheduled basis and fail to adjust for student performance. Such instructional practices are devoid of the decision-making skills that ensure that instructional practices will be progressively improved.

Rosenshine and Stevens (1986) noted that most teachers (including unsuccessful ones) employ teaching practices that could help them make appropriate decisions—for instance, daily reviews and guided student practice. The successful teachers use the information they gather while implementing these practices to make decisions. In addition, they do so more frequently and at more appropriate times than less successful teachers. Making appropriate instructional decisions requires knowing what to do and when to do it. Such decision making requires constant monitoring of student performance.

The research literature on the qualities of effective teaching leaves no doubt on this issue: The effective teacher is a manager and decision maker who continually monitors the class and adjusts instruction based on student performance.

In discussing "expert classroom management," Brophy and Good (1986) made the following observations:

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- (a) They [teachers] demonstrated "withitness" by monitoring the entire class when they were instructing, and by moving around during seatwork time.
 - (b) What these teachers demanded, however, was not so much compliance with authority as productive engagement in academic activities, and
 - (c) Students were accountable for careful, complete work, because they knew that the work would be checked and followed up with additional instruction or assignments if necessary [p. 341].

Thus, for teachers to be effective decision makers, they must meet the following important requirements:

- a. They must know what instructional practices are appropriate for different situations.
- b. They must always be aware of the situation at hand, so that they can implement appropriate instructional alternatives.

To meet these requirements, teachers must employ a range of different academic monitoring skills. Specifically, teachers need monitoring skills to keep them aware of such factors as

- a. The students' immediate reactions to instructional practices during a lesson
- b. The extent to which each student is progressing toward the long-term instructional goals of the course
- c. The extent to which different instructional practices help students achieve their long-term educational objectives

The effective teaching literature has documented the relationship between the teacher's academic monitoring skills and the relationship with student achievement. In one study, the researchers (Fisher et al., 1980) reported their findings as follows:

Teachers were asked to predict how their students would do on certain test items used in the achievement battery. This accuracy in predicting student performance was used as a measure of the teacher's diagnostic ability. A positive relationship was found between a teacher's diagnostic ability and the reading and math achievement of students [p. 19].

Academic Monitoring Concepts

1. Monitoring and Goals. The two major purposes of academic monitoring are closely related: the attainment of student goals and the progressive improvement of instructional practices.

Rosenshine (1979), in identifying the critical aspects of successful instruction, recommended that teachers set clear instructional goals and monitor student progress toward those goals. In addition, teachers must set and maintain clear, firm, and reason-

able work standards. Students must know exactly what is expected in completing an assignment, how the format of the assignment should look, how neat the work should be, and the accuracy level they are expected to attain. If teachers establish objective standards, they will be more able to evaluate student performance.

When teachers hold students accountable for completing work on time and for meeting standards, students will realize that the work they are doing has an important academic purpose. Likewise, parents can help in holding their children responsible for appropriately completing work. Teachers must solicit the assistance of parents in providing an appropriate environment at home so that students can successfully complete homework assignments. Teachers can provide parents with tips on how to support and reinforce classroom learning.

Before teachers can effectively monitor student progress, they must have in place a sequence of valid instructional objectives. To be instructionally valid, the sequence of objectives must be integrated with a validated instructional program. That is, the instructional objectives students are expected to meet should be a part of an instructional program that has been sufficiently tested. The program should be supported by data showing that similar students achieved high levels of mastery under similar conditions.

2. Instructional Programs and Embedded Progress Tests. To monitor student progress through a sequence of specific instructional objectives, instructional programs generally provide embedded progress tests. It is critical that instructional programs include tests that are instructionally diagnostic, are sensitive to changes in student performance, and provide for timely monitoring activities.

Instructionally diagnostic. The cross-referencing between specific items on the progress tests and the corresponding lessons of the instructional programs should be readily apparent. Consequently, there should be a high degree of correspondence between what is being tested and what is being taught.

