

# Developing Instructional Objectives

## CHAPTER

# 3

*“You tell me, and I forget. You teach me, and I remember. You involve me, and I learn.”*

—BENJAMIN FRANKLIN

A systematic approach for developing an assessment plan ensures that the plan is comprehensive. Numerous educational experts (Gronlund & Brookhart, 2009; Huba & Freed, 2000; Miller, Linn, & Gronlund, 2012; Brookhart & Nitko, 2014) identify objectives as the logical foundation of the teaching–learning–assessment process and agree that the first step of an instructional plan is to identify the course objectives. Objectives set the stage for effective planning, teaching, and assessment by specifying what a student should know and be able to do at the end of an instructional course (Gronlund & Brookhart).

Educators frequently concentrate on what material to include in a course before identifying what knowledge and skills they want students to develop. This approach tends to emphasize the recall of factual information instead of focusing the students on developing higher-level learning abilities. Identifying the objectives as the initial step in planning a course guides the instructional and assessment processes and also provides the framework for developing measurement instruments that provide valid and reliable information about student achievement.

Norman Gronlund proposed a straightforward plan for preparing clearly defined instructional objectives in 1973. The most recent edition of his book (Gronlund & Brookhart, 2009) continues to refine that plan, but the basic principles remain the same: State the objectives in general terms and identify specific learning outcomes to define the objectives as behaviors that students are expected to demonstrate as evidence of attaining the objective at the conclusion of the instruction. With this

approach, the objectives guide the instructional destination of an educational experience for both the teacher and the students, while the outcomes define the objectives by specifying the behaviors that represent the achievement of the objectives. When students are aware of what is required of them from the beginning of a course, they are required to assume responsibility for their own learning.

Establishing objectives and outcomes during the initial phase of course preparation compels you to identify your learning expectations in a language that explicitly communicates your intent to students. Students are much more likely to succeed if they understand what is expected of them from the outset of an educational experience and if they perceive the expectations to be realistic. When students recognize that the purpose of the instruction is relevant and useful for their educational goals, they are more likely to assume ownership of their own learning.

Clearly defined instructional objectives steer efficient course planning. In addition, they guide the selection of teaching and learning activities, direct the development of measurement instruments, and empower students to take charge of their own learning to meet the teacher's expectations, thereby increasing the validity of the assessment plan.

## Role of Objectives

Objectives guide the instructional process by synchronizing the planning and implementation of teaching, learning, and assessment activities, thereby focusing on the outcomes teachers want students to achieve. Unfortunately, course preparation often involves planning for the content and teaching activities without first establishing a clear definition of desired student outcomes. This approach can lead to instructional methods and assessments that focus on knowledge acquisition rather than on higher-level learning outcomes.

If students are expected to achieve the objectives of a course, they must be provided with appropriate opportunities to learn what they need to learn (Huba & Freed, 2000). Instructional objectives require teachers to provide students with the kinds of experiences that facilitate the attainment of the objectives. When objectives are determined at the beginning of a course, they provide direction to the teacher for selecting the instructional activities that promote achievement of the desired behaviors (Gronlund & Brookhart, 2009). For example, a course objective that requires a student to demonstrate critical thinking skills necessitates that the teacher select learning experiences and assessment activities that require the ability to think critically. Refer to Chapter 12, "Laboratory and Clinical Evaluation," for a discussion related to designing clinical and laboratory experiences and assessment tools that address the course objectives.

With today's rapidly advancing computer technology, the need to develop innovative approaches to facilitate learning is paramount. The pervasive nature of the Internet and the rapid progression of distance learning mandate that teachers develop creative teaching modalities and learning opportunities to meet learner preferences. In this atmosphere of self-directed learning, instructional objectives are assuming an ever-increasing role as the basis for meeting the diverse needs of learners. Students who have the opportunity to select from a range of teacher-designed learning strategies to meet the intended objectives become active participants in the learning process. Self-direction is facilitated when an individual learner has the ability to decide

how to meet a course's objectives by selecting from a variety of teaching/learning strategies designed to accommodate diverse individual learning styles.

Instructional objectives and learning outcomes also play a crucial role as the basis for valid measurement instruments by providing the framework on which a test blueprint is based. As Chapter 4, "Implementing Systematic Test Development," describes in detail, the blueprint directs the content of the test. In addition to shaping the blueprint, the objectives guide the development of the test items. Chapter 5, "Selected-Response Format: Developing Multiple-Choice Items," Chapter 6, "Writing Critical Thinking Multiple-Choice Items," and Chapter 7, "Selected-Response Format: Developing True-False and Matching Items" illustrate how selected-response items evolve from the course objectives, while Chapter 8, "Constructed-Response Format: Developing Short-Answer and Essay Items," explains how the course objectives guide the development of constructed-response items. One of the most important roles of the instructional objectives is to increase the validity of the results of assessments. When student achievement is measured with instruments that are developed from instructional objectives, fairness is ensured.

## Focus of Instructional Objectives

What is the most effective way to state an instructional objective? **Exhibit 3.1** presents two different approaches for defining an objective for a hypothetical course in the foundations of nursing care.

### Exhibit 3.1 Teacher-focused versus learner-focused instructional objectives

**Teacher-focused:** Demonstrate to students how to safely perform basic nursing procedures.

**Learner-focused:** The student will demonstrate safe performance of basic nursing procedures.

When an objective is teacher-focused, the attention is centered on the teaching activity. Teaching is an end in itself; learning is not a criterion. The objective, in effect, is met once the teaching takes place, regardless of whether the teaching is effective. In the traditional lecture format, the learning is teacher focused; the teacher has control of the learning. This approach focuses on transmitting information and explains the all-too-common teacher lament, "I don't understand why the students do not know that material. I covered it in class."

A learner-focused objective focuses on the learning that occurs in relation to the teaching that is taking place. Stating instructional objectives in terms of the required student achievement shifts the focus of the educational experience from transmitting volumes of information to providing learning experiences that foster attainment of the objectives. The focus changes to facilitating learner achievement. Teaching is a means to an outcome rather than an end in itself.

Learner-focused objectives require teachers to examine their teaching strategies and to develop creative methods to facilitate student learning. Because students have different learning styles, a variety of instructional methods must be integrated into

a course to provide opportunities for all of the students to attain the objectives. If students do not achieve the desired outcomes with this approach, the first question that a teacher must ask is, “Were the instructional experiences appropriate?”

