Writing Behavioral Objectives

Objectives have been used for decades in nursing education to set the stage for what is expected of students and to guide faculty in planning teaching and assessment. However, nursing education is evolving and the timeworn practices of how objectives were written must evolve as well. In this chapter, I provide a global view of how objectives came to be, the domains and levels involved, and offer a new view of how to write broad, measurable objectives that aligns with the call to transform nursing education (Benner, Sutphen, Leonard, & Day, 1984/2010).

THE COURSE DESCRIPTION

Most academic courses have a course description that precedes the objectives in the course syllabus. Written from the student perspective, the course description provides a broad overview of what students will learn from the course. It is typically content-focused and published in the school catalogue, where all courses, the credit hours, and teaching faculty are listed. Course descriptions are usually written by the program administrators, with help or review from members of the curriculum committee. Objectives for the course are written based on the course description, are often written by the curriculum committee, and focus on what students will learn from the course. Although you may not take part in writing objectives, you may be required to approve them at a faculty council meeting. To stay on point when teaching, it is imperative that you have a solid understanding of the purpose and value of course objectives, how they will guide what and how you teach, and how assessments are derived from them.

BRIEF HISTORY OF OBJECTIVES

Constructivism was first introduced in psychology circles in the late 1960s. However, for the first half of the 20th century, behaviorism was the ruling educational theory, espousing that learning was “the acquisition and strengthening of responses” (Wilson & Myers, 2000, p. 60). A change in performance or behavior was the desired outcome of instruction for the behaviorists, and little emphasis was placed on cognitive processes. It was during this time that the cognitive and affective taxonomies were written, which served to introduce more of a learner-centered, active approach to education.

Although behavioral objectives written to direct teaching and learning have had their critics, they do serve several purposes, the main one being that of communication (Mager, 1997). Objectives provide clarity for faculty in planning the teaching strategies and assessment methods for courses and offer direction for students as to what and how they should learn to be successful (Gronlund, 1995). Objectives also ensure that courses in a specific program do not overlap in content, but build upon one another to promote learning and meet programmatic outcomes.

Bloom’s (1956) initial intent when developing the cognitive taxonomy was to provide a framework for writing broad objectives that described observable performance to determine whether behavior (thinking, reasoning, and doing) had changed as a result of instruction. His other purpose was to link these outcomes statements to assessment questions that would be available to all faculty who were teaching the same content—an early conceptualization of a question bank (Anderson, 2003).

So why revisit this topic? After almost 50 years, well-written objectives continue to guide teaching and learning in higher education. However, the complexities of nursing practice require a change in how objectives are written to support performance that demonstrates the integration of complex skills.

In this chapter, the focus is on how to write broad behavioral objectives to support learning in a constructivist, learner-centered online environment to guide teaching and learning that are in step with today’s innovations in education and answer the call for radical transformation in nursing education (Benner et al., 1984/2010).

TERMINOLOGY
In spite of negative press over the decades, the revision of Bloom’s original taxonomy (Krathwohl, 2002) and the introduction of other authors’ conceptualizations on writing objectives (Greeno, 1976; Gronlund, 1995), Bloom’s original taxonomy has prevailed. The terminology used to describe objectives has changed over the years from educational to instructional, then to behavioral or performance (Sosniak, 1994), accompanied by refinements in how they were written. Some authors distinguish among educational, instructional, and behavioral or learning objectives (Bastable & Alt, 2014). Of interest is that Bloom did not refer to his objectives as behavioral. In fact, early on he did not label them at all.

Objectives focus on the desired learning outcomes or intended behavior changes, termed performance. Thus, the objectives are written in behavioral terms to describe what the student will do. The type of assessments and the teaching strategies to use are also indicated by the domain and level of verb chosen for the objective, but even so, they are not focused on what the teacher will do (Bloom, 1956; Gronlund, 1995). This is an important distinction. As objectives are written in behavioral terms that specify desired changes in behavior or performance in terms of thinking, feeling, and doing that will occur as the result of instruction, the term behavioral objectives has been used throughout this chapter.

**UNDERSTANDING A TAXONOMY**

Writing objectives in the appropriate format is challenging, in part, because of the lack of a clear understanding of what the term taxonomy means. A taxonomy is a hierarchical classification system that is structured from simple to complex and general to abstract (Gronlund, 1995; Krathwohl, 2002). In other words, the hierarchical structure requires that preliminary levels be mastered before learning at higher levels can occur. For example, in the cognitive domain, the levels are knowledge, comprehension, application, synthesis, analysis, and evaluation indicating increasingly complex skills. In order to apply a concept, one must have knowledge of it and understand it (Gronlund, 1995).

