After completing your study of Chapter 3, you should be able to do the following:

1. Give valid rationales for stating instructional goals and objectives.
2. Contrast the terms educational goals, informational objectives, and instructional objectives.
3. Prepare (write) educational goals.
4. Describe the four components that make up a properly written instructional objective.

5. Describe the three domains of learning.
6. Classify objectives into cognitive, affective, and psychomotor domains and rate them as higher- or lower-level within each domain.
7. Prepare (write) informational objectives and instructional objectives at different levels of cognitive, affective, and psychomotor sophistication.
8. Describe the backward design approach to stating instructional intent.
Almost anything you try in the classroom will result in some type of learning, but it is not always desirable learning. To be effective, learning must have direction; it must have purpose. For example, your school might want to focus on reading and writing skills. Your task would then be to decide on the specific learning that will lead to the attainment of this goal. Thus, even though they are broad and basic skills, reading and writing would be integrated into course content and related specific objectives. Viewed in this context, your objective can be defined as a clear and unambiguous description of instructional intent. It is finite and measurable. Its accomplishment can be verified.

An **objective** is not a statement of what you plan to do; instead, it is a statement of what your students should be able to do after instruction. For example, if the purpose of instruction is to foster student understanding of the conditions that led to our focus on the exploration of space, the objective would **not** be “The teacher will present information about our ventures into space.” It does not matter at all what the teacher does if students do not learn. Remember the purpose of instruction is to get students to learn. Therefore, the objective should be “The student will discuss world conditions that led to our focus on the exploration of space.” Objectives, then, should place the emphasis on student outcome or performance.

There are a number of approaches to writing objectives. The behavioral objectives approach proposed by Robert Mager (1977) and the general/specific objectives approach proposed by Norman Gronlund (1979) are the most common. Mager proposes writing specific statements about observable outcomes that can be built up to become a curriculum (an inductive approach). An example of a behavioral objective would be

Given 3 minutes of class time, the student will solve 9 out of 10 addition problems of the type: \( 5 + 4 = \_\_\_. \)

Gronlund, on the other hand, proposes starting with a general statement and providing specific examples of topics to be covered or behaviors to be observed (a deductive approach). An example of a general/specific objective would be

The student can perform simple addition:

a. can define what addition means, in his or her own words.

b. can define relevant terms such as “addend” and “sum.”

c. can solve problems of the type \( 5 + 4 = \_\_\_. \).

While there are advantages and disadvantages to each approach, this text will focus on Mager’s approach, because it is the most widely used and perhaps the most inclusive.

**Rationale for Objectives**

Teaching, as noted in Chapter 2, can be envisioned as a six-phase process (review Figure 2.1). Once the content to be taught has been selected, objectives must be written related to the selected content. The written objectives will then set the framework for the instructional approach and the student evaluation.
Establishing Objectives

1. Should students be involved in determining educational intent? Do students really know what they need?
2. What impact will student attitudes have on the desire to learn?

My fifth-grade class goes to a physical education teacher once a week. The physical education teacher was complaining about the performance of my students during their once-a-week physical education class. My first response was, “What do you expect me to do?” Yet, I began noticing student attitudes toward their physical education class were very negative and getting progressively worse. Some were bringing notes from home asking that they be excused from physical education for various reasons. The physical education teacher indicated he would give students an unacceptable grade if they had any further notes from home.

I decided to schedule additional physical education time into our daily schedule in an effort to find out what was going on. I perceived that my students needed to somehow develop a deeper appreciation for physical activity so I decided to take them out to play kick ball and see for myself what was going on. I selected kick ball because it is the simplest, physical game I know. It has simple rules, requires little or no setup time, and the only materials I needed was a ball for them to kick and bases. I required everyone to participate while I observed.

On our first day of kick ball, there was much arguing, intentional cheating by some, disgruntled players, reluctant/discouraged players, and a few (two or three) eager students. The attitudes were awful! Even the eager students had no sense of fair play or team spirit. Some of the students were unable to kick the ball without falling down. Several couldn’t run. I mean they really didn’t know how to run or even where to run. Some didn’t know the correct base order to tag bases. Two students didn’t speak English. Furthermore, name calling and negative remarks were the general basis for communication. Indeed, the frustration level for the group was extremely high. Obviously, they were finding very little satisfaction from their learning time. Of course the big question was, “Are they learning anything?” I certainly learned a lot from them. First, I learned that when students do not have explicit objectives for their activities, they tend to devise their own. I asked my group what our objectives should be to justify our time outside each day. Each of them had different ideas about the goals and objectives of physical education time. No wonder they seemed to be going in 20 different directions.

With the help of my class, we made a list of objectives that would address our immediate needs in an effort to focus the group. We made a list of skills needed to be successful at kick ball. The list of objectives gave the group a focus and gave me a tool for evaluation of each student’s progress. Students began to focus less on winning and losing and more on skills needed for the game to run smoothly. Certainly, there is nothing wrong with focusing on winning as long as prerequisite skills are not neglected.

The result of having specific objectives focused everyone and the assessment was built into the accomplishment of the objectives. The results were astounding! I’ve never been more pleased with my work. First, I learned that many of my students honestly didn’t know how to run. I guess I thought that was something that just came naturally to children. I learned many of my students rarely played outside. As a result of this, I began communicating more with parents to find out more about my students. My teaching became more personable and I began to realize the connection between what my students could learn and what was going on in their personal lives. I watched each student become more and more proficient with the physical skills needed for their physical education class. Their attitudes about themselves and each other improved dramatically. Many students expressed pride in their accomplishments and began to talk about how they now liked physical education. Getting to know my students on a personal level along with the use of specific, obtainable objectives made a huge difference.

—Susan Moore, 5th grade, Pike Elementary School, Fort Smith, AR

SOURCE: Courtesy of Susan Moore, Van Buren, AR. Used with permission.
Objectives establish the framework for instruction: they compel you to provide the environment and sequence of activities that will allow students to reach the stated intent. For example, if your objective is the instant recall of specific information (such as the elements in the periodic table), your activities must include practice in the recall of the information. If, on the other hand, the objective is related to the use of information in problem solving, practice in problem solving procedures must be provided. Thus, objectives spell out general strategies and specific activities for their attainment.