It is important to recognize that teachers who do not consciously identify instructional objectives are most likely operating on teacher-focused goals. When the main objective of classroom instruction is to cover the material, without concern for developing strategies to meet student needs, the goals are teacher focused and the approach usually is a didactic one. Although this instructional method can require students to think logically, it does not encourage critical thinking, and while the lecture approach to teaching is the most direct one for the teacher, it is the least beneficial for addressing individual learning styles to promote student attainment of the course objectives. That is not to say that the lecture is not important. On the contrary, a lecture can be very useful for clarifying the complicated concepts associated with nursing practice. However, with today’s diverse learners, lecture cannot be the highest priority learning activity in a nursing course. Nursing education needs to focus on alternate strategies for fostering critical thinking to accommodate the wide range of students’ learning styles. Refer to the websites in the “Web Links” section at the end of this chapter for a selection of teaching/learning resources.

### *Stating Instructional Objectives*

Unless students are well informed about assessment criteria, they are placed in a no-win situation. However, by stating the instructional objectives in terms of the intended learning outcomes, you give students clear direction for the types of performance you will accept as evidence that they have demonstrated what is expected of them. A meaningful objective communicates the desired outcome behavior of the learner exactly as you understand it. In other words, if another teacher uses your objective and their student outcomes are consistent with your expectations, then you have communicated the objective in a meaningful way (Mager, 1997).

### *Specific Objectives*

Methods for writing instructional objectives include general and specific formats. A highly specific format delineates student outcomes in very specific terms. Gronlund and Brookhart (2009) describe how specific objectives can be further defined by a list of specific tasks. These tasks can then be taught and tested sequentially. Although this process can clearly define student outcomes, it tends to overemphasize low-level skills and factual knowledge, and also stresses simple learning outcomes.

Narrowly focused specific objectives raise a concern that students will focus on the tasks as an end in themselves rather than as activities that are part of more complex learning outcomes. McMillan (2001) identifies behavior, learner, criterion, and condition as the components of highly precise objectives. **Exhibit 3.2** is an example of a highly specific objective that identifies these components. In this example, the focus is entirely on the skill. We certainly want a student to obtain a patient’s apical pulse accurately, but obtaining the pulse is not an end in itself. In the real world, we want students to go beyond simply obtaining the pulse. The intended objective should be to include the ability to interpret assessment findings in unique clinical situations.

**Exhibit 3.2 An example of a specific instructional objective**

Within 20 minutes in the learning laboratory (condition), the student (learner) will obtain (behavior) an apical pulse on a volunteer that is accurate to within three beats per minute (criterion).

Highly specific objectives clearly indicate the behaviors that a student must demonstrate to achieve the objective. However, the degree of specificity inherent in these objectives makes them unwieldy. In a complex discipline such as nursing, faculty would have to develop extensive lists of specific objectives to address every course outcome. In addition, these objectives are very confining because they severely limit a teacher's ability to modify the instructional approach. McMillan (2001) suggests that it is better to focus your objectives on units of instruction rather than on daily lesson plans because "writing objectives that are too specific results in long lists of minutia that are too time consuming to monitor and manage" (p. 26).

Rather than having an unwieldy list of specific objectives, several general objectives can be developed to encompass the range of content in a course. This allows the teacher to address all the desired student outcomes of a course while keeping the number of course objectives manageable. A reasonable list of general objectives assists the students to demonstrate success by focusing on what is expected of them in a course.

*General Objectives*

A general format is a more logical approach than the specific format for developing course objectives in a complex area of study such as nursing. **Exhibit 3.3** restates the specific objective (referred to in Exhibit 3.2) as a general objective. Note that the general objective is content-free; the procedures are not identified, so you can develop a set of outcomes that are applicable with various content units in a course. This approach allows the teacher to keep the number of general objectives manageable and avoids unwieldy lists of specific objectives for each unit of study.

**Exhibit 3.3 An example of a specific objective restated as general objective**

The student (learner) will demonstrate (behavior) safe performance of basic nursing procedures (content).

To allow for flexibility in instructional strategies, the general objective should not include the teaching procedures for accomplishing the objective. The objective in Exhibit 3.2 prescribes a narrow skill (obtaining an apical pulse) and restricts both the setting and the teaching method. The objective requires that the learning take place in a laboratory with a volunteer, so it precludes assessment in a clinical setting. Imagine how unwieldy the list of objectives would be if they were written in this format for all the procedures in a nursing foundations course! Exhibit 3.3, in contrast, presents a general objective that can be applied for assessing a range of



procedures without proscribing the setting or the instructional or assessment strategies. However, the general objectives, as stated in Exhibit 3.3, must be clarified so that the students understand what is required of them to attain the objective.

Gronlund and Brookhart (2009) propose clarifying the general objective by stating the objective first and then listing a representative sample of student behavior that is acceptable to the teacher as evidence for attaining the objective. This general objective format accommodates the development of higher-order thinking skills and leaves room for creativity in achieving and assessing the prescribed outcomes.

## Learning Outcomes

One way to determine whether a person is knowledgeable about something is to observe the individual's behavior. Learning outcomes are tools for measuring mastery of information (Whittman-Price & Fasolka, 2010). They represent the behaviors that an instructor is willing to accept as evidence that the student has achieved the general objective.

Consider the general objective shown in Exhibit 3.3. The general learning objective requires that a student safely perform basic nursing procedures. However, what does “safely perform basic nursing procedures” actually mean? Although the objective is learner focused, it is very broad and does not clearly specify what behaviors a student must demonstrate to confirm attainment of the objective. To provide a basis for instruction and assessment, the behaviors acceptable as evidence of the attainment of the general objective must be identified.

**Exhibit 3.4** provides an example of the learning outcomes for the student-focused general instructional objective in Exhibit 3.3. While the general objective is very broad, the learning outcomes are specific behaviors. When considered together, the learning outcomes clarify the general objective by providing an operational definition for what the teacher regards as safe performance of basic nursing procedures.

### Exhibit 3.4 An example of a general objective with its learning outcomes

Demonstrates safe performance of basic nursing procedures:

- Discusses the rationale for the procedure.
- Identifies the impact of the procedure on the client.
- Explains the procedure to the client.
- Selects the appropriate equipment for the procedure.
- Completes the procedure with a predetermined degree of accuracy.
- Maintains appropriate aseptic technique during the procedure.
- Interprets client responses to the procedure.
- Reports and documents the results of the procedure appropriately.
- Provides client follow-up based on the results of the procedure.