This requirement does not, however, dictate that knowledge must be taught directly, requiring students to memorize isolated facts so they can be applied later. Keep in mind that most students taking an online nursing course are RNs returning to school who have all completed one of the basic nursing programs whose content is dictated by the accreditation process and therefore is quite homogeneous. Foundational facts and concepts can be taught indirectly within an authentic constructivist context through case studies, for example. This type of teaching method requires students to recall what they already know about the topic, identify where their understanding ends, and learn from there. This topic is discussed in greater detail in Chapters 6 through 8. At this juncture, it is important to understand what the term taxonomy means in educational contexts and to understand its inherent hierarchical nature.

Bloom’s taxonomies include a numbering convention typical of a taxonomy. The domains or classes, as Bloom (1956) called them, are numbered with whole numbers and two decimal points. Subclasses are identified by changes in the first or second decimal. **Box 4.1** provides an example of the classes of the cognitive domain showing expanded subclasses of the comprehension level. Consequently, objectives and subobjectives can be numbered as well, although this is rarely done. This numbering is mentioned here to give the reader the full picture of the organization of the taxonomy and an understanding of the numbering convention should it be encountered at some point.

Bloom’s (1956) original taxonomy focused on the cognitive domain with that of the affective taxonomy following about 10 years later (Krathwohl, Bloom, & Masia, 1964). Bloom did not develop a taxonomy for the psychomotor domain, mainly because he felt that the learning outcomes of the core courses at the University of Chicago, where he was teaching at the time, did not lend themselves to this type of learning. He did, however, recognize that psychomotor learning required a different set of learning outcomes. Several versions of a taxonomy for the psychomotor domain were later developed (Dave, 1970; Harrow, 1972; Simpson, 1966), with Simpson’s work gaining the most widespread use.

To Bloom and his colleagues (Krathwohl et al., 1964), the purpose of learning was to change students’ behavior in terms of their ability to “act, think, and feel” (Bloom, 1956, p. 12). The purpose of the taxonomies was to classify levels of learning in three domains (cognitive, psychomotor, and affective) for the purpose of communication on several levels (Anderson, 2003). The names and brief definitions of these domains are:

| BOX 4.1 |
| NUMBERING SYSTEM FOR A TAXONOMY |
| 1.00 Knowledge |
| 2.00 Comprehension |
| 2.10 Translation |
| 2.20 Interpretation |
| 2.30 Extrapolation |
| 3.00 Application |
| 4.00 Analysis |
| 5.00 Synthesis |
| 6.00 Evaluation |

1. Cognitive: thinking
2. Psychomotor: acting or doing
3. Affective: emotions, values, and attitudes
Extrapolation

The application level involves using acquired knowledge and understanding in new and novel situations. This is the definition of far transfer (Bloom, 1956). The act of understanding involves three steps: translation, interpretation, and extrapolation.

Translation

Translation is the first step in meaning-making as learners translate what they have learned into their own words. Interpretation involves “dealing with a communication as a configuration of ideas whose comprehension may require a reordering of the ideas into a new configuration in the mind of the individual” (p. 90). From this reconfiguration may arise new “inferences, generalizations, or summarizations” (p. 90) in order to make sense to the individual. Extrapolation is demonstrated when the individual makes “inferences in relation to implications, consequences, corollaries, and effects which are in accordance with the conditions described in the communication” (p. 90). This signifies understanding.

Interpretation

Interpretation involves “dealing with a communication as a situation in which it was taught, indicating understanding. In this instance, Bloom was referring to near transfer (Merriam & Leahy, 2005). Far transfer occurs at the application level, when students apply what was learned to new and novel situations. The concept of transfer has been discussed in detail in Chapter 1.

