The First Step: Planning

Greta Morine-Dershimer (2003) asks which of the following are true about teacher planning:

- Time is of the essence.
- Plans are made to be broken.
- A little goes a long way.
- You can do it yourself.
- One size fits all.
- Don't look back.

When you thought about the “What Would You Do?” challenge, you were planning. In the past few years, educational researchers have become very interested in teachers’ planning. They have interviewed teachers about how they plan, asked teachers to “think out loud” while planning or to keep journals describing their plans, and even studied teachers intensively for months at a time. What have they found?

First, planning influences what students will learn, because planning transforms the available time and curriculum materials into activities, assignments, and tasks for students—time is the essence of planning. When a teacher decides to devote 7 hours to language arts and 15 minutes to science in a given week, the students in that class will learn more language than science. In fact, differences as dramatic as this do occur, with some classrooms dedicating twice as much time as others to certain subjects (Clark & Yinger, 1988; Karweit, 1989). Planning done at the beginning of the year is particularly important, because many routines and patterns, such as time allocations, are established early. So, a little planning goes a long way in terms of what will be taught and what will be learned.

Second, teachers engage in several levels of planning—by the year, term, unit, week, and day. All the levels must be coordinated. Accomplishing the year’s plan requires breaking the work into terms, the terms into units, and the units into weeks and days. For experienced teachers, unit planning seems to be the most important level, followed by weekly and then daily planning. As you gain experience in teaching, it will be easier to coordinate these levels of planning and incorporate the state and district curriculum requirements as well (Clark & Yinger, 1988; Morine-Dershimer, 2003).

Third, plans reduce—but do not eliminate—uncertainty in teaching. Planning must allow flexibility. There is some evidence that when teachers “overplan”—fill every minute and stick to the plan no matter what—their students do not learn as much as students whose teachers are flexible (Shavelson, 1987). So plans are not made to be broken—but sometimes they need to be bent a bit.

In order to plan creatively and flexibly, teachers need to have wide-ranging knowledge about students; their interests, and abilities; the subjects being taught; alternative ways to teach and assess understanding; working with groups; the expectations and limitations of the school and community; how to apply and adapt materials and texts; and how to pull all this knowledge together into meaningful activities. The plans of beginning teachers sometimes don’t work because they lack knowledge about the students or the subject—they can’t estimate how long it will take students to complete an activity, for example, or they stumble when asked for an explanation or a different example (Calderhead, 1996).

In planning, you can do it yourself—but collaboration is better. Working with other teachers and sharing ideas is one of the best experiences in teaching. (Be sure to look at the websites at the end of the chapter to find additional planning resources for teachers.) But even great lesson plans taken from a terrific website on science have to be adapted to your situation. Some of the adaptation comes before you teach and some comes after. In fact, much of what experienced teachers know about planning comes from looking back—reflecting—on what worked and what didn’t, so do look back on your plans and grow professionally in the process.

Finally, there is no one model for effective planning. One size does not fit all in planning. Planning is a creative problem-solving process for experienced teachers (Shavelson, 1987). These teachers know how to accomplish many lessons and to teach...
segments of lessons effectively. They know what to expect and how to proceed, so they don't necessarily continue to follow the detailed lesson-planning models they learned during their teacher-preparation programs. Planning is more informal—"in their heads." However, many experienced teachers think it was helpful to learn this detailed system as a foundation (Clark & Peterson, 1986).

No matter how you plan, you must have a learning goal in mind. In the next section we consider the range of goals that you might have for your students.

**Objectives for Learning**

We hear quite a bit today about visions, goals, outcomes, and standards. At a very general, abstract level are the grand goals society may have for graduates of public schools such as, "All children will start school ready to learn," one of the eight goals for U.S. education in Goals 2000 (see www.ed.gov/G2K/ for all the goals). However, very general goals are meaningless as potential guidelines for instruction. States may turn these grand goals into standards, such as the South Carolina standard that students will "Develop the concept of fractions, mixed numbers, and decimals and use models to relate fractions to decimals and to find equivalent fractions." Sometimes the standards are turned into indicators such as "representing equivalent fractions objectives" (Anderson & Krathwohl, 2001, p. 18). At this level, the indicators are close to being instructional objectives.

Norman Gronlund (2000) defines instructional objectives as "intended learning outcomes... the types of performance students are expected to demonstrate at the end of instruction to show that they have learned what was expected of them" (p. 4). Objectives written by people with behavioral views focus on observable and measurable changes in the learner. Behavioral objectives use terms such as list, define, add, or calculate. Cognitive objectives, on the other hand, emphasize thinking and comprehension, so they are more likely to include words such as understand, recognize, create, or apply. Let's look at one well-developed method of writing specific objectives.