Note that each learning outcome begins with an action verb—a verb that denotes a behavior that can be measured. Action verbs operationalize the general objective. A student who successfully demonstrates these behaviors—at a performance level predetermined by the teacher—would meet the criteria for safe performance of basic nursing procedures.

**Table 3.1 A General Objective With Learning Outcomes That Apply Across Content**

<b>1. Safely performs basic nursing procedures.</b>			
	<b>Blood Pressure</b>	<b>Oral Meds</b>	<b>IM Injection</b>
1.1 Discusses rationale.	X	X	X
1.2 Identifies impact.	X	X	X
1.3 Explains procedure.	X	X	X
1.4 Selects equipment.	X	X	X
1.5 Completes procedure.	X	X	X
1.6 Demonstrates aseptic technique.	X	X	X
1.7 Interprets response.	X	X	X
1.8 Reports/documents results.	X	X	X
1.9 Provides follow-up.	X	X	X

As Gronlund and Brookhart (2009) suggest, it is important to keep the objectives and learning outcomes free of specific content so they can be applied across all units of study in a course. Consider the objective in Exhibit 3.4. It does not specify which procedures the student must perform safely, and the learning outcomes are applicable to all basic nursing procedures.

When stated without specific content, learning outcomes can be applied for establishing evidence of mastery of the learning tasks required for many procedures. For example, “Discuss the rationale for the procedure” applies to all nursing procedures, while “Describe the steps of the procedure” requires that a checklist be developed for each procedure. **Table 3.1** illustrates how the general objective and learning outcomes apply to a variety of procedures.

This approach provides consistency across content for both student and teacher. It requires that a teacher carefully consider the universal requirements for safety across nursing procedures. In addition, it allows for individualization of the requirements for each procedure. It also reinforces the concept that, while principles often apply across procedures, special consideration must be made for individual situations.

Another benefit of this approach is that the focus is not solely on the skill. From the very beginning of an instructional process, students see the skill as a means to an end, as part of the procedure. Teaching, interpreting, reporting, and following up are also important considerations when performing any procedure on a patient. This approach also makes it clear that the objective is to demonstrate safe performance and not simply discussing, completing, or reporting. The learning outcomes are not ends in themselves; they describe the sample of behavior that the teacher is willing to accept as evidence of demonstrating safe performance.

Yet another benefit of developing objectives in this manner is that it focuses the instructional and assessment process on the overall objective rather than on the specific samples of behavior (Gronlund & Brookhart, 2009). For example, when teaching safe performance of a nursing procedure, you might include demonstrating the procedure or having the students read the textbook, view a video, practice the procedure, or engage in role-playing. All the learning outcomes, such as the rationale, the impact, and aseptic technique, would be included in the learning activities as part of the procedure, not as

isolated activities. Then, when assessing the students, you might, for example, develop a simulation experience and have students perform a procedure on a mannequin and assess the students' ability with a checklist of all the learning outcomes. By requiring responses that were not directly taught in the classroom, you are assessing the students' ability to apply the knowledge, not to simply recall facts. You are also helping students to focus on the ultimate goal rather than concentrating on isolated tasks.

When writing objectives and learning outcomes, the goal is to communicate your objectives so they are not subject to misinterpretation. The challenge is to write your objectives at an appropriate level of generality—not so narrow that they are impossible to manage and not so general that they provide little guidance for instruction (McMillan, 2001, p. 26).

**Table 3.2** provides examples of verbs to use for general objectives and verbs to use for learning outcomes to clarify the meaning of an objective. Use this list as a guide. The goal is to write broad general objectives that focus on complex learning with a list of learning outcomes that sample the observable student behaviors you are willing to accept as evidence of attainment of the objective. Decide what activities define your objective and select verbs for your learning outcomes that operationalize your general objective for the students.

A list of instructional objectives for a course usually includes objectives that address the mastery of the essentials as well as objectives that focus on development beyond the minimum level (Gronlund & Brookhart, 2009). Developing objectives and measuring these two different levels require two different sets of criteria. To ensure that the objectives form a valid basis for the assessment plan, you must have a clear understanding of the two levels.

## Mastery (Performance) Objectives

Performance skills have an important role in nursing education. Nursing students are expected to master a number of performance skills. With mastery learning, the domain of learning tasks is limited and can be clearly defined. Learning outcomes, which measure mastery, are usually outcomes that we can expect all students to master. The faculty must decide which skills must be mastered and must identify the criteria for mastery.

Objectives at the mastery level are designed to establish a specified minimum acceptable performance level. Gronlund and Brookhart (2009) suggest that an objective's specific learning outcomes can be used to create a checklist to indicate satisfactory or unsatisfactory for each outcome when observing a student perform a procedure. Rating scales can also be developed by using the learning outcomes as the criteria for judging student performance on a numerical scale. The rating instrument should be easy to understand and shared with students before the instruction begins. A well-designed rating instrument facilitates providing feedback to students and offers students the opportunity to assess their own learning. The objective with learning outcomes in Table 3.1 represents an objective for mastery learning. It could be easily translated into a checklist or rating scale for measuring performance on the procedures in a nursing foundations course. The consistency across procedures helps students to recognize that skills are not an end in themselves. Chapter 12, "Laboratory and Clinical Evaluation," discusses the development of performance instruments for assessing attainment of course objectives.



**Table 3.2 General and Clarifying Verbs**

<b>General Objective Verbs</b>	<b>Clarifying Outcome Verbs</b>	
Analyze	Acknowledge	Identify
Apply	Adapt	Illustrate
Appreciate	Allot	Implement
Believe	Appoint	Indicate
Clarify	Arrange	Interpret
Consider	Assign	Intervene
Comprehend	Calculate	Itemize
Create	Categorize	Judge
Deduce	Choose	Label
Demonstrate	Cite	List
Distinguish	Classify	Maintain
Document	Collect	Measure
Evaluate	Combine	Name
Facilitate	Complete	Outline
Formulate	Compose	Perform
Grasp	Criticize	Predict
Infer	Defend	Prepare
Interpret	Define	Present
Know	Delegate	Provide
Observe	Denote	Question
Perform	Describe	Recite
Recognize	Develop	Rephrase
Respect	Diagram	Report
Synthesize	Differentiate	Restate
Think	Discuss	Select
Understand	Distinguish	Specify
Value	Document	State
	Employ	Stipulate
	Enumerate	Tell
	Examine	Use
	Explain	Verbalize
		Write

Gronlund (1973) notes that some objectives require a higher level of achievement to establish mastery of safe performance than others. Safety is certainly a concern that nursing faculty must consider when identifying behaviors that represent mastery for nursing procedures, such as medication administration. For example, many nursing programs require students to attain a score of 90% to 100% correct on a math calculation exam before allowing them to give medications.