Transfer of Learning and the Cognitive Domain

At this juncture, it is important to revisit the concept of transfer and understand how it fits into the levels of the taxonomy, as well as reiterate the structure of a taxonomy. Remember that a taxonomy is a hierarchy from concrete to abstract that requires mastery of the lower levels prior to moving on to higher learning outcomes. In other words, one cannot apply a concept, principle, and so forth without first knowing about it (knowledge level) and understanding (comprehension level) how to use it. Mastery of the comprehension level, as first described by Bloom (1956), meant that the student could use knowledge gained in the same or similar situation in which it was taught, indicating understanding. In this instance, Bloom was referring to near transfer (Merriam & Leahy, 2005). Far transfer occurs at the application level, when students apply what was learned to new and novel situations. The concept of transfer has been discussed in detail in Chapter 1.

The Lower Levels of the Cognitive Domain

The cognitive domain “includes those objectives that deal with recall or recognition of knowledge and the development of intellectual abilities and skills” (Bloom, 1956, p. 7). This domain consists of six levels that are arranged in a hierarchy from concrete to abstract. The levels are knowledge, comprehension, application, analysis, synthesis, and evaluation, in that order. Each higher level subsumes mastery of the lower levels. The first three levels, considered to be lower cognitive functions, as described in Bloom’s (1956) original taxonomy, are listed in Box 4.2.

Objectives written in each of these domains served to provide a common language that formed the basis for designing assessments and instruction (Gronlund, 1995), as well as communicating expectations of learning and assessment to students, which Felder and Brent (1997) dubbed “an advance warning system” (p. 179).

THE COGNITIVE DOMAIN

The Lower Levels of Bloom’s Original Cognitive Domain

The Lower Levels of the Cognitive Domain

The cognitive domain “includes those objectives that deal with recall or recognition of knowledge and the development of intellectual abilities and skills” (Bloom, 1956, p. 7). This domain consists of six levels that are arranged in a hierarchy from concrete to abstract. The levels are knowledge, comprehension, application, analysis, synthesis, and evaluation, in that order. Each higher level subsumes mastery of the lower levels. The first three levels, considered to be lower cognitive functions, as described in Bloom’s (1956) original taxonomy, are listed in Box 4.2.

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Box 4.2

LOWER LEVELS OF BLOOM’S ORIGINAL COGNITIVE DOMAIN

1. Knowledge—Bloom (1956) defined knowledge as “those behaviors and test situations which emphasize the remembering, either by recognition or recall, of ideas, material, or phenomena” (p. 62).
2. Comprehension—Bloom (1965) defined comprehension as “those objectives, behaviors, or responses which represent an understanding of the literal message contained in a communication” (p. 89). The act of understanding involves three steps: translation, interpretation, and extrapolation. Translation is the first step in meaning-making as learners translate what they have learned into their own words. Interpretation involves “dealing with a communication as a configuration of ideas whose comprehension may require a reordering of the ideas into a new configuration in the mind of the individual” (p. 90). From this reconfiguration may arise new “inferences, generalizations, or summarizations” (p. 90) in order to make sense to the individual. Extrapolation is demonstrated when the individual makes “inferences in relation to implications, consequences, corollaries, and effects which are in accordance with the conditions described in the communication” (p. 90). This signifies understanding.
3. Application—The application level involves using acquired knowledge and understanding in new and novel situations. This is the definition of far transfer (Chapter 1), which is the goal of education (Anderson & Sosniak, 1994; Mayer, 1998; Merriam & Leahy, 2005). When given a new problem to solve, this level stipulates the ability to “apply the appropriate abstraction without having to be prompted as to which abstraction is correct or without having to be shown how to use it in that situation” (p. 120).

From a slightly different perspective, consider his conceptualization of near transfer (comprehension level) and far transfer (application level) in view of the assumptions of adult learning theory. One of these assumptions is that adults are intrinsically motivated to learn in preparation for new roles and responsibilities, which is, in turn, related to their need for immediate application of what was learned (Forrest & Peterson, 2006). Students taking online courses are most likely RNs who are continuing their education because they have a specific goal in mind. If that involves a role change (nurse practitioner, educator, researcher, or administrator), they are most likely familiar with the role functions and the additional knowledge they must acquire to function in that role. And they are motivated to acquire it. Most students are self-directed in their approach and do not expect to be spoon-fed. Teaching content within context will engage students, allow them to think like a nurse practitioner, administrator, researcher, or educator, and help them transfer what they are learning to their new role in order to function in the real world (Benner et al., 1984/2010; Tanner, 2006). This approach will avoid the need for faculty to teach everything students need to learn for the role they aspire to. Transferring what is learned to similar or new situations will naturally occur if the context in which learning occurs is similar to real life (authentic) and has meaning to the learner in that he or she can readily see its application.