Sensitivity to student change. Progress tests must be sensitive to changes in student performance. Tests must have the power to detect changes, if they exist, and clearly point out areas where students are having difficulties. Sensitive tests will quickly alert teachers to specific decisions they must make in planning future instruction.

Providing for timely monitoring. Progress tests should be scheduled in such a way that they provide for the timely monitoring of student progress. Testing should be conducted frequently enough to ensure that a student with a substantial skill deficit is quickly noticed. For example, when there is daily instruction in basic skills, comprehensive weekly testing will usually be required along with daily checks on the content covered in each lesson.

Instructional programs that are instructionally diagnostic, are

sensitive to changes in student performance, and provide for timely monitoring will produce many benefits for both students and teachers.

Benefits to students. Instructional programs with high-quality monitoring programs are very helpful in developing positive student attitudes. Consistent demonstrations of success are among the most important ingredients in any approach to attitude development. For example, weekly tests should give students a sense of accomplishment and a sense of movement through the curriculum.

Timely, sensitive monitoring and the associated reteaching will increase student success. The importance of such success was stressed in one comprehensive study of elementary classroom practices. The researchers (Fisher et al., 1980) reported as follows:

It is interesting to note that the high success component of learning is associated with more positive student attitudes. Successful students probably enjoy learning more because of their success. Failure, even when it is only occasional, appears to result in a more negative attitude among elementary school students [p. 24].

Benefits to teachers. High-quality monitoring programs can also help teachers maintain enthusiasm. Obviously, effective teaching is not always easy, and teachers need to be reminded that their hard work is making a difference. Reviewing monitoring data should remind teachers of their effectiveness and value.

3. Decision-making and Corrective Action. Monitoring practices should be designed so that they naturally facilitate corrective actions. For example, a monitoring program should quickly give a teacher information about those students who are prepared to move ahead, those students who are not prepared, those students who have made careless errors, and those students who require reteaching of a particular concept. Next, based on this type of monitoring information, a process for providing corrective actions must be built into the system. If reteaching is not systematically planned, it may not occur. One simple way to plan for reteaching is to schedule one daily lesson per week in which no new material is taught. The lesson can be used for diagnostic mastery testing and reteaching, dictated by the results of the mastery testing. If mastery testing indicates that some students have a major problem, the teacher should not hesitate to delay the instruction of new material until mastery of the earlier material has been achieved.

Reteaching and misbehavior. Teachers should avoid using testing and reteaching as punishment. It is important that teachers react positively to the necessity for testing and any associated reteaching. Such statements as "The tests show you have not been working, so we will keep repeating this material until you learn to pay attention" imply that reteaching is being used as a punishment for student misbehavior.

For the most part, student skill deficits can be explained as either a student learning problem or a teaching problem. Good, Grouws, and Ebmeier (1983), in a description of teachers of students who made higher gains than those of other teachers, stated that these teachers "assumed partial responsibility for student learning and appeared to be ready to reteach where necessary" (p. 61).

4. Monitoring and the Improvement of Instruction. The second purpose for instructional monitoring involves the improvement of instruction. Many school districts place an emphasis on the collection of data on student progress. The huge banks of standardized test data that exist in many school districts may or may not achieve their potential as agents for change. In some cases, the process of the data collection becomes an end in itself. The data has no instructional value if it is not used to guide the progressive improvement of instruction. In some cases, data is collected for the primary purpose of classifying students or teachers as high or low achievers. The teacher who views the data collected on student progress as primarily for the purpose of classifying the student as an A, B, C, D, or F student is also suggesting that it is the student and not the instruction that must change. Such an attitude is not conducive to the progressive improvement of instruction. Such a teacher might have difficulty with a school administrator who uses the information on teaching performance for the classification of the teacher as effective or ineffective only. It is to be hoped that the supervisor would place the primary emphasis on supporting teachers in their efforts to improve their instruction (see Figure 5.1).

Good, Grouws, and Ebmeier (1983) observed that effective teachers considered it particularly important "to look for ways to confirm or disconfirm that their presentations had been comprehended by students" (p. 61).