No matter what level is set for mastery attainment, teachers must be ready to accept the challenge presented by Reilly and Oermann (1990): to develop strategies to meet the needs of all students in achieving mastery of learning. The best approach for defining mastery is first to establish a consensus among the nursing faculty for the minimum level of mastery for safe nursing practice and then develop the learning outcomes that define mastery. Teachers can then provide instructional activities that foster mastery and, finally, adjust the level required for evidence of mastery as needed.

## Developmental Objectives

Developmental learning is learning beyond the mastery level. While mastery objectives are directed at the tasks to be performed, developmental objectives emphasize progress toward goals. The skills and abilities associated with developmental learning are continuously developing throughout life (Brookhart & Nitko, 2014). Students cannot be expected to achieve these abilities fully during a course of study; each objective represents a goal to work toward. Because each objective at this level is complex, it represents a large number of specific behaviors. It would be futile to attempt to list all possible types of behavior that represent a developmental objective. The best approach when defining a developmental objective is to list a reasonable sample of the defining behaviors as learning outcomes and share these with the students (Gronlund & Brookhart, 2009).

Gronlund (1973) explains that outcomes at the developmental level of learning represent the progress made toward attaining the objective:

It would be impossible to identify all of the behaviors involved in such a complex pattern of response. Even if we could, the measurement of each specific behavior would not be the same as measuring the integrated response pattern. Thus, we need to focus on the types of student performance that are most indicative of progress toward the objectives at that particular level of instruction. (p. 17)

Consider the ability to apply the nursing process. This ability certainly represents developmental learning because it requires the development of skills that progress from novice to expert. An example of a specific objective designed to address the ability to apply the nursing process is shown in **Exhibit 3.5**.

### Exhibit 3.5 Specific objective for the nursing process

#### Specific Nursing Process Objective

Given an assignment to care for an acutely ill client (condition), the student (learner) will

- Collect (behavior) data from at least two sources (criteria).
- Identify (behavior) two nursing diagnoses based on the data (criteria).
- Implement (behavior) two interventions to address each diagnosis (criteria).
- Cite (behavior) two findings that indicate success or failure for each intervention (criteria).

The drawbacks for using the specific format for developmental learning objectives are evident. This specific objective related to the nursing process is far too narrow and leaves no leeway for teaching, learning, or assessment. It also fails to represent the concept of progress toward a goal. **Exhibit 3.6** restates this objective in a general format.

**Exhibit 3.6 Specific objective for the nursing process restated as a general objective**

The student (learner) will apply (behavior) the nursing process in selected healthcare situations (content).

The objective in Exhibit 3.6 does not restrict the instructional process because it does not specify the number of sources, diagnoses, interventions, or evaluation findings. However, it does not provide adequate guidance for the instructional process. **Exhibit 3.7** goes further to clarify this objective by specifying the learning outcomes.

**Exhibit 3.7 Nursing process general objective with learning outcomes**

2. Applies the nursing process in selected healthcare situations:
  - 2.1 Collects assessment data.
  - 2.2 Identifies nursing diagnoses based on assessment.
  - 2.3 Develops a plan based on analysis of data.
  - 2.4 Maintains safety when implementing a nursing plan.
  - 2.5 Adapts the plan to individual situations.
  - 2.6 Distinguishes success or failure of the plan based on subjective and objective data.

The general objective with learning outcomes approach is clearly the most effective strategy for stating objectives related to developmental learning. The list of learning outcomes in Exhibit 3.7 serves to operationalize the general objective by specifying a sample of behaviors that demonstrate the application of the nursing process. This list of learning outcomes is also free of specific course content; achievement of the objective—applies the nursing process—can be demonstrated across the course content. In addition, the outcomes can apply to students who have different levels of expertise in their progress toward applying the nursing process.

**Exhibit 3.8** is an excellent example from an introductory business communication course that clearly illustrates the advantage of using the general objective with learning outcomes approach. The two lists of behaviors are essentially the same. However, the specific approach is disorganized—the “objectives” are really activities that focus the students on tasks without an overall goal. This approach represents mastery of a narrowly defined skill set.

The general objectives approach represents developmental learning. The outcomes define the objectives at a very basic, introductory level, but the same objectives could be used in a more advanced course with learning outcomes that are more complex. The focus is on progress toward an ultimate goal while clearly defining what is expected at the introductory level.

**Exhibit 3.8 Comparison of specific course objectives to general course objectives in a business communication course****Specific Course Objectives**

*Upon successful completion of this course, you will be able to:*

1. Explain the psychology of writing effective letters and memoranda.
2. Examine business correspondence for effective communication of information.
3. Use appropriate language in communicating ideas and information.
4. Explain the difference between formal and informal writing styles.
5. Describe the process of critical thinking in business writing.
6. Use direct, indirect, and persuasive messages appropriately.
7. Employ effective communication techniques in an international environment.
8. Prepare a formal report based on research.
9. Explore and present a topic to a group.
10. Identify legal and ethical issues in communication.
11. Write appropriate employment documents.

**General Course Objectives with Specific Learning Outcomes**

*Upon successful completion of this course, you will be able to:*

1. Facilitate Effective Communication in the Business Workplace
  - Use appropriate language in communicating ideas and information.
  - Identify legal and ethical issues in communication.
  - Employ effective communication techniques in an international environment.
2. Create Effective Business Messages
  - Compose accurate employment documents.
  - Explain the difference between formal and informal writing styles.
  - Explain the psychology of writing effective letters and memoranda.
  - Examine business correspondence for effective communication.
  - Describe the process of critical thinking in business writing.
3. Formulate Effective Business Reports and Proposals
  - Prepare a formal report based on research.
  - Present the formal report to a group.
  - Use direct, indirect, and persuasive messages appropriately.