In addition, adult students bring a wealth of experience to the learning environment, and no two students have the same experiences. The same can be said for acquired knowledge, even though the knowledge transmitted in basic nursing programs is standardized. As what is learned depends on what is already known (Lalley, & Gentile, 2009; Reynolds, Sinatra, & Jetton, 1996) and that is based on the combination of knowledge and experience, the assumption can be made that because students’ baseline knowledge differs, they will learn at different levels and transfer new knowledge in unique ways.
The Higher Levels of the Cognitive Domain

Returning to the definitions of levels in the cognitive domain in the original taxonomy, Bloom (1956) defined analysis, synthesis, and evaluation as requiring higher cognitive skill and they subsequently became known as higher order levels of the taxonomy. Controversy exists as to whether the application level should be included in that group (Marken & Morrison, 2013). As application requires the ability to transfer and the goal of education is for students to transfer what they have learned to their future role (Anderson & Sosniak, 1994; Mayer, 1998), I believe that the application level should be the lowest level at which objectives should be written to achieve desired learning outcomes. When students apply what they know, they combine knowledge and skill, and subsequently use it creatively through transfer. This approach is consistent with the goals of transforming nursing education (Bennet et al., 1984/2010) by “integrating all three professional apprenticeships, the knowledge base, skilled know-how, and clinical reasoning and ethical comportment, in all teaching and learning settings” (p. 80). Consequently, I believe this level should be included in the higher order group, considering the complex skill of transfer required for application.

The previously listed higher order levels of the cognitive domain include analysis, synthesis, and evaluation. Their definitions appear in Box 4.3. Based on these definitions, it is apparent how each level builds upon the previous level to arrive at what Bloom has termed “intellectual abilities and skills” (Bennet et al., 1984/2010, p. 38) and Wiggins and McTighe (2005) refer to as “understanding,” a much broader conceptualization than the second level in Bloom’s taxonomy.

<table>
<thead>
<tr>
<th>BOX 4.3</th>
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<tbody>
<tr>
<td><strong>HIGHER ORDER LEVELS OF THE COGNITIVE DOMAIN</strong></td>
</tr>
<tr>
<td>1. Analysis “emphasizes the breakdown of the material into its constituent parts and detection of the relationships of the parts and of the way they are organized” (Bloom, 1956, p. 194).</td>
</tr>
<tr>
<td>2. Synthesis is defined as “the putting together of elements and parts so as to form a whole” (Bloom, 1956, p. 162). Synthesis often combines knowledge and experience to create something new. Mastery of this level requires a certain level of creativity.</td>
</tr>
<tr>
<td>3. Evaluation is defined as “the making of judgments about the value, for some purpose, of ideas, works, solutions, methods, materials, etc. It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical, or satisfying” (Bloom, 1965, p. 185).</td>
</tr>
</tbody>
</table>

THE PSYCHOMOTOR DOMAIN

The psychomotor domain is the skills domain in the narrow sense of the word, in that this domain provides a means of identifying outcomes that involve fine, manual, and gross motor movements (Reilly & Oermann, 1985). Fine motor movement involves precise movement, whereas gross motor activity has to do with large muscles or movement using the entire body. The concept of manual movement is heard about less often, yet is meaningful for nursing, and is defined as “manipulative tasks that are repetitive and often involve ‘eye–arm’ action (e.g., physical assessment or suctioning)” (Reilly & Oermann, as cited in Oermann, 1990, p. 202). Although the desired outcomes of these objectives and therefore assessment of these objectives focus on muscle movement, cognitive and affective activities are also involved with psychomotor activities, more so when a new skill is being learned (Oermann, 1990).

The accompanying cognitive and affective activity required to learn a skill differs from that of performing the skill, a distinction that should be kept in mind when teaching. Faculty often question students as to why they are doing something while they are performing. This interrupts the motor portion of skill performance, switching the student to the cognitive brain function to respond to the question. The skill performance of doing is interrupted by the cognitive activities of remembering and recalling, causing both performances to suffer (Bastable & Alt, 2014).