Verifying comprehension. In verifying comprehension, teachers must study the elements of an instructional lesson. Elements such as daily reviews, the presentation of new content, guided practice, and independent practice bear a dynamic and dependent relationship to each other. To implement such elements effectively, the teacher monitors student performance to determine the appropriate timing and relative emphasis to place on each element.

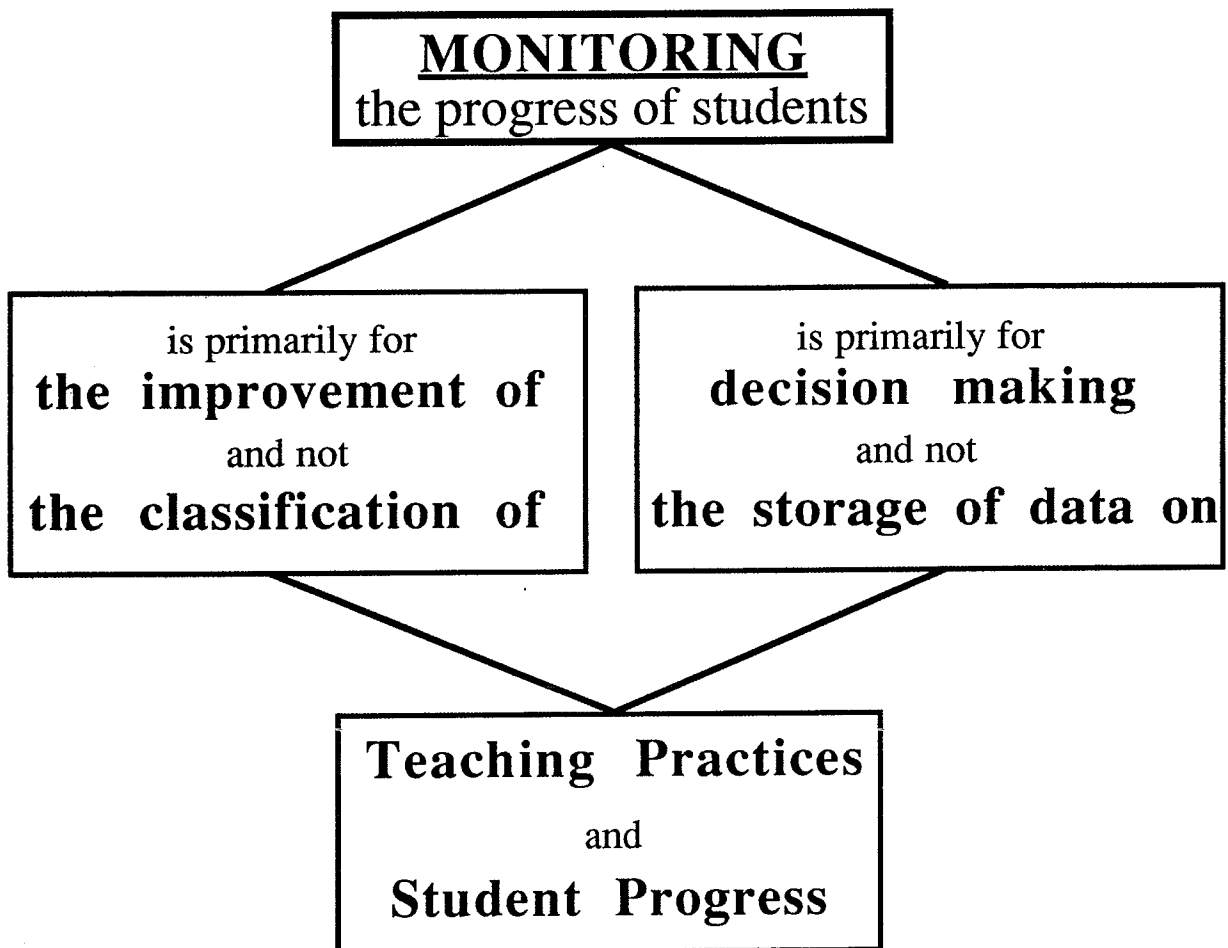
Teachers must make two timing decisions that are critical to successful instruction. They must decide

- a. When to move from the daily review and prerequisite check to the introduction of new content
- b. When to move from guided practice to independent practice.