Objectives also prescribe exactly what skills and knowledge students must manifest as a result of instruction. In other words, your objectives will set the framework for the evaluation process.

**Communication of Intent**

Objectives also serve an important communication function. Clear and measurable objectives need to be stated for the benefit of students, parents, and program accountability. Through the use of properly written objectives, educators can show where students are, as a group or as individuals, with respect to the stated objectives.
Administrators can communicate similar information to school boards or the community at large.

Objectives make clear to students your expectations prior to instruction. This communication eliminates guesswork related to students’ learning (e.g., “Will this be on the test?”). Thus, when you communicate your objectives, students know exactly what is expected of them, and they no longer have to guess what is important. They know whether it will be on the test.

Objectives are being widely used in education today. Public Law 94-142 (PL 94-142) and its successors, for example, require that an Individual Education Plan (IEP) be written for every handicapped student in your class. And, for each of these plans, specific objectives must be written for the students. Furthermore, individualized program and mastery learning techniques, as well as some state and district regulations, require the specification of objectives. Thus, you, as a prospective teacher, must understand and develop the skills for prescribing and writing your instructional intent (objectives).

**Teacher Accountability**

Finally, the movement for teacher accountability has become a simple extension of objectives, testing, and evaluation. Teacher accountability means that teachers are
A. Figure 3.1
A Three-Stage Accountability Model

Test items must validly measure the instructional objectives

As shown in Figure 3.1, objectives drive the entire instructional process. Therefore, it is essential that objectives be clear and measurable, because the evaluation will be determined by the objectives. That is, the evaluation must measure the outcome that is specified in the objective. The following examples illustrate incorrect and correct evaluation of intended learning outcomes.

<table>
<thead>
<tr>
<th>Objective:</th>
<th>The student will use geometric formulas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrong Evaluation:</td>
<td>Derive geometric formulas.</td>
</tr>
<tr>
<td>Better Evaluation:</td>
<td>Please find the area and volume.</td>
</tr>
<tr>
<td>Objective:</td>
<td>The student will swim 100 yards in boiling oil.</td>
</tr>
<tr>
<td>Wrong Evaluation:</td>
<td>Explain the theory and philosophy of oil swimming.</td>
</tr>
<tr>
<td>Better Evaluation:</td>
<td>Please swim.</td>
</tr>
</tbody>
</table>
Note that the first objective calls not for being able to derive geometric formulas but for using them. Likewise, the second objective does not require that students explain the theory and philosophy of oil swimming but, rather, that they actually swim. Obviously, your evaluation must assess what was specifically stated in your objectives. These specifics were the learning intent.

Instructional intent can be stated at varying levels of specificity. At the general level, statements of instructional intent are presentations of the broad goals of instruction. At the more specific level, instructional intent tells what students will be able to do following instruction. When writing instructional intent, you begin by identifying your goals at a broad level and follow these with the more specific objectives. Thus, movement is from a general frame of reference to a more specific frame. Let’s now look at this deductive process in greater detail.

**Objective Specificity**

There is a difference in the level of specificity at which instructional intent should be written. Whereas goals are usually broad statements used to describe the purposes of schooling or the purposes of a course, objectives are narrower statements of the intended learning of a unit or specific lesson. A nomenclature that makes a distinction between goals and objectives has been developed; however, there is little agreement about terminology. The terms educational aims, educational goals, and general objectives are often used to denote broad instructional intent, whereas the terms performance objectives, informational objectives, behavioral objectives, and instructional objectives are often used to denote the more specific instructional intent.

This text will address three levels of specificity: educational goals, informational objectives, and instructional objectives. Educational goals and the more specific instructional objectives can be thought of as forming a continuum from general to specific, with goals being written for a school course or unit, followed by (in descending order) informational and instructional objectives written for specific lessons and exercises. Examples of these three levels of specificity are shown in Table 3.1. Note that the level of specificity increases as you move down through the examples, with the informational objective being subordinate to the educational goal and instructional objective being subordinate to the informational objective.

Educational goals are broad and may take an extended period of time to be accomplished. Note how the goal in Table 3.1 is the actual intent of the course: It is what the teacher wishes to accomplish in the broadest sense—in this case, computer literacy. The informational and instructional objectives, then, support the educational goal. They tell what the student will do to show that they are computer literate. Following are other examples of educational goals:

1. The students will develop a command of standard English.
2. The students will expand their leisure activities.
3. The students will develop good ethical character.
4. The students will formulate an appreciation for all people.
5. The students will develop good health habits.
Note that these statements are so general that they appear to give us little help in instruction. Yet, on closer examination, they do give us general direction and, therefore, represent the first step in deciding what to teach. They set the general direction we wish to go with our instruction. To this end, educational goals are usually concerned with covert (nonobservable), internal changes, which are less clearly measurable than are the behaviors associated with the more specific objectives. Some handy verbs that should prove helpful in writing educational goals are listed in Table 3.2. Notice that many of the verbs used in writing educational goals are rather vague and open to interpretation. They lack the specification of exactly what, in observable terms, the student is to do to show that the intended learning has taken place. Complete Expansion Activity: Educational Goals, which will let you explore goals for your expected grade level or content area.

**Table 3.1 Examples of Educational Goal and Objective Specificity**

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Goal</td>
<td>The student will develop computer literacy.</td>
</tr>
<tr>
<td>Informational Objectives</td>
<td>The student will be able to use a word processing software program.</td>
</tr>
<tr>
<td>Instructional Objective</td>
<td>Given a set of specific requirements, the student will be able to use a word processing program to write a one-page paper with no errors.</td>
</tr>
</tbody>
</table>

Note that these statements are so general that they appear to give us little help in instruction. Yet, on closer examination, they do give us general direction and, therefore, represent the first step in deciding what to teach. They set the general direction we wish to go with our instruction. To this end, educational goals are usually concerned with covert (nonobservable), internal changes, which are less clearly measurable than are the behaviors associated with the more specific objectives. Some handy verbs that should prove helpful in writing educational goals are listed in Table 3.2. Notice that many of the verbs used in writing educational goals are rather vague and open to interpretation. They lack the specification of exactly what, in observable terms, the student is to do to show that the intended learning has taken place. Complete Expansion Activity: Educational Goals, which will let you explore goals for your expected grade level or content area.