Refer to **Table 3.3** for a comparison between the characteristics of mastery and developmental learning objectives.

## Framework for Writing Objectives

The general objectives in Exhibits 3.7 and 3.8 follow the two-step process proposed by Miller et al. (2012):

1. Each general instructional objective should encompass a readily definable domain of student responses. Each general objective should begin with a general verb (for example, *knows*, *understands*, *applies*, *facilitates*) and consist of only one objective.

**Table 3.3 Comparison of Mastery and Developmental Learning Objectives**

<b>Mastery Learning Objectives</b>	<b>Developmental Learning Objectives</b>
Well-defined performance domain	Broad domain of related performances
Task oriented	Goal oriented
Focus on knowledge outcomes	Focus on complex achievements
Identify minimum skills	Identify abilities that develop continuously throughout life
Identify specific performance tasks	Identify a representative sample of performance
Measure attainable abilities	Measure the degree of achievement
Assess narrowly defined skill set	Assess progress toward an ultimate goal

2. List beneath each general instructional objective a representative sample of specific learning outcomes stated in terms of student performance. Each learning outcome should begin with an action verb (for example, *identifies*, *describes*), and be relevant to attaining the general instructional objective (p. 71).

This framework for developing objectives is specific enough to guide direction for teaching yet not so specific that the instruction is reduced to training. General statements provide greater freedom for the teacher in selecting instructional methods. It also provides a basis for increasing the complexity of the outcome behaviors as students progress through a course of study (Miller et al., 2012). In other words, the same general objective could be used through a sequence of courses, with the specific learning outcomes becoming more complex each semester. This framework is particularly suitable for nursing curricula, where many abilities build on each other and develop over time.

**Exhibit 3.9** presents a template for the development of objectives for constructs in a nursing program. Note that the verb *applies* in the general instructional objective represents higher-order cognitive thinking. Additional aspects of higher-order thinking—analysis and evaluation—are subsumed in the learning outcomes. Lower-level thinking—knowledge and comprehension—is included in the specific learning outcomes. Application and analysis ability require ability at the lower levels of cognition. If you cannot define a concept, it is unlikely that you will be able to apply it.

**Exhibit 3.9 Template for objectives for nursing constructs**

1. Applies (nursing theory, communication skills, therapeutic nursing care, etc.) in selected healthcare setting:
  - 1.1 Defines
  - 1.2 Explains
  - 1.3 Interprets
  - 1.4 Develops
  - 1.5 Implements
  - 1.6 Adapts



The template in Exhibit 3.9 assumes that the construct being measured has been defined and that the instructional objectives and learning outcomes are derived directly from that definition. The specific verbs for the general objective and learning outcomes, listed in Table 3.2, should be selected to measure the defined construct. This example illustrates how objectives can be developed to address the levels of cognitive ability across levels and content within a nursing program.

### *Number of Objectives*

The previous description of the process of objective development draws attention to a question that nursing professors frequently ask: “How many objectives should a course have?” While Miller et al. (2012) suggest that 8 to 12 objectives usually suffice (p. 66), there is no hard-and-fast rule. However, writing your objectives using the framework previously described will certainly enable you to keep your list manageable. If your objectives apply across content areas, you can apply the outcomes to each unit of study within your course.

You can judge the adequacy of your list of objectives by asking these questions (Miller et al., 2012):

- Does the list include all of the important objectives for the course?
- Is the list consistent with the program’s general goals?
- Is the list in harmony with sound principles of learning?
- Is the list realistic in terms of student ability and the time and resources available?

It is important that you list the competencies you want students to attain at the course’s end, translate those abilities into general instructional objectives, develop your learning outcomes to operationalize the instructional objectives, and keep the objectives content-free. This approach will guide you in developing a comprehensive list of general objectives while avoiding a long unmanageable list of skills.

If your objectives are written according to the framework proposed by Miller et al. (2012), the same general objectives can be used in every course, and each of its learning outcomes, instructional activities, and assessment criteria can be developed to show progress in the developmental learning associated with the required outcomes. **Exhibit 3.10** provides an example of how learning outcomes for a program objective can be developed to illustrate progression through a program’s courses.

Note that the general objective represents developmental learning and that it is the same for all courses. The increasing complexity of the learning outcomes provides evidence of course progression toward achieving the desired program objective. The learning outcomes for the fourth-semester course (which would be the same as the program competencies) are much more complex than those for the first-semester course.

Also note that several of the outcomes are the same or very similar for each course, such as “Uses information technology to support patient care.” In this case, the assigned activities and the setting in which technology was used would become more complex as the students progressed through the course work. Perhaps you would assign students in the first course to identify three references from an electronic

**Exhibit 3.10 Learning outcomes that illustrate course progression toward program objective**

**First-Semester Communication Objective**

1. Facilitates effective communication in healthcare settings:
  - 1.1 Defines therapeutic communication principles.
  - 1.2 Describes therapeutic communication techniques.
  - 1.3 Explains the significance of nonverbal communication.
  - 1.4 Discusses factors that can influence the communication process.
  - 1.5 Discusses cultural influences on communication.
  - 1.6 Describes barriers to effective communication.
  - 1.7 Discusses the importance of confidentiality in communication.
  - 1.8 Uses appropriate interviewing skills.
  - 1.9 Interprets the effectiveness of communication.
  - 1.10 Uses information technology to support patient care.

**Second-Semester Communication Objective**

1. Facilitates effective communication in healthcare settings:
  - 1.1 Uses appropriate therapeutic communication skills.
  - 1.2 Identifies factors that influence the communication process.
  - 1.3 Identifies cultural influences when communicating with patients.
  - 1.4 Identifies barriers to communication.
  - 1.5 Maintains confidentiality.
  - 1.6 Interprets the effectiveness of communication.
  - 1.7 Reports relevant information to appropriate resources.
  - 1.8 Documents relevant information accurately.
  - 1.9 Uses information technology to support patient care.