**Mager: Start with the Specific.** Robert Mager has developed a very influential system for writing instructional objectives. Mager's idea is that objectives ought to describe what students will be doing when demonstrating their achievement and how teachers will know they are doing it (Mager, 1975). Mager's objectives are generally regarded as behavioral. According to Mager, a good objective has three parts. First, it describes the intended student behavior. What must the student do? Second, it lists the conditions under which the behavior will occur: How will this behavior be recognized or tested? Third, it gives the criteria for acceptable performance on the test. Table 12.1 shows how the system works. With its emphasis on final behavior, Mager's

<table>
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<tr>
<th>Part</th>
<th>Central Question</th>
<th>Example</th>
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<tr>
<td>Student behavior</td>
<td>Do what?</td>
<td>Mark statements with an F for fact or an O for opinion</td>
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<tr>
<td>Conditions of performance</td>
<td>Under what conditions?</td>
<td>Given an article from a newspaper 75% of the statements are correctly marked</td>
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<td>Performance criteria</td>
<td>How well?</td>
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system requires a very explicit statement. Mager contends that often students can teach themselves if they are given well-stated objectives.

**Gronlund: Start with the General.** Norman Gronlund (2000) offers a different approach, which is often used for writing cognitive objectives. He believes that an objective should be stated first in general terms (*understand, solve, appreciate, etc.*). Then the teacher should clarify by listing a few sample behaviors that would provide evidence that the student has attained the objective. Look at the example in Table 12.2. The goal here really is presenting and defending a research project. A teacher could never list all the behaviors that might be involved in “presenting and defending,” but stating an initial, general objective along with specific examples makes the purpose clear.

The most recent research on instructional objectives tends to favor approaches similar to Gronlund’s. James Popham (2002), a former proponent of very specific objectives, makes this recommendation:

> Strive to come up with a half dozen or so truly salient, broad, yet measurable instructional objectives for your own classroom. Too many small-scope, hyperspecific objectives will be of scant value to you because, if you’re at all normal, you’ll soon disregard [them]. On the other hand, a small number of intellectually manageable, broad, yet measurable objectives will not only prove helpful to you instructionally but will also help you answer the what-to-assess question. (pp. 98–99)

**Table 12.2**

<table>
<thead>
<tr>
<th>General Objective</th>
<th>Specific Examples</th>
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<td>Presents and defends the research project before a group.</td>
<td>1. Describes the project in a well-organized manner.</td>
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<td>2. Summarizes the findings and their implications.</td>
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<td>3. Uses display materials to clarify ideas and relationships.</td>
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<td>4. Answers group members’ questions directly and completely.</td>
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<td>5. Presents a report that reflects careful planning.</td>
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<td>6. Displays sound reasoning ability through presentation and answers to questions</td>
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**Flexible and Creative Plans—Using Taxonomies**

Think about your assignments for one of your classes. What kind of thinking is involved in doing the assignments?
Remembering facts and terms?  Analyzing a situation, task, or problem?
Understanding key ideas?  Making evaluations or giving opinions?
Applying information to solve problems?  Creating or designing something new?

What kind of thinking is involved in answering this Stop/Think/Write question?

Several decades ago, a group of experts in educational evaluation led by Benjamin Bloom set out to improve college and university examinations. The impact of their work has touched education at all levels around the world (Anderson & Sosniak, 1994). Bloom and his colleagues developed a taxonomy, or classification system, of educational objectives. Objectives were divided into three domains: cognitive, affective, and psychomotor. A handbook describing the objectives in each area was eventually published. In real life, of course, behaviors from these three domains occur simultaneously. While students are writing (psychomotor), they are also remembering or reasoning (cognitive), and they are likely to have some emotional response to the task as well (affective).

The Cognitive Domain. Six basic objectives are listed in Bloom's taxonomy of the thinking or cognitive domain (Bloom, Engelhart, Frost, Hill, & Krathwohl, 1956):

1. **Knowledge**: Remembering or recognizing something without necessarily understanding, using, or changing it.
2. **Comprehension**: Understanding the material being communicated without necessarily relating it to anything else.
3. **Application**: Using a general concept to solve a particular problem.
4. **Analysis**: Breaking something down into its parts.
5. **Synthesis**: Creating something new by combining different ideas.
6. **Evaluation**: Judging the value of materials or methods as they might be applied in a particular situation.

It is common in education to consider these objectives as a hierarchy, each skill building on those below, but this is not entirely accurate (Seddon, 1978). Some subjects, such as mathematics, do not fit this structure very well (Kreitzer & Madaus, 1994). Still, you will hear many references to lower-level and higher-level objectives, with knowledge, comprehension, and application considered lower level and the other categories considered higher level. As a rough way of thinking about objectives, this can be helpful (Gronlund, 2000). The taxonomy of objectives can also be helpful in planning assessments because different procedures are appropriate for objectives at the various levels, as you will see in Chapter 15.