**Expansion Activity**

Educational Goals

Educational goals give direction to our instructional intent. Research the national, state, and district goals of the grade level or content area you expect to teach. What are some of the broad goals for instruction for the grade or content subject you expect to teach? List them.

**Table 3.2 Some Illustrative Verbs for Writing Goals**

| A          | B          | C          | D          | E          | F          | G          | H          | I          | J          | K          | L          | M          | N          | O          | P          | Q          | R          | S          | T          | U          | V          | W          | X          | Y          | Z          |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
Our next step in the planning process is to decide the specifics related to our goals. That is, we must now decide more precisely what students should know and, consequently, do to demonstrate that they have accomplished these goals. These decisions are stated in our more specific objectives: informational and instructional.

**APPLY AND REFLECT:** Educational goals should be written to set the framework for writing the more specific instructional intent. What sources and guides should be used to establish your goals?

---

**Stating Objectives**

The primary purpose of school is to cause students to learn. Thus, as a result of your instruction, there should be a change in state within your students. This change in state must be overt (observable), with students acting differently than they did before being involved in the learning process.

Objectives must lay out everything you intend but must not imply things you do not want to say. Consequently, informational and instructional objectives must be unambiguous as well as being testable and measurable. Table 3.3 suggests some verbs that are appropriate for informational and instructional objectives. Note the difference in clarity of language between the verbs listed in Tables 3.2 and 3.3.

### Table 3.3 Illustrative Verbs for Writing Informational and Instructional Objectives

<table>
<thead>
<tr>
<th>A</th>
<th>add</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>adjust</td>
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<tr>
<td>A</td>
<td>analyze</td>
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<tr>
<td>A</td>
<td>arrange</td>
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<td>B</td>
<td>build</td>
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<td>C</td>
<td>calculate</td>
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<td>C</td>
<td>choose</td>
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<td>C</td>
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<td>C</td>
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<td>construct</td>
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<td>pronounce</td>
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<td>underline</td>
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<tr>
<td>W</td>
<td>write</td>
</tr>
</tbody>
</table>
Elements of Instructional Objectives

Instructional objectives precisely communicate learning intent. Mager (1997) outlines three components to instructional intent: behavior, conditions, and criterion. This book, however, recommends that an expression of instructional intent comprise these four elements:

1. Spell out the terminal behavior, or performance, that details the actions that will be accepted as evidence that the intent has been achieved.
2. Specify the product or what is to be produced by the student actions.
3. Describe the conditions under which the student action is to be expected.
4. State the criteria of acceptable performance; you are describing how well you want the students to perform.

At times, not all of these elements are necessary. The object is to clearly communicate your intent. Thus, sometimes informational objectives (addressed later in this chapter) will suffice, and sometimes not.

Element One: The Performance

The first element of an instructional objective is the specification of what students are expected to do after they receive instruction. This action is clarified in your selection of a word, usually a verb, that indicates what students are to do or produce. Because the purpose of instruction is to elicit a predetermined action, instructional objectives should always be written in terms of observable student performance. Special care must be taken in selecting the proper verb, so that you achieve clarity.
of language with no ambiguity in meaning. You, your interested colleagues, and your principal must interpret the same meaning from each verb used in your objectives. Subjective terms, such as know, realize, and understand, should not be used as performance verbs in writing your objectives. These terms are open to interpretation and have different meanings to different individuals. In a word, you should use terms that denote observable (overt) actions or behaviors. Verbs, for example—such as list, name, state, bisect, and graph—prompt observable behaviors that, in turn, will help you evaluate your instructional intent. Review Table 3.3 for further examples of appropriate verbs for writing instructional objectives.

**Element Two: The Product**

The second element of an instructional objective is to specify what is to be the result of the students’ performance. It is this product of students’ actions that you will evaluate in determining whether the objective has been mastered. This product can be a written sentence, a written sum, listed names, a demonstrated skill, or a constructed object. Students, for example, could be asked to produce a 300-word essay, a list of nouns, an analysis of the characters in a play, or the solutions to a set of basic addition facts.

The product is the outcome that you’ve planned to result from the instructional process. In other words, it is what you want students to be able to do after your instruction that they (supposedly) couldn’t do prior to instruction.

**Element Three: The Conditions**

The third element in the statement of an instructional objective is to establish the conditions under which the learner is to perform the prescribed action. Conditional elements can refer to the materials, information, or special equipment that will or will not be available to students; any special restrictions as to time and space; and any other applicable requirements. Consider this example: “Given the formula, the student will be able to calculate the attractive force between two masses.” This objective tells students that they need not memorize the formula—that they will be given the formula and they should simply know how to use it. Note the use of “Given the formula” for the conditional statement. Terms and phrases such as “Given” or “With (Without) the aid of” are commonly used in conditional statements.

Conditions must be realistic and clearly communicate expectations to students. They should make your desires more explicit. Following are other examples of conditions that might be included in an instructional objective:

Given a list of verbs . . .
After reading Chapter 10 . . .
Using class notes . . .
With a ruler, protractor, and compass . . .
Within a 10-minute time interval and from memory . . .
On an essay test . . .
Given the necessary materials . . .
During a 5-minute interval . . .
From a list of compound sentences . . .
Without the aid of references . . .

These are a few examples of how conditions can be included as elements in instructional objectives. Essentially, you should attempt to visualize under what conditions you want students to show mastery and prescribe these conditions in your objectives. As shown in the examples, conditions are usually written as the first component in the objective, but their placement can be anywhere in the objective. For example, the objective “The student will identify, on a multiple-choice test, Newton's laws of motion with 100 percent accuracy” has the conditional component (on a multiple-choice test) toward the middle of the objective.

**Element Four: The Criterion**

The fourth, and last, element of an instructional objective is the level of acceptable student performance. This is where you state the lowest level of performance that you will accept as showing mastery. This component can be established in terms of time limits, percentage of correct answers, minimum number of correct answers, ratios of correct to incorrect responses permitted, an acceptable tolerance, and other observable operations. This standard, or criterion, should be stated clearly so that students know in advance exactly what the standards are by which their performance will be judged. In other words, criterion levels should be stated as in the following specific examples:

- . . . at least three reasons . . .
- . . . 9 of the 10 cases . . .
- . . . with no spelling errors.
- . . . with 80 percent accuracy.
- . . . 90 percent of the 20 problems.
- . . . within plus or minus 10 percent.
- . . . to the nearest hundredth.
- . . . correct to the nearest percent.
- . . . within 10 minutes.
- . . . in less than 5 minutes.
- . . . at least two problems within a 5-minute period.
- . . . within 20 minutes with 80 percent accuracy.