Frequent and well-timed academic monitoring is needed to make these decisions.

FIGURE 5.1

The Purpose of Monitoring



Premature presentations of new content. One of the most common reasons for student failure is the premature presentation of new content. If a student needs a prerequisite skill to be successful in a new skill, all the student motivation and instructor sincerity in the world will not help the student. For instance, the teaching of long division without first ensuring that the students "overlearn" subtraction skills would be an exercise in student frustration and instructional incompetency. Unless a teacher closely monitors student performance on prerequisite skills, he or she will not know if the presentation of a new skill is premature.

Premature movement to independent practice. When students are assigned independent practice on objectives for which their error rate is high, the damage to student attitude and student achievement is also high. To assign material for which the student's success rate is less than 80 percent is to risk consolidation of bad habits, reduction in student confidence, and failure in

future content. In addition, when teachers have to spend an inordinate amount of time remediating, the time available to present new material is significantly reduced. Also, if teachers assign homework that is too difficult for the students, the teacher's credibility is threatened as parents struggle to do what they feel the teacher should have done. Careful monitoring of student performance in guided practice will help ensure that independent practice consolidates skills and helps students consistently demonstrate success.

A caution for improving instruction: Circulate. All too frequently, teachers just provide assistance to students who ask for help or who volunteer to show them their work. Teachers should spend a high percentage of the time circulating around the room to check *all* students' performance, being especially sensitive to those students who don't ask questions but who still need help. Along with monitoring student progress, circulating will help increase on-task behavior and decrease disruptive behavior.

5. Instructional Alignment. The term *instructional alignment* refers to the alignment among the curriculum, the instructional activities, and the curriculum-embedded tests of student progress. Cohen (1987) observed that large instructional gains are possible when the curriculum, the instruction, and the measures of student progress are aligned. Such alignment facilitates

- a. Increased instructional efficiency, because instructional activities are clearly focused
- b. Student gains, because of the clear relationship between teacher effort and student outcomes
- c. Positive student attitudes, because students are more likely to react positively to instruction that demonstrates a clear and consistent relationship between student investment in instruction and student test results

"The more complex and difficult the instructional tasks, the more important the role of alignment. Also, for low achievers, a little alignment goes a long way" (Cohen, 1987, p. 18).

6. Adaptive Ability. As schools try to meet the needs of a more diverse group of learners, the monitoring and decision-making skills of the teacher become more important. One of the greatest challenges facing educators is the creation of classroom environments with the ability to adapt instruction to meet the needs of all learners.

At one time, educators attempted to handle diversity in learners through the use of additional segregated treatment settings. Special-education, remedial, "disadvantaged," and other student populations were placed in separate programs, with specialists as instructors. Such practices generated the following concerns:

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- a. Many efficacy studies did not show these segregated, expensive education treatments to be more effective.
 - b. Although many of the segregated treatments were said to be justified on the basis that the student would receive needed and highly specialized services, there was considerable research to suggest that effective programs for most of the mildly handicapped students and effective programs for regular classrooms were more similar than different (Bickel & Bickel, 1986). Brophy (1987) reported that "research has turned up very little evidence suggesting the need for qualitatively different forms of instruction for students who differ in aptitude, achievement level, socioeconomic status, ethnicity, or learning style" (p. VI-122).
 - c. Serious questions were raised about the ethics associated with many of the approaches to program segregation, and federal laws were enacted to give preference to the regular classroom as the "least restrictive alternative."
 - d. Questions were raised about the long-term value of removing and segregating students as the preferred method of dealing with instructional problems. Such student removals implied that the student, not the instruction, was always at fault. Some observers even went so far as to suggest that schools were, in essence, "blaming the victim."
 - e. Because there developed a habit of removing even mildly handicapped special education students rather than modifying instructional practices, some felt that schools had lost the adaptive ability to handle other students "at risk," with problems such as those associated with cultural and linguistic diversity, drug abuse, teenage pregnancy, and teenage suicide. These concerns were heightened when it was revealed that dropout rates of 50 percent were not unusual in many schools and that the dropout phenomenon had broad impact on all ethnic and social class subgroups (Hahn, 1987).