**Third-Semester Communication Objective**

1. Facilitates effective communication in healthcare settings:
  - 1.1 Uses appropriate therapeutic communication skills.
  - 1.2 Interprets factors that influence the communication process.
  - 1.3 Interprets cultural influence on communication.
  - 1.4 Selects techniques to minimize barriers to communication.
  - 1.5 Interprets the effectiveness of communication.
  - 1.6 Reports significant information to the appropriate resource.
  - 1.7 Documents relevant information accurately and appropriately.
  - 1.8 Identifies channels of communication.
  - 1.9 Maintains confidentiality.
  - 1.10 Uses information technology to support patient care.

**Fourth-Semester Communication Objective**

1. Facilitates effective communication in healthcare settings:
  - 1.1 Uses appropriate therapeutic communication skills.
  - 1.2 Adapts communication approach in culturally sensitive situations.
  - 1.3 Uses therapeutic techniques to minimize barriers to communication.
  - 1.4 Interprets effectiveness of communication.
  - 1.5 Reports significant information to the appropriate resource promptly.
  - 1.6 Documents relevant information accurately, appropriately, and concisely.
  - 1.7 Maintains working relationships with interdisciplinary team.
  - 1.8 Maintains organizational and patient confidentiality.
  - 1.9 Uses appropriate channels of communication.
  - 1.10 Uses information technology to support patient care.

library search, while the graduating students would be expected to engage in an in-depth library and web search.

Chapter 4, “Implementing Systematic Test Development,” explains the development of test blueprints and elaborates on how general objectives can be applied across course content and how they guide the development of a test blueprint to establish content-related evidence of test validity.

### *Number of Learning Outcomes*

How many learning outcomes should you identify for each objective? Obviously, there is no standard answer to this question. Gronlund and Brookhart (2009) point out that it is impossible to identify every possible behavior that is associated with developmental learning. There is no advantage to listing more than 9 or 10 outcomes for each objective. The most important concern is to make the list as representative as possible while keeping it manageable. The list of outcomes should appear reasonable to the students and also make it clear what behaviors demonstrate the achievement of the objective.

## Taxonomies

A taxonomy is a classification system that describes and identifies groups. In education, taxonomies classify three domains of learning—cognitive, affective, and psychomotor. In 1956, the *Taxonomy of Educational Objectives*, edited by Benjamin Bloom, was published. Popularly referred to as Bloom’s taxonomy, this well-known resource for the development of instructional objectives and test items initially covered only the cognitive domain of learning. Subsequent editions, however, deal with the affective and psychomotor learning domains as well. Bloom’s taxonomy classifies three domains of learning:

1. Cognitive: Concerned with intellectual objectives. Bloom describes this domain as the central point of the work of most test development; it deals with knowledge and the development of intellectual abilities and skills (p. 7).
2. Affective: Objectives in this domain describe interests, attitudes, and values (p. 7). In nursing education, this domain relates to how these characteristics affect the practice of nursing.
3. Psychomotor: Bloom refers to this domain as the manipulative or motor skill area (p. 7). This domain is concerned with physical movements that require coordination. Oermann (1990) identifies psychomotor skills as having a cognitive aspect, which involves understanding the principles underlying each skill, and an affective dimension, which is concerned with a nurse’s values and attitudes while performing a skill.

In 2001, Anderson and Krathwohl published a revision of Bloom’s taxonomy. The most obvious change in the revised taxonomy is the terminology. The six categories of cognitive processes were changed from nouns to verbs. Evaluation is no longer the highest category in the new taxonomy, and a new category, creating, is now at the top of the hierarchy. See **Table 3.4** for a comparison of Bloom’s original taxonomy and Anderson and Krathwohl’s revision.

**Table 3.4 Comparison of Bloom's and Anderson and Krathwohl's taxonomies**

<b>Bloom's Taxonomy, 1956</b>	<b>Anderson and Krathwohl's Taxonomy, 2001</b>
<ol style="list-style-type: none"> <li>1. Knowledge: The ability to recall previously learned material. It refers to the simple remembrance of a fact, concept, theory, or principle.</li> <li>2. Comprehension: The ability to grasp the meaning of material. Comprehension represents the lowest level of understanding and is demonstrated by translating material from one form to another.</li> <li>3. Application: The ability to use learned material in new and concrete situations.</li> <li>4. Analysis: The ability to break down material into its component parts so its organizational structure can be understood.</li> <li>5. Synthesis: The ability to combine elements to form a unique new idea, procedure, or object.</li> <li>6. Evaluation: The ability to use criteria and standards to make qualitative and quantitative judgments.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remember: Uses long-term memory to retrieve applicable information. Recognizes and recalls pertinent appropriate information.</li> <li>2. Understand: Summarizes to demonstrate comprehension. Explains, summarizes, interprets meaning from oral, written, and graphic messages.</li> <li>3. Apply: Implements a procedure in a unique situation to solve problems. Executes a procedure in a familiar situation.</li> <li>4. Analyze: Breaks down material into component parts to determine organizational structure.</li> <li>5. Evaluate: Applies qualitative and quantitative standards and criteria to make judgments.</li> <li>6. Create: Develops a new structure or product by reorganizing and synthesizing information.</li> </ol>
Data from Bloom, B. S. (Ed.), Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). <i>Taxonomy of educational objectives: The classification of educational goals</i> . New York, NY: Longmans, Green, and Co.	Data from Anderson, L.W., & Krathwohl, D.R. (2001). <i>A Taxonomy for learning, teaching, and assessing</i> . New York, NY: Addison Wesley Longman.

In contrast to Bloom's one-dimensional taxonomy, the revised taxonomy is a two-dimensional taxonomy. The knowledge dimension identifies what has to be learned, while the cognitive process dimension represents the process used to learn. Bloom's original taxonomy, expanded and revised, is a valuable tool for educators to use when they want to move students through a learning process (Forehand, 2010).

Taxonomies relate to educational goals and are especially useful for establishing objectives and developing test items. Each domain is organized by levels of increasing complexity within the domain category. Bloom's cognitive domain, for example, includes the levels of knowledge, comprehension, application, analysis, synthesis, and evaluation. The levels build on each other, with knowledge being the lowest level. Each level in the hierarchy demands the skills and abilities of the levels that are lower in the hierarchy. For example, an objective written at the application level also requires the abilities of the knowledge and comprehension levels.

The cognitive domain is particularly applicable to classroom test development. In nursing, test items are most effective when written at the application or higher

levels of cognition. In fact, most items for both the National Council Licensure Examination for registered nurses and the National Council Licensure Examination for licensed practical/vocational nurses are written at the application or higher levels of cognitive ability (National Council of State Boards of Nursing, 2016).