Keep in mind that when writing an objective in the psychomotor domain, the desired outcome must focus on fine, manual, or gross motor movements and not the cognitive activity required to learn the skill. Multiple-choice questions (MCQs) can be developed to assess the knowledge behind the skill to differentiate the students’ understanding of the why that supports performance from rote memorization of the order or sequence of necessary steps. Transfer of learning can occur only if the knowing that, or the knowledge behind the skill, is associated with knowing how, or the performance of the skill. For example, when teaching sterile technique for Foley catheter insertion, students must learn the theory of asepsis, which is then applied during performance of the skill. When teaching sterile dressing change, faculty should not need to repeat the theory of asepsis. Students should be able to transfer that understanding and accurately apply it to a sterile dressing change, a new and novel situation.

Levels of the Psychomotor Domain

Simpson (1966) identified seven levels in the psychomotor domain that demonstrate increasing fluidity and automaticity of skill performance, accomplished by repeated practice of the skill (Oermann, 1990). The same numbering convention used in the cognitive domain can be applied to this domain. The seven levels are shown in Box 4.4.
The first level involves becoming aware of the need to act through choosing the appropriate action. This first level includes three processes:

- **Mental readiness**: plays a role in this level, which signifies the beginning of actual motor performance. Time for trial and error should be provided, as it is an important learning strategy when guided by faculty and the underlying theory of the task. Feedback, both intrinsic (student’s ongoing self-evaluation) and extrinsic (augmented by faculty), is important at this level. The key concept is guided (not independent) performance that occurs in the process of learning.

- **Mechanism**: Confidence in and habituation of the performance distinguish this level from others. The learner has reached a certain level of comfort performing the skill and has developed a set pattern that can be relied on for future performance. Key concepts include confidence, habituation, and patterning.

- **Adaptation**: This level reflects students’ ability to adapt their performance to the unique characteristics of the setting and situation, which for nursing might include the physical environment and individual patient needs. Key concepts are adaptation of performance and responding to cues.

Harrow (1972), somewhat critical of this model, pointed out that behavioral changes in the first two levels—perception and set—are not readily apparent or visible to faculty, and therefore cannot be assessed directly through observation of the performance. In addition, these two levels do not include any motor activity. The first level (perception) indicates cognitive behavior, as one perceives the need to act. The second level (set) reflects cognitive and affective behavior, as one prepares to act on mental, physical, and emotional levels.

The take-away is that objectives should not be written for the first two levels as they do not indicate psychomotor behavior, and they would be very difficult to assess other than by self-report, which is really a cognitive activity. Faculty can assume these first two levels have been met if the student is observed performing at a higher level—that of guided response or above. For example, if the student is observed correctly performing the appropriate procedure, the assumption can be made that both the perception (identifying the need to act) and set (choosing the correct performance) levels have been mastered. Thus, if an objective is written for the psychomotor domain, the lowest level of performance that can be observed is the guided response level. The first two levels of the domain can be assessed using MCQs or by questioning the student before or after the student performs the skill.

### THE AFFECTIVE DOMAIN

Krathwohl et al. (1964) developed a taxonomy of the affective domain as a means of stating learning outcomes related to “a feeling, tone, an emotion, or a degree of acceptance or rejection...interests, attitudes, appreciations, values, and emotional sets or biases” (p. 7). The organizing concept for this hierarchy is the concept of **internalization**, which ranges from attending to an emotion, feeling, value, and so forth to becoming a part of one’s character or assimilated into the self. Although the affective domain is very important for nursing, this type of objective is a challenge to write and difficult to assess, mainly because the behavioral changes that occur as a result of meeting these objectives are generally internal changes and are not observable (Martin & Reigeluth, 1999).

Although the cognitive and affective taxonomies were written as two separate hierarchies out of necessity, thinking and feeling are closely related in the human brain (Sylvestor, 1995; Zul, 2002). For example, learning about a topic in greater depth will often result in students developing an attitude, value, or interest in that content. This is knowledge and understanding (cognitive activities) influencing beliefs or values (affective activities). Conversely, a young man’s belief that men will not be as successful in nursing as females because exhibiting caring behavior is not manly may prevent him from entering the profession. This is an example of a belief influencing cognition.

Keep in mind that both the cognitive and affective taxonomies were written in the 1950s and 1960s before science understood how the brain learns. Research in this area within the past 25 years has brought new insights into the relationship of the thinking brain to the feeling brain. According to Sylvestor (1995) and Zul (2002), emotions are involved with the individual attending to one stimulus over another in today’s stimuli-laden environment, thus driving what is learned and remembered. This interrelationship is important to remember when planning learning activities.