**Bloom 2001.** Bloom's taxonomy guided educators for over 40 years. It is considered one of the most significant educational writings of the 20th century (Anderson & Sosniak, 1994). In 2001, a group of educational researchers published the first major revision of the taxonomy (Anderson & Krathwohl, 2001). The new version retains the six basic levels in a slightly different order, but the names of three levels have been changed to indicate the cognitive processes involved. The six cognitive processes are remembering (knowledge), understanding (comprehension), applying, analyzing, evaluating, and creating (synthesizing). In addition, the revisers have added a new dimension to the taxonomy to recognize that cognitive processes must process something— you have to remember or understand or apply some form of knowledge. If you look at Table 12.3 you will see the result. We now have six processes—the cognitive acts of remembering, understanding, applying, analyzing, evaluating, and creating. These processes act on four kinds of knowledge—factual, conceptual, procedural, and metacognitive.
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<td>A. Factual Knowledge</td>
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<td>B. Conceptual Knowledge</td>
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<td>C. Procedural Knowledge</td>
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<tr>
<td>D. Metacognitive Knowledge</td>
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**Table 12**

**The Cognitive Process Dimension**

SOURCE: From A Taxonomy for Teaching and Assessing, L. Anderson and D. Krathwohl, (eds.). Published by Allyn & Bacon, Boston, MA. Copyright © 2003 by Pearson Education. Reprinted by permission of the publisher.

Consider how this revised taxonomy might suggest objectives for a social studies/language arts class. An objective that targets analyzing conceptual knowledge is:

After reading an historical account of the battle of the Alamo, students will be able to recognize the author's point of view or bias.

An objective for evaluating metacognitive knowledge might be:

Students will reflect on their strategies for identifying the biases of the author.

**The Affective Domain.** The objectives in the taxonomy of the affective domain, or domain of emotional response, have not yet been revised from the original version. These objectives run from least committed to most committed (Krathwohl, Bloom, & Maslia, 1964). At the lowest level, a student would simply pay attention to a certain idea. At the highest level, the student would adopt an idea or a value and act consistently with that idea. There are five basic objectives in the affective domain:

1. **Receiving:** Being aware of or attending to something in the environment. This is the I'll-listen-to-the-concert-but-I-won't-promise-to-like-it level.
2. **Responding:** Showing some new behavior as a result of experience. At this level a person might applaud after the concert or hum some of the music the next day.
3. **Valuing:** Showing some definite involvement or commitment. At this point a person might choose to go to a concert instead of a film.
4. **Organizing:** Integrating a new value into one's general set of values, giving it some ranking among one's general priorities. This is the level at which a person would begin to make long-range commitments to concert attendance.
5. **Characterizing by value:** Acting consistently with the new value. At this highest level, a person would be firmly committed to a love of music and demonstrate it openly and consistently.

Like the basic objectives in the cognitive domain, these five objectives are very general. To write specific learning objectives, you must state what students will actually be doing when they are receiving, responding, valuing, and so on. For example, an objective for a nutrition class at the valuing level (showing involvement or commitment) might be stated: After completing the unit on food contents and labeling, at least 50% of the class will commit to the junk-food boycott project by giving up candy for a month.

**The Psychomotor Domain.** Until recently, the psychomotor domain, or realm of physical ability objectives, has been mostly overlooked by teachers not directly involved with physical education. There are several taxonomies in this domain (e.g., Harrow, 1972; Simpson, 1972) that generally move from basic perceptual and reflex actions to skilled, creative movements. James Cangelosi (1990) provides a useful way to think about objec-
tives in the psychomotor domain as either voluntary muscle capabilities that require endurance, strength, flexibility, agility, or speed, or the ability to perform a specific skill.

Objectives in the psychomotor domain should be of interest to a wide range of educators, including those in fine arts, vocational-technical education, and special education. Many other subjects, such as chemistry, physics, and biology also require specialized movements and well-developed hand and eye coordination. Using lab equipment, the "mouse" on a computer, or art materials means learning new physical skills. Here are two psychomotor objectives:

Four minutes after completing a one-mile run in eight minutes or under, your heart rate will be below 120.

Use a computer mouse effectively to "drag and drop" files.

Whatever your instructional objectives for your students, Terry TenBrink (2003, p. 67) suggests these criteria. Objectives should be:

1. Developmentally appropriate.
2. Attainable by the students within a reasonable time limit.
3. In proper sequence with other objectives (not to be accomplished until the prerequisite objectives are met).
4. In harmony with the overall goals of the course (and curriculum).
5. In harmony with the goals and values of the institution.

The Guidelines below should help you if you use objectives for every lesson or for just a few assignments.

Another View: Planning from a Constructivist Perspective

Think about the same course assignments you analyzed for thinking processes in the previous STOP/THINK/WRITE. What are the big ideas that run through all those assignments? What other ways could you learn about those ideas besides the assignments?

Traditionally, it has been the teacher’s responsibility to do most of the planning for instruction, but new ways of planning are developing. In constructivist approaches, planning is shared and negotiated. The teacher and students together make decisions.

GUIDELINES

1. Keep the focus on specific changes that will take place in the students’ knowledge of skills.
2. If the goal is the ability to develop well-thought-out positions, consider position papers, debates, projects, or mock trials.
3. If you want students to become better writers, give many opportunities for writing and rewriting.

Make sure your tests are related to your objectives.

1. Write objectives and rough drafts for tests at the same time—revise these drafts of tests as the units unfold and objectives change.
2. Weight the tests according to the importance of the various objectives and the time spent on each.