Taxonomies provide a useful framework for the development of objectives that accurately reflect the levels of learning. The taxonomy for each of the previous domains begins with its basic skills and progresses to its more complex abilities. Referring to a taxonomy ensures that important categories of learning are not overlooked. Miller et al. (2012) suggest that a taxonomy is useful as an aid in the development of your own unique list of objectives. Once your objectives are established, a taxonomy is also valuable in the design of test questions to accommodate your objectives.

Taxonomies can be useful guides in the development of a comprehensive list of high-quality objectives. A taxonomy assists teachers in determining if the course objectives address an adequate range of lower- and higher-order thinking skills. However, it would be counterproductive to use a taxonomy as a rigid rule book for developing objectives or test questions.

## Using Instructional Objectives

Once objectives and outcomes are established, it is important to share them with students and to use them as a guide for course development. Reilly and Oermann (1990) identify the following three directions provided by instructional objectives:

1. The teaching activity best suited to meet the objective
2. The type of learning activity that enables the learner to accomplish the behavior desired in the outcome
3. Methods and criteria for evaluation of the attainment of the objective (p. 48)

Instructional objectives provide a road map for selecting teaching approaches, creating learning activities, and determining the methods for assessing outcomes. Refer to the objective presented in Exhibit 3.4. Note that it designates learning outcomes in all three learning domains: cognitive, affective, and psychomotor. Therefore, a variety of teaching/learning and assessment strategies are required to address this objective. The psychomotor component certainly suggests that the teaching activities include a demonstration of the activity, whereas the cognitive and affective components suggest activities that might include lecture, computer-assisted instruction, and/or readings. An assortment of learning activities, such as clinical or laboratory practice, process recordings, role-playing, and written assignments, should be incorporated into the plan to address each of the domains. Finally, assessment procedures should also include a variety of approaches, including written assignments, multiple-choice exams, laboratory observation, and clinical evaluation. With this design the behaviors specified as desired outcomes direct all aspects of an educational experience. **Tables 3.5 and 3.6** illustrate how teaching, learning, and assessment strategies can be planned to address all of the learning outcomes associated with the objectives identified in Exhibits 3.4 and 3.10.



Table 3.5 Worksheet for Instructional Planning Based on Learning Outcomes

Objective: Safely performs basic nursing procedures.

Learning Outcomes	Teaching Strategies		Learning Activities						Assessment Procedures			
	Readings	Computer Assisted Instruction (CAI)	Demonstration	Lecture	Written Assignments	Role Playing	Journal	Clinical/Laboratory Practice	Multiple-Choice Examinations	Journal	Clinical/Laboratory Observation	Written Assignments
Identify the rationale for the procedure.	X	X		X	X		X		X	X	X	X
Acknowledge the impact of the procedure on the client.	X	X		X	X	X	X			X		X
Describe the steps of the procedure.	X	X	X	X	X	X		X	X		X	X
Explain the procedure to the client.	X	X		X		X	X		X	X	X	
Select the appropriate equipment for the procedure.	X	X	X	X		X		X	X		X	X
Perform the procedure with a predetermined degree of accuracy.		X	X			X		X			X	
Maintain appropriate aseptic technique during the procedure.	X	X	X	X		X		X			X	
Interpret client responses to the procedure.	X	X		X	X	X	X		X	X	X	X
Communicate the results of the procedure appropriately.	X			X	X	X	X	X	X		X	
Provide client follow-up based on the results of the procedure.	X	X		X		X		X	X		X	

**Table 3.6 Worksheet for Instructional Planning Based on Learning Outcomes****Objective: Facilitates effective communication in healthcare settings.**

Learning Outcomes	Teaching Strategies		Learning Activities					Assessment Procedures				
	Readings	CAI	Demonstration	Lecture	Written Assignments	Role-Playing	Journal	Clinical/Laboratory Practice	Multiple-Choice Examinations	Journal	Clinical/Laboratory Observation	Written Assignments
Defines principles of therapeutic communication.	X	X		X	X		X		X	X	X	X
Describes therapeutic communication techniques.	X	X		X	X	X	X			X		X
Explains significance of nonverbal communication.	X	X	X	X	X	X		X	X		X	X
Discusses factors that can influence the communication process.	X	X		X		X	X		X	X	X	
Discusses cultural influences on communication.	X	X	X	X		X		X	X		X	X
Describes barriers to effective communication.		X	X	X		X		X			X	
Discusses importance of confidentiality.	X	X	X	X		X		X			X	
Uses appropriate interviewing skills.	X	X	X	X	X	X	X		X	X	X	X
Interprets effectiveness of communication.	X	X		X	X	X	X	X	X		X	
Uses information technology to support patient care.	X	X		X		X		X	X		X	

Tables 3.5 and 3.6 also demonstrate how instructional strategies can overlap. A particular strategy can address multiple outcomes during the same experience, and strategies can be applied concurrently to different areas of the instructional process. Consider written assignments. This strategy can simultaneously be a learning activity and an assessment procedure, and it addresses several outcomes. The important point is that activities are planned to address every outcome in every area of the instructional process—teaching, learning, and assessment—and that every strategy, activity, and procedure has a purpose.

Huba and Freed (2000) identify four fundamental requirements for the development of effective learner-focused assessment based on learning outcomes:

1. Formulate statements of intended learning outcomes. The first step is to describe the intentions for what students should know, understand, and be able to do with their knowledge when they graduate.
2. Develop or select assessment measures. To measure whether the intended outcomes are achieved, data-gathering measures must be used. Designing these measures forces the teacher to understand thoroughly what is really meant by the intended learning outcomes.
3. Create experiences leading to the outcomes. If students are expected to achieve the intended outcomes, they must be provided with appropriate opportunities to achieve those outcomes.
4. Discuss and use assessment results to improve learning. Discussions must take place to use assessment data for the improvement of learning. These discussions should occur between faculty and students, as well as among the faculty, to gain insights into the learning that is occurring (pp. 9–15).

## Criteria for Effective Objectives

Miller et al. (2012) proposed a list of criteria to guide teachers in the development of instructional objectives. The list of criteria includes completeness, appropriateness, soundness, and feasibility. Effective objectives are also relevant, open-ended, written in terms of student behavior, and shared with students. These standards can also apply to the development of competencies or goals for an instructional course.