### Levels of the Affective Domain

The affective domain consists of five levels (Krathwohl et al., 1964). As in the other domains, each level can be numbered in a taxonomic fashion (1.00, 2.00, etc.). Descriptions of the five levels are listed in **Box 4.5**. Krathwohl et al. (1964) contended that
All objectives must be assessed
From the verb chosen, objectives should indicate the domain and level of learning desired
Objectives must contain only one learning outcome, thus one verb
Verbs must be measurable

RECOMMENDED VERBS

When choosing a verb from the various levels of the three domains, it is best to focus first on the intended learning outcome to indicate the domain or the type of learning required. Ask yourself, does the intended outcome involve primarily thinking (cognitive); muscle movement (psychomotor); or feelings, values, or attitudes (affective)? Then consider the level of learning desired and choose the appropriate verb from that level. Keep in mind that the objective, thus the verb chosen, must reflect a performance, or something the student will do or demonstrate (Mager, 1997). Exhibits 4.1 to 4.3 list the recommended verbs in the various domains that were compiled by a sort of Delphi technique based on the early work of the original writers or interpreters of the various taxonomies (Bastable & Alt, 2014; Bloom, 1956; Gronlund, 1995; Krathwohl et al., 1964; Oermann & Gaberson, 2014) and my extensive experience writing objectives. Exhibit 4.1 lists recommended verbs from the cognitive domain. Exhibit 4.2 lists the recommended verbs from the psychomotor domain. Exhibit 4.3 lists the recommended verbs from the affective domain.

BOX 4.5
LEVELS OF THE AFFECTIVE DOMAIN

• Receiving: This first level is about the learner being “sensitized to the existence of certain phenomena and stimuli . . . that is . . . willing to receive or attend to them” (p. 98). Three levels of attending to on a continuum also indicate key words. These three sublevels are awareness (conscious), willingness to receive (or attend to without judgment), and controlled or selected attention by the learner (focusing on).
• Responding: In this level, the learner goes beyond being aware of a phenomenon and shows interest in it, reluctantly at first, but with increasing willingness. Three sublevels indicating keywords are acquiescence in responding (obedience or compliance), willingness to respond, and satisfaction in response.
• Valuing: This level indicates the learner’s assignment of worth to a phenomenon, and the learner’s behavior demonstrates increasing internalization as he or she begins to accept, demonstrate preference for by seeking out, and commit to the value. Others’ perception is that the individual holds a specific value, which has become a belief. Three levels indicating key words are acceptance of a value, preference for a value (seeks it out), and commitment indicating conviction and a high degree of certainty.
• Organization: This level results in the development of a value system through “organization of values into a system, determination of interrelationships among them, and the establishment of the dominant and persistent ones” (p. 154). The two levels indicating key words are conceptualization of a value through abstraction and determining how it relates to other values held and organization of a value system.
• Characterization by a value or value complex: At this level, the individual has developed a worldview, is comfortable with it, and lives by it. Two levels indicating key words are generalized set or an attitude cluster that predisposes individuals to act in a specific way that is most likely unconscious and characterization indicating complete internalization of values.

Source: Krathwohl et al. (1964).

EXHIBIT 4.1
Recommended Cognitive-Domain Verbs

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Recommended Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>The emphasis in this level is on remembering or recalling information</td>
<td>Define, identify, label, list, name, recall, state</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Behaviors requiring understanding of material</td>
<td>Describe, differentiate, explain, generalize, give examples of, interpret, recognize, select, summarize, write</td>
</tr>
<tr>
<td>Application</td>
<td>Using knowledge and understandings in a new or novel way</td>
<td>Demonstrate, illustrate, implement, modify, operate, relate, revise, solve, use</td>
</tr>
<tr>
<td>Analysis</td>
<td>Breaking material down into its constituent parts, identifying relationships between the parts, and understanding how they are organized</td>
<td>Analyze, classify, compare, contrast, detect, diagram, discriminate, distinguish, map</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Combining parts into a unified whole, creating a new product or process</td>
<td>Categorize, combine, compile, compose, construct, correlate, create, derive, design, devise, generate, integrate, produce, reconstruct, reorganize, restructure, summarize</td>
</tr>
</tbody>
</table>
Evaluation
Making judgments about the value of something using criteria and/or standards
Appraise, assess, conclude, criticize, defend, extrapolate, judge, justify

Adapted from Bastable and Alt (2014), Bloom (1956), Gronlund (1995), Krathwohl et al. (1964), Oermann and Gaberson (2014), and the author’s extensive experience writing objectives.