Each of these criterion levels represents well-defined standards toward which students can strive. Usually such standards are selected rather arbitrarily on the basis of past experiences and class expectations.
Carefully defined levels of desired performance are essential for effective instruction. You should take care, however, not to set standards that are too high. You should also guard against watering down your expectations. You should know your students so you can set reasonable levels of performance.

Now that you know the four elements of an instructional objective, you are ready to differentiate between informational and instructional objectives.

**Informational Objectives**

Frequently, you will want 100 percent of the class to attain 100 percent of the objective—that is, 100 percent mastery. Furthermore, objectives often have no special conditions. In these cases, informational objectives usually meet your instructional needs.

Informational objectives are abbreviated instructional objectives. Whereas instructional objectives contain the four elements noted earlier, informational objectives specify only the student performance and the product. Consider, for example, the following instructional and informational objectives written for the same instructional intent.

Instructional Objective: Given the voltage and resistance, the student will be able to calculate the current in a series and parallel circuit with 100 percent accuracy.

Informational Objective: The student will be able to compute the current in a series or parallel circuit.

Notice that the informational objective is an abbreviation of the instructional objective in that it omits the conditions ("given the voltage and resistance") and the criterion for judging minimum mastery ("100 percent accuracy"). The informational objective contains only the performance ("to calculate") and the product ("the current in a series or parallel circuit"). Frequently, the conditions are such that they are understood. In the cited example of an informational objective, it is understood that the necessary information must be provided to calculate the current. Moreover, it should be understood that only 100 percent accuracy would be desired.

Informational objectives are often adequate when you share your instructional intent with students. If you feel more information is needed to communicate the exact intent, however, you should write instructional objectives, or perhaps informational objectives with the conditions or the criterion added. Let’s now look at the communication of objectives.

**APPLY AND REFLECT:** Objectives are generally used as an aid in designing evaluation procedures. Some teachers, however, feel this process should be reversed. Which order do you think is the most educationally sound? Why? Which order do you prefer? Why?
Communication of Objectives

As noted earlier in the chapter, you should spell out objectives for students if you are to get maximum value from the objectives. This communication is usually presented at the beginning of a unit of study in written form. One useful format that is recommended for stating multiple objectives is to use an introductory statement to communicate common needed conditions and/or a criterion level. The remainder of each individual objective is then listed with the performance verb, the product, and additional desired conditions—for example, upon completion of “The Earth in the Universe” unit, you should be able, on an end-of-unit exam, to perform the following with 70 percent proficiency:

1. Identify the various stars discussed in class.
2. Use constellations to locate stars.
3. Identify three current ideas about how the universe originated and developed.
4. Describe nebulas, where they occur, and how they may form.
5. Find latitude and longitude of places from globes or maps, and locate places on globes or maps from latitude and longitude.
6. Name the planets in their order from the sun.
7. Identify some of the physical characteristics of each of the planets.
8. Describe the actual and relative sizes of the Earth and its moon, as well as the paths they follow around the sun.

The exact format used in communicating objectives is not critical, but they should be spelled out in precise terms. You should tailor your communication of objectives to the specific needs of your students. With younger children, you usually want to communicate your intent orally.

This concludes our formal discussion of goals and objectives. Table 3.4 summarizes the key concepts covered to this point. Review the summary and complete Review, Extension, and Reflective Exercise 3.1, which will check your understanding of goals and objectives.

<table>
<thead>
<tr>
<th>Table 3.4 Instructional Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept</strong></td>
</tr>
<tr>
<td>Educational Goal</td>
</tr>
<tr>
<td>Instructional Objective</td>
</tr>
<tr>
<td>Informational Objective</td>
</tr>
</tbody>
</table>
“Recess is my most important subject. I’m going to be a congressman.

Define an instructional objective and write different kinds of objectives.

Connections to INTASC Standards:
• Standard 1: Subject Matter. The teacher must understand the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and be able to create learning experiences that make these aspects of subject matter meaningful for students.
• Standard 7: Planning Instruction. The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.

Connections to the NBPTS:
• Proposition 2: Teachers must know the subjects they teach and how to teach those subjects to students.
• Proposition 3: Teachers are responsible for managing and monitoring student learning.

Review
• What is an objective?
• Differentiate between an educational goal and an instructional objective.
• What are the components (elements) of a well-written instructional objective?

Reflection
• What goals should be generic to all schools? Should goals be different for elementary and secondary schools?
• How important are instructional objectives? Should teachers be required to submit weekly objectives?
• When writing objectives do you really need all four elements? Which would you eliminate?
• How will you communicate your objectives to students?

*Recess is my most important subject. I’m going to be a congressman.
Taxonomies of Objectives

Objectives can be classified into three primary categories on the basis of their instructional focus: thinking, attitudes, and physical skills. These areas of focus represent the three domains of learning: cognitive, affective, and psychomotor. In reality, however, the domains do not occur in isolation. Whereas some behaviors are easily classifiable into one of the three domains, others will overlap a great deal. This overlap is diagrammed in Figure 3.2. A good example of this overlap is seen when students are required to complete an assignment that involves a written response. In so doing, they must recall information and think (cognitive); they will have some emotional response to the task (affective); and they must use fine motor skills to make the necessary writing movements (psychomotor).

The three domains for objectives were designed to form hierarchical taxonomies of student learning—from simple to complex—with each level making use of and building on the behaviors addressed in the preceding level. The levels do not imply, however, that behaviors must be mastered sequentially from the lowest level to the highest level. Indeed, instruction can be directed toward any level of complexity.