### *Complete*

An objective should be included for each important aspect of a course. Knowledge objectives are easiest to include. Special attention must be paid to include objectives that focus on higher-order thinking skills as well as on the affective domain (Miller et al., 2012).

### *Appropriate*

For the objectives to be relevant, they must be congruent with the general goals of the school, and they should be consistent with the program's mission, goals, and

outcomes (Miller, et al., 2012). Most objectives in a nursing program should address developmental learning and should also reflect the progress in the attainment of developmental learning.

### *Sound*

Sound objectives are in harmony with the principles of teaching and learning. They must be appropriate to the educational and experience level of the students. Objectives that relate to the students' needs and build on prior experience appropriately motivate students. Objectives should also reflect outcomes that are permanent. Students retain knowledge that is meaningful to them, but objectives that are perceived as trivial will be dismissed by students. The nature of the learning reflected in the objectives should be permanent. Learning assumes relevance for the students when the outcomes, which are applicable to a specific situation, are transferable to other real-world situations (Miller et al., 2012).

### *Feasible*

Clearly defined and attainable objectives are more valuable than a long list of unattainable goals. Teachers should consider whether the objectives are realistic and attainable in terms of student ability, available time, and instructional resources. Unrealistic goals discourage both students and teachers and soon become meaningless (Miller et al., 2012).

### *Relevant*

Relevant objectives can help decrease the trivia in an educational experience by focusing teachers on what is important in a course of instruction (Reilly & Oermann, 1990). Once appropriate objectives are identified, teachers are then compelled to identify teaching, learning, and assessment strategies that address the required outcomes of the objectives. A teacher must answer the following questions: "Why am I using this strategy?" and "What purpose does it serve?"

### *Open-Ended*

Objectives should be clear enough to define student behavior. They should provide direction without limiting the learning experience. An objective that prescribes strict methodology limits both students and teacher because it constrains the way students can demonstrate the behavior, and it requires the teacher to assess student performance only in terms of the specified method (Reilly & Oermann, 1990). Consider this example of a restricted objective: "Demonstrates safe nursing practice by accurately performing procedures." This objective suggests that only an accurate performance of the procedures demonstrates safety. In addition, it ignores the other criteria specified by the learning outcomes in Exhibit 3.4 that operationalize safe performance of nursing procedures. Writing objectives that are restricted in this manner requires that you develop an extensive and cumbersome list of objectives to address every important aspect of a course.

Open-ended objectives provide you with more flexibility. When they are content-free, it is possible to add specific learning outcomes and use the same list of objectives across units of study (Linn & Gronlund, 2000, p. 65).

### *Delineate Student Behavior*

Outcomes for each objective should identify the student behavior that defines and signifies achievement of the objective. When objectives are written with outcomes in terms of student behavior that describes learning, they clarify your instructional intent and provide the basis for teaching methods, learning activities, and assessment strategies.

### *Shared with Students*

This may seem too obvious to even mention, but it is very important and it must be emphasized. If you follow the criteria to develop effective objectives (**Exhibit 3.11**), implement a plan to promote learning attainment, and develop assessments based on your objectives, the objectives will be truly meaningful and students will appreciate their value. There is no point to simply giving lip service to an instructional plan. When students believe that you mean what you say and that your objectives truly reflect what is expected of them, they are provided with a framework for assessing their own progress and identifying their own strengths and weaknesses. In fact, they are encouraged to assume responsibility for their own learning. Sharing meaningful objectives with students encourages the pursuit of lifelong learning by empowering them to develop their own plan for directing their activities toward meeting objectives.

#### **Exhibit 3.11 Criteria for effective instructional objectives**

Criteria for Effective Instructional Objectives:

- Complete
- Appropriate
- Sound
- Feasible
- Relevant
- Open-ended
- Delineate student behaviors
- Shared with students

## Summary

Instructional objectives are the foundation for teaching, learning, and assessment in education. Not only are they the first step in establishing the validity of our instructional methods and assessments, they actually serve to expedite the process of systematic course development. The learning outcomes associated with these objectives are the common thread that is woven through all aspects of an instructional course.



Objectives provide the structure that helps educators to organize and communicate their instructional intent, they direct the development of teaching and learning strategies, and they form the basis for developing measurement instruments. Because of the critical role they play, it is imperative that you invest the effort in developing clearly written instructional objectives and learning outcomes as the initial step in the development of an instructional course.

## Learning Activities

1. Develop one instructional objective with five to six learning outcomes.
2. Devise five to six learning activities that will provide students with the opportunity to achieve the each of the learning outcomes developed in Learning Activity 1.
3. Develop an assessment strategy to measure student achievement of the instructional objective developed in Learning Activity 1.
4. Use the instructional objective developed in Learning Activity 1 and refer to Exhibit 3.10 to develop learning outcomes that illustrate course progression toward program outcomes.
5. Refer to Table 3.3 to write one mastery level and one developmental level learning objective for a hypothetical nursing course or a course you have taught.

## Web Links

Bloom's Taxonomy

[http://www.odu.edu/educ/roverbau/Bloom/blooms\\_taxonomy.htm](http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm)

[http://projects.coe.uga.edu/epltt/index.php?title=Bloom%27s\\_Taxonomy](http://projects.coe.uga.edu/epltt/index.php?title=Bloom%27s_Taxonomy)

<http://www.krummefamily.org/guides/bloom.html>

Bloom's Revised Taxonomy

<http://www.celt.iastate.edu/teaching/effective-teaching-practices/revised-blooms-taxonomy>

<https://tpri.wikispaces.com/file/view/05-2Bloom-16-17+Stems+for+Instruction.pdf>

<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>

Carnegie Mellon: Enhancing Education—Design and Teach a Course

<http://www.cmu.edu/teaching/designteach/index.html>

Carnegie Mellon: Enhancing Education—Technology for Education

<http://www.cmu.edu/teaching/technology/index.html>

MERLOT: Learning Materials for Nursing Education

<http://www.merlot.org/merlot/materials.htm?category=2699&&sort.property=overallRating>

Park University: Writing Quality Learning Objectives

<http://www.park.edu/cetl/quicktips/writinglearningobj.html>

Sloan Consortium: Committed to Quality Online Education

<http://www.sloanconsortium.org/>

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