Although there is nothing in the literature suggesting that phenomena such as the dropout epidemic are tied to a single issue or corrected by a single treatment, there certainly are researchers who stress the importance of effective teaching. In discussing the most effective treatments for dropouts, Hahn (1987) noted that these programs "challenged students academically and provided personal counseling and were staffed by caring adults." Hahn also noted that these programs "share some of the characteristics documented in the effective schools literature" (p. 261).

While the issues are important; difficult, and complex, there can be little doubt about the following facts:

- a. More and more teachers will be asked to work with more students classified as "at risk."
- b. One of the critical elements in the prevention and treatment

of "at risk" students is the presence of the characteristics of effective instruction.

- c. Adaptive instructional treatments can only be triggered in a timely manner if the teacher is effectively monitoring the progress of all students. Such monitoring should reflect the presence of a skillful instructor and a caring professional educator.
- d. To date, the research on effective instructional treatments for diverse student populations suggests that the partial implementation of a wide and exotic range of instructional procedures has yielded less than the consistent and appropriate implementation of the academically focused instructional skills identified in the effective teaching literature.

7. Mastery Testing. Mastery testing is one component of a model of school learning described by Bloom (1968). In this model, student progress is monitored carefully. A students' advancement through the system of instruction requires the mastery of previous units before moving on. In their review of the research on mastery testing, Kulik and Kulik (1987) made the following observations:

- a. Mastery testing generally has positive effects on student learning, and its value is well documented.
- b. "Mastery testing raised the final examination average in the typical study by .54 standard deviations, or from the fiftieth to the seventy-first percentile" (p. 339).
- c. "The effects of mastery testing were more apparent, however, on the low-aptitude students in a class than they were on the high-aptitude students. Thus, a mastery testing requirement also had the effect of diminishing individual differences in student achievement" (p. 339).
- d. Mastery testing can be effective in group-based instruction and in more individualized instructional settings.
- e. The effectiveness of mastery-based testing is increased when the amount of feedback on mastery tests is increased.
- f. The effectiveness of mastery testing is related to the rigor with which it is implemented. Those who use high levels of mastery (e.g., 90 percent or better), and who ensure that a large percentage of the students achieve this before moving to new content, will do better than those who accept lower performance levels.

In many ways the intent of mastery learning is similar to that of ALT (academic learning time). Both stress the importance of large amounts of engaged time with high success levels. Both make the point that moderate levels of success are unacceptable for low or high aptitude students and that continued exposure to moderate levels of success has no positive correlation with increased

academic performance. Both use a similar definition of success. For mastery testing, it is typically 90 percent or better, with the most effective programs using success levels of 95 or 100 percent. For ALT, the preferred level is 100 percent, except for careless errors. Careless errors are defined as errors that typically would not be repeated if the problem were repeated. For most practical purposes, the mastery testing definition and the ALT definition of success fall in the same range of 90 percent or better.

The intent of mastery learning is also similar to systematic reviewing and reteaching. If one is providing weekly quizzes, reteaching, and retesting until most students are achieving 90 percent or better, then one is conducting mastery testing.

Mastery testing appears to be consistently associated with the more effective instructional programs. One of the reasons for this may be the additional accountability that is generated by mastery testing. If students are tested and moved on to new content regardless of the test results, the teacher is under no pressure to examine or revise instructional practices. If reteaching is conducted until students reach an acceptable level of mastery before moving to new content, there is constant pressure to examine and revise instruction.