Don’t write objectives at specific taxonomy levels just to have objectives at all levels. Although it is possible to write objectives at any of the taxonomy levels of the three domains of learning, Mager (1997) suggests that, once you have made a suitable analysis of your instructional intent, you will know what you want your students to learn and you will automatically write your objectives at the intended levels. Furthermore, you must guard against falling into the habit of writing objectives only for the lower levels of learning within a particular domain because writing higher-level learning objectives is more difficult. A working knowledge of the taxonomy of the domains can prevent this pitfall to some extent. In other words, you can use your knowledge of the taxonomies to formulate the best possible objectives for your teaching intent, to not write objectives at a particular level, and to ensure that your teaching is not focused totally on the lower levels.

Although an overview of the three domains of learning and the associated major categories of each taxonomy follows, a more detailed description of the domains can be found by referring to one of the objective references. The information presented
about cognitive taxonomy levels is adapted from the work of Bloom, Engelhart, Furst, Hill, and Krathwohl (1956); the material on affective taxonomy levels, from the work of Krathwohl, Bloom, and Masia (1964); and the coverage of the psychomotor taxonomy, from the works of Harrow (1972) and Jewett and Mullan (1977).

Cognitive Domain

Objectives in the cognitive domain are concerned with the thinking and reasoning ability of students. Because the ability to think can range from simple recall of information to more complex thinking behaviors, Benjamin Bloom (1956) and his associates developed a hierarchical classification system, or taxonomy, to help teachers gain a better perspective on the behaviors to be emphasized in instructional planning.

Bloom’s Taxonomy classifies cognitive ability into six categories, ranging from the fairly simple recall of information to the complex assimilation of information and evaluation. These categories, along with verbs commonly used to express the required behaviors, are listed in Table 3.5. Let’s now briefly examine the six levels of Bloom’s Taxonomy.

Level One: Knowledge

The term knowledge learning refers to the simple recall or recognition of previously learned materials. This may involve the recall of terminology, basic principles, generalizations, and specific facts such as dates, events, persons, and places. For the most part, no manipulation or interpretation of the learned material is required of students. The information is usually retrieved in the same form that it was stored. Students, for example, could be required to remember the names of major scientists, to memorize a poem, to recognize chemical symbols, or to recall basic mathematics facts.

<table>
<thead>
<tr>
<th>Level</th>
<th>Student Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Identify, define, list, match, state, name, label, describe, select</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Translate, convert, generalize, paraphrase, rewrite, summarize, distinguish, infer, alter, explain</td>
</tr>
<tr>
<td>Application</td>
<td>Use, operate, produce change, solve, show, compute, prepare, determine</td>
</tr>
<tr>
<td>Analysis</td>
<td>Discriminate, select, distinguish, separate, subdivide, identify, break down, analyze, compare</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Design, plan, compile, compose, organize, conclude, arrange, construct, devise</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Appraise, compare, justify, criticize, explain, interpret, conclude, summarize, evaluate</td>
</tr>
</tbody>
</table>
Knowledge-level objectives usually focus on the storage and retrieval of information in memory. In other words, the thinking ability required is in tapping the appropriate signals, cues, and clues to find and retrieve knowledge from memory. In a sense, the knowledge-level category lays a foundation for the higher-thinking ability categories in that it provides the basic information needed for thinking at the higher levels. At times, however, teachers overuse the knowledge category. An example of an informational knowledge-level objective follows:

The student will be able to identify the major characters in an assigned short story.

**Level Two: Comprehension**

*Comprehension* represents the first level of understanding. The handling of information extends beyond the memorization of previously learned material to changing its form or making simple interpretations. Comprehension activities could require that students translate material to new forms, explain and summarize material, or estimate future trends. For example, you could ask students to interpret given information, translate information from one medium to another, or simply describe something in their own words. An example of an informational comprehension-level objective follows:

Given a graph of economic data, the student will be able to interpret the information in his or her own words.

**Level Three: Application**

*Application* entails putting learned information to use in reaching a solution or accomplishing a task. Students are asked to use remembered principles or generalizations to solve concrete problems. The process may require the application of rules, general ideas, concepts, laws, principles, or theories. For example, students apply the rules of grammar when writing a term paper, or they apply geometrical theorems when solving geometry problems. To be categorized as an application activity, a problem must be unique—that is, it must not be one that was addressed in class or in the textbook. An example of an instructional application-level objective follows:

Given a simple sentence, the student will be able to determine its noun and verb.

**Level Four: Analysis**

*Analysis* can be defined as breaking down complex material into its component parts so it can be better explained. This may involve subdividing something to explain how it works, analyzing the relationships between parts, or the recognizing of motives or organizational structures. A science teacher, for example, might ask how the circulatory system works, a second-grade teacher might ask for ideas on how to use a word in a sentence, or a social studies teacher might ask for a description of the national attitude toward the environment. An example of an informational analysis-level objective follows:

Given a chemical compound, the student will be able to correctly break it down into its simplest elements.
Level Five: Synthesis

Synthesis occurs when components are combined to form a new whole. With synthesis, a new and unique form must be produced from available elements. This may involve the creation of a unique composition, communication, plan, proposal, or scheme for classifying information. The unique creation may be in verbal or physical form. Students, for example, could be asked to use the British and American forms of government to create a completely unique governmental system. The key to synthesis-level activities is the incorporation of known ideas to form unique patterns or to create new ideas. A possible instructional synthesis-level objective follows:

Given a societal problem, the student will be able to propose at least two possible solutions to the problem.

Level Six: Evaluation

Evaluation means that a judgment is required as to the value of materials or ideas. Students are required to make quantitative and qualitative judgments on the extent to which an internal or external criterion is satisfied. To accomplish this end, students must (1) set up or be given appropriate criteria or standards, and (2) determine to what extent an idea or object meets the standards. For example, students could be asked to decide who was the greatest president, or they could be asked to determine the best source of energy for the United States. Indeed, most questions that ask students to decide the best/worst or identify the least/most important require thinking and reasoning at the evaluation level. An example of an informational evaluation-level objective follows:

Given a video of a tennis match, the students will rate the match in terms of the tennis tactics and skill outlined in class.

The advantage of the Bloom Taxonomy is its utility in different subjects. The body of work by Orlich et al. (1990), Arons (1988), Haller, Child, and Walberg (1988), Wittrock (1986), Nickerson (1985), and Beyer (1984), however, has led to a novel interpretation of how the cognitive taxonomy may operate. Instead of the six major categories viewed as a ladder (Figure 3.3) that must be climbed one level at a time, a three-dimensional model (Figure 3.4) can be offered. This model is analogous to an apple. The outward peel represents knowledge, the first level. The meat of the apple is analogous to the comprehension (understanding) level, and the higher levels of thinking represent the core of all understanding. This model views the cognitive categories as interactive, with the comprehension level being the key to unlocking the other levels. That is, once you truly understand the knowledge, then you can branch into any of the remaining four categories—application, analysis, synthesis, or evaluation. There is no need for one to move through the categories one step at a time. Students can move from comprehension to evaluation, from comprehension to analysis thinking, from comprehension to synthesis, or from comprehension to application.
Affective Domain

Objectives in the affective domain are concerned with the development of students’ attitudes, feelings, and emotions. They can vary according to the degree of internalization of the attitude, feeling, or emotion.
Clearly, because teachers must be concerned with the total development of students, not just development in the cognitive domain—the writing of objectives for the affective domain should be an integral part of the planning process. Yet, because of the difficulty of writing objectives for the affective domain, this has not been the case. Affective-domain objectives are difficult to write because attitudes, feelings, and emotions are hard to translate into overt, observable behaviors. For example, the affective objective “The student will value the need for rules” is not properly written. The behavior “value” is not observable or measurable. The verb *value* must be replaced with an action that shows observable behavior: “The student will support the school rules during class discussions on class rules.” This objective would be one, and only one, of many possible indicators that the student “values” the need for rules.

Behaviors related to the affective domain must take place in a “free choice” situation if they are to give a true indication of student attitudes, likes and dislikes, and feelings. If not out of free choice, students may exhibit the desired behaviors for a reward, or because they want to please you. For example, students who attend class every day may not be doing so because they like coming to your class or because they like the subject but because of the grade. But the objective “The student will eagerly participate in class discussions” would specify one possible indicator that the student likes the class.

Another free-choice technique sometimes used to reveal attitudes, feelings, emotions, and interests is the administration of various affective-domain inventories. These instruments will be discussed at length in Chapter 5.

David Krathwohl and associates (1964) developed a classification system for categorizing affective responses into five levels, according to the degree of internalization. That is, it is organized as to the degree to which an attitude, feeling, value, or emotion has become part of the individual. The taxonomy levels and some illustrative verbs commonly used for revealing the extent of internalization are given in Table 3.6. In a sense, the taxonomy forms a hierarchical continuum of internalization—ranging from a person’s merely passive awareness to an individual’s being characterized by certain values and attitudes. Let’s now take a brief look at the taxonomy levels.

<table>
<thead>
<tr>
<th>Level</th>
<th>Student Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>Follow, select, rely, choose, point to, ask, hold, give, locate, attend</td>
</tr>
<tr>
<td>Responding</td>
<td>Read, conform, help, answer, practice, present, report, greet, tell, perform, assist, recite</td>
</tr>
<tr>
<td>Valuing</td>
<td>Initiate, ask, invite, share, join, follow, propose, read, study, work, accept, do, argue</td>
</tr>
<tr>
<td>Organization</td>
<td>Defend, alter, integrate, synthesize, listen, influence, adhere, modify, relate, combine</td>
</tr>
<tr>
<td>Characterization by</td>
<td>Adhere, relate, act, serve, use, verify, question, confirm, propose, solve, influence, display</td>
</tr>
</tbody>
</table>

Value or Value Complex
Level One: Receiving

*Receiving* can be defined as being aware of and willing to attend freely to stimuli and messages in the environment (listen and look). All teachers want their students to listen to and be aware of classroom stimuli. At this level, students are attending to what the teacher is presenting, but the attention is not active involvement. An example of an informational receiving-level objective follows:

The student will follow given directions, without their needing to be repeated because of student inattentativeness.

Note that the student must be attentive and make a conscious effort to pay attention to the classroom environment rather than to other stimuli. The attention, however, can be rather passive.

Level Two: Responding

*Responding* requires active participation: A person is not only freely attending to stimuli but also voluntarily reacting to those stimuli. This involves physical, active behavior, where students make choices about issues. An example of an informational responding-level objective follows:

The student will willingly assist other students with their homework when they encounter problems.

At this level, students have developed an interest and make a choice to participate. Further, they are satisfied with this participation.

Level Three: Valuing

*Valuing* refers to voluntarily giving worth to an idea, a phenomenon, or a stimulus. Behaviors at this level are selected even when there are alternatives. Students not only accept the worth of a value, but they also internalize that worth. An example of an instructional value-level objective follows:

When given alternatives, the student will share concerns about the need for clean air and water on at least two occasions.

Note that students are given alternatives and the opportunity to repeat the choice. Also notice that the choice must be made freely.

Level Four: Organization

The term *organization* refers to building an internally consistent value system. At this level, a set of criteria is established and applied in choice making. The individual takes on value positions and is willing to defend them. An example of an informational organization-level objective follows:

The student will voluntarily seek information related to career opportunities and will prepare for selected career goals.
Organization means one has made a commitment. In a sense, a “philosophy of life” has been internalized.

**Level Five: Characterization by a Value or Value Complex**

If behaviors reveal that an individual has developed a value system and acts consistently with the internalized values, then characterization by a value or value complex has been established. At this level, the person displays individuality and self-reliance. An example of an informational objective at the level of characterization by a value or value complex follows:

In a class discussion, the student will defend the rights of all individuals to express their ideas and opinions.

Demonstration of this behavior would reveal that an individual is acting consistently with an established value system.

**Psychomotor Domain**

Objectives in the psychomotor domain relate to the development of muscular abilities that range from simple reflex movement to precision and creativity in performing a skill. The psychomotor domain is especially relevant in physical education, music, drama, art, and vocational courses, but all subjects will relate to this domain to some degree.

Although the psychomotor domain was the last to have a taxonomy developed for it, several systems have now been developed. The four-level system presented here is based on and adapted from the work of Harrow (1972) and Jewett and Mullan (1977). As you read through the levels and illustrative verbs presented in Table 3.7, notice how the processes can be applied to such areas as physical education, music, art, and vocational education.

**Level One: Fundamental Movement**

*Fundamental movements* are those that form the basic building blocks for the higher-level movements—for example, the ability to track objects, grasp objects, or crawl and walk. A sample informational objective for the fundamental-movement level follows:

The student will be able to hold a tennis racket properly for the backhand.

Notice that this objective deals with the fundamental movement of the proper grasp of a tennis racket. Indeed, it is basic to the higher-level tennis movements.

**Level Two: Generic Movement**

*Generic movement* refers to the ability to carry out the basic rudiments of a skill when given directions and under supervision. At this level, effective motor patterns, timing, and coordination are being developed and refined. Awareness of the body in motion and of the arrangement and use of the body parts is learned. The total act, however, is
The development of motor skills is an essential part of the learning intent in many classrooms.

<table>
<thead>
<tr>
<th>Level</th>
<th>Student Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamental Movement</td>
<td>Track, crawl, hear, react, move, grasp, walk, climb, jump, grip, stand, run</td>
</tr>
<tr>
<td>Generic Movement</td>
<td>Drill, construct, dismantle, change, hop, clean, manipulate, follow, use, march</td>
</tr>
<tr>
<td>Ordinative Movement</td>
<td>Play, connect, fasten, make, sketch, weigh, wrap, manipulate, play, swim, repair, write</td>
</tr>
<tr>
<td>Creative Movement</td>
<td>Create, invent, construct, manipulate, play, build, pantomime, perform, make, compose</td>
</tr>
</tbody>
</table>
not performed with skill. An example of an instructional generic-movement level objective follows:

Under supervision, the student will be able to perform a required musical score with no more than five errors.

This level of motor skill requires supervision in that it represents the initial learning of a series of movements.

**Level Three: Ordinative Movement**

*Ordinative movement* marks the competence in performing a skill ably and independently. The entire skill has been organized and can be performed in sequence. Conscious effort is no longer needed: the skill has been mastered, and there is precision of performance. At this level, the skill can be carried out by habit under complex conditions. An example of an informational ordinative-movement level objective follows:

Given a dive to perform, the student will be able to carry out the step-by-step technique without pausing to think.

**Level Four: Creative Movement**

*Creative movement*, which calls for the ability to produce and compose, serves the personal purposes of the performer. That is, the individual should be able to invent unique motor options, improvise originality into a movement, combine several movements into a personal unique motor design, or invent a new movement pattern. An example of an informational creative-movement level objective might be as follows:

Given a dance routine, the student will be able to make appropriate changes to incorporate personal dance strengths.

Instruction and learning in the classroom frequently contain elements of all three domains. Nevertheless, your objectives usually will place primary emphasis on either the cognitive, affective, or psychomotor domain. Furthermore, remember that the three domain taxonomies can be valuable tools for upgrading your writing of objectives. But don’t become a slave to the taxonomies; instead, base your objectives on the needs of your class and use the taxonomies as a guide. Finally, strive to incorporate the higher levels of each taxonomy in your learning experiences. Before finishing this chapter, complete Web Link: Examples of Objectives to further refine your understanding of objectives.

**WEB LINK Examples of Objectives**

Access the examples of instructional objectives and student activities on Internet URL sites www.adprima.com/examples.htm and http://adprima.com/user-menu.htm. Analyze the objectives. Are objectives written for all three domains? Are they clear? How could they be improved?
This concludes our discussion of the three learning domains and their respective taxonomies. Before leaving this chapter, however, let’s look at the new backward design concept for identifying instructional intent. Many of the best teachers use this approach.

**Backward Design Approach**

The *backward design* approach to instruction offers an alternative view to the traditional way of determining intent (see Figure 2.3). The backward design begins with the end in mind, the enduring understandings that you want students to learn and apply. In other words, what knowledge is *worth* understanding? Examples of enduring understandings might include an understanding of community helpers by kindergarteners, an understanding of the digestive system by 5th graders, an understanding of the role of technology in people’s lives by 7th graders, and an understanding of proper writing techniques by 10th graders. District, state, and national standards are often used in establishing enduring understandings.

After establishing the enduring understandings, related essential questions are developed that cover the full range of the understandings. These questions should be geared to help students take an inquiry approach toward the various learning experiences that will be designed. Good essential questions should

- Be open-ended with no simple or single right answer.
- Be deliberately thought provoking, counterintuitive, and/or controversial.
- Require students to draw upon content knowledge and personal experience.
- Be framed to provoke and sustain student interest.
- Engage students in evolving dialogue and debate.
- Lead to other essential questions posed by students.

The essential questions should focus on the key knowledge and skills students should acquire.

Take a few minutes to complete Review, Extension, and Reflective Exercise 3.2, which will check your understanding of the concepts presented in this section. Before doing so, however, review the concepts presented in Table 3.8.
**TABLE 3.8 Objective Domains**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>Category of learning that focuses on the ability to think and reason, consisting of six cognitive taxonomy levels: knowledge, comprehension, application, analysis, synthesis, and evaluation</td>
</tr>
<tr>
<td>Affective</td>
<td>Category of learning concerned with emotional development, encompassing five affective domain taxonomy levels: receiving, responding, valuing, organization, and characterization by a value or value complex</td>
</tr>
<tr>
<td>Psychomotor</td>
<td>Category of learning related to muscular and motor skill development, consisting of four psychomotor domain taxonomy levels: fundamental movement, generic movement, ordinative movement, and creative movement</td>
</tr>
</tbody>
</table>

**Review, Extension, and Reflective Exercise 3.2**

**Define a taxonomy and the three domains of learning.**

**Connections to INTASC Standards:**
- Standard 1: Subject Matter. The teacher must understand the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and be able to create learning experiences that make these aspects of subject matter meaningful for students.
- Standard 7: Planning Instruction. The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.

**Connections to the NBPTS:**
- Proposition 2: Teachers must know the subjects they teach and how to teach those subjects to students.
- Proposition 3: Teachers are responsible for managing and monitoring student learning.

**Review**
- Name the three learning domains of objectives and the levels within each.

**Reflection**
- What learning domain will be the focus of most of your instruction?
- Do you think it is important to know the domains of learning and write objectives for each?
What do teachers think about establishing instructional intent? Teacher survey results relative to topics presented in this chapter are expressed below. Review these results and discuss with classmates.

What single item, within your classroom, can you not live without:

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer</td>
<td>52%</td>
</tr>
<tr>
<td>Lesson-planning book</td>
<td>23%</td>
</tr>
<tr>
<td>Attendance/grade book</td>
<td>13%</td>
</tr>
<tr>
<td>Class textbook</td>
<td>12%</td>
</tr>
</tbody>
</table>

What teaching program do you feel most benefits special education students?

<table>
<thead>
<tr>
<th>Program</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>46%</td>
</tr>
<tr>
<td>Self-contained</td>
<td>27%</td>
</tr>
<tr>
<td>Inclusion</td>
<td>26%</td>
</tr>
</tbody>
</table>

SOURCE: Excerpted from Teach-nology, available at www.teach-nology.com/poll
What does the public think of our instructional intent? Review these results and discuss with classmates.

### From your knowledge of the No Child Left Behind Act, what is your opinion of the act?

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very favorable</td>
<td>5%</td>
</tr>
<tr>
<td>Somewhat favorable</td>
<td>13%</td>
</tr>
<tr>
<td>Somewhat unfavorable</td>
<td>7%</td>
</tr>
<tr>
<td>Very unfavorable</td>
<td>6%</td>
</tr>
<tr>
<td>Don't know enough to say</td>
<td>69%</td>
</tr>
</tbody>
</table>

### Under the No Child Left Behind Act, a school’s performance is evaluated annually based on the performance of students. Is there a better way to judge the job a public school is doing?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whether students meet a fixed standard</td>
<td>14%</td>
</tr>
<tr>
<td>Whether students show reasonable improvement from where they started</td>
<td>84%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2%</td>
</tr>
</tbody>
</table>

### Would vouchers that allow parents to choose private schools improve student achievement in our community?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve</td>
<td>48%</td>
</tr>
<tr>
<td>Would not improve</td>
<td>48%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Do today’s public schools provide their students with adequate science, math, reading, and writing skills?

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>22%</td>
</tr>
<tr>
<td>No</td>
<td>72%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4%</td>
</tr>
</tbody>
</table>

### Social promotion means moving children from grade to grade in order to keep them with others in their own age group. Would you favor stricter standards for social promotion in school even if it meant that significantly more students would be held back?

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favor</td>
<td>72%</td>
</tr>
<tr>
<td>Oppose</td>
<td>26%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2%</td>
</tr>
</tbody>
</table>

---

Summary

- Objectives specify your instructional intent to students. They specify what your students should be able to do following instruction.
- Objectives are finite and measurable.

Rationale for Objectives

- Objectives set the framework for your instructional approach and the evaluation of student learning.
- Objectives serve an important communication function.
- Objectives serve an accountability function.

Objective Specificity

- The specificity of instructional intent varies from broad educational goals to very narrow specific objectives.
- The three levels of learning intent, in order of specificity, are educational goals, informational objectives, and instructional objectives.
- Specific objectives are subordinate to educational goals.

Stating Objectives

- The actions called for by educational goals are overt, nonmeasurable behaviors.
- The actions called for by informational and instructional objectives are overt and measurable.
- Instructional objectives consist of four components: (1) the performance, (2) the product, (3) the conditions, and (4) the criterion.
- Informational objectives specify only the performance and the product; the conditions and criterion are usually not specified.

Communication of Objectives

- Objectives should always be communicated to students. This communication is usually in written form at the beginning of a unit of study.
- Informational objectives will usually suffice for communicating your learning intent.

Taxonomies of Objectives

- Objectives can be written at any of the levels within the three domains of learning: cognitive, affective, and psychomotor.
- The three domains of learning are interrelated.
- Each of the three domains is arranged in hierarchical order from simple to complex.
- Objectives can be written at any of the levels within the three domains of learning. Teachers tend, however, to write objectives at only the lower levels.

Backward Design Approach

- The backward design approach to instructional planning offers an alternative view to the traditional way of determining intent.
- The backward design begins with the establishment of enduring understandings.
- Essential questions are developed to cover the full range of planned enduring understandings.
**Discussion Questions and Activities**

1. **Analysis of textbook objectives.** Review the teacher’s edition of a school textbook from the grade level and/or subject you expect to teach that lists the unit and/or chapter objectives. Address the following questions in your review.
   a. Are informational objectives given for the chapters? Are instructional objectives?
   b. Are objectives written for all three domains of learning?
   c. Are the objectives written at the different taxonomy levels within each of the learning domains?

2. **Writing goals and objectives.** Consider your planned teaching grade level and/or subject and write a broad educational goal that you feel should be addressed at the identified level. Now write at least three different informational and instructional objectives that tell what students should do to show you that the goal has been accomplished.

3. **Writing cognitive, affective, and psychomotor domain objectives.** Write ten cognitive and psychomotor domain objectives for a topic from your area. Make the objectives at various taxonomy levels of sophistication. Now write five affective domain objectives at various taxonomy levels for the same class. Let your classmates review and critique your objectives.

4. **Backward design.** Write an enduring understanding for an area you expect to teach. Write guiding essential questions that cover the enduring understanding.

**Connection With the Field**

1. **Teacher interviews.** Interview several teachers. Are they required to write objectives? Do they write objectives for all three learning domains? Do they write objectives at different levels within each domain? Do they use the backward design?

2. **Principals’ view of objectives.** Interview two elementary and two secondary principals. What is their view of objectives? Are their views similar to that of the teachers? Are objectives a district requirement?

**Praxis II Connection**

The following test preparation exercises are intended to help you prepare for the Praxis II: Principles of Learning and Teaching. The Praxis II may be required by your teacher education preparatory program and for state certification or licensing. These exercises will give you direct access to pedagogical knowledge from Chapter 3 that may be expected of you on the Praxis II and other pedagogical exams that may be required at the end of your teacher education program.

**Topic Connections**

1. **Instructional Objectives (II. B1)**
   
   Describe the key components of instructional (behavioral) objectives. Write an objective for the cognitive, affective, and psychomotor domain for the grade level and/or content area that you expect to teach.

2. **Taxonomies of Educational Objectives (II. B1)**

   List the levels within each of the three domains of learning and describe the focus of each level. Be able to incorporate these objective levels into instructional objectives that you design.
Log on to the web-based student study site at http://www.sagepub.com/eis for more information about the vignettes and materials presented in this chapter, suggestions for activities, study aids such as electronic flashcards and review quizzes, and research recommendations including journal article links and questions related to this chapter.