PROBLEMATIC VERBS

The key to writing meaningful objectives is in choosing a measurable verb, as many verbs seem measurable, but are not. Verbs that must be followed by descriptors to understand what is to be learned should be a tip-off that measurability of the verb is in question, such as develop a plan or understand the relationship. In these examples, the verb does not indicate how content should be taught (at what level), the level of performance required, or the type of assessment indicated to meet the objective. Thus, the verb does not indicate the level of complexity of doing that is required by students. In the first example, what can be assessed is the deliverable only, a plan. However, the verb does not indicate what it is about the student’s performance related to the plan that should be assessed. The second example requires a descriptor in the form of a prepositional phrase to understand more about the relationship, such as between X and Y. Questions to ask to determine whether the verb is measurable include:

1. Does the verb in this objective indicate both performance and a level of performance?
2. Will the verb in this objective help develop assessments and teaching strategies?
3. Will the verb in this objective inform students what they need to do to meet the objective?

EXHIBIT 4.2
Recommended Psychomotor-Domain Verbs

<table>
<thead>
<tr>
<th>Level</th>
<th>Definition</th>
<th>Recommended Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception</td>
<td>Becoming aware of the need for action, attending to the appropriate cue to act upon, and determining the type of action needed</td>
<td>Not assessable within the framework of the psychomotor domain. These activities are cognitive, thus no verbs are recommended.</td>
</tr>
<tr>
<td>Set</td>
<td>This level involves the mental, physical, and emotional readiness to perform an action</td>
<td>Not assessable within the framework of the psychomotor domain. These activities are cognitive and affective, thus no verbs are recommended.</td>
</tr>
<tr>
<td>Guided response</td>
<td>Performing under the guidance of an instructor</td>
<td>Illustrates, imitates, performs with guidance, tries, discovers, practices, uses trial and error</td>
</tr>
<tr>
<td>Mechanism</td>
<td>Performance relies on developed pattern of responses (mechanical) due to increasing comfort with the process</td>
<td>Accurately demonstrates or performs, carries out, follows steps or procedures, maintains</td>
</tr>
<tr>
<td>Complex overt response</td>
<td>Smooth, automatic efficient performance</td>
<td>Demonstrates with confidence, efficiently completes, performs without hesitation, skillfully demonstrates, smoothly and efficiently performs</td>
</tr>
<tr>
<td>Adaption</td>
<td>Ability to adapt performance to various circumstances</td>
<td>Adapts, alters, changes, converts, corrects, rearranges, reorganizes, replaces, substitutes, switches</td>
</tr>
<tr>
<td>Origination</td>
<td>New patterns of performance are created while adhering to the underlying concepts and theories that guide performance</td>
<td>Creates new patterns or procedures, devises shortcuts</td>
</tr>
</tbody>
</table>

Adapted from Bastable and Alt (2014); Krathwohl et al. (1964); Oermann and Gaberson (2014); Simpson (1966); and the author’s extensive experience writing objectives.

EXHIBIT 4.3
Recommended Affective-Domain Verbs

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Recommended Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving</td>
<td>Becoming sensitive to a stimuli through awareness, being receptive without judgment, and selectively focusing on specific stimuli.</td>
<td>Writing an objective at a higher level of the domain will better assess this level. Assessing after the fact, by asking the student to recall his or her feelings or attitudes, is a cognitive activity, not affective. No verbs are recommended for that reason.</td>
</tr>
<tr>
<td>Responding</td>
<td>Demonstrates increasing interest in the stimuli initially obediently, becoming more willing until satisfaction with response is reached.</td>
<td>Like the first level, writing an objective at a higher level of the domain will better assess this level. Potential verbs for this level are—acts willingly, assists, is willing to, participates</td>
</tr>
<tr>
<td>Valuing</td>
<td>Increasing internalization through acceptance, preference for, and commitment to a value until it has become a belief.</td>
<td>Appreciates, desires to attain, prefers, seeks out, assumes responsibility for, actively participates in, commits to, values</td>
</tr>
</tbody>
</table>

1. Does the verb in this objective indicate both performance and a level of performance?
2. Will the verb in this objective help develop assessments and teaching strategies?
3. Will the verb in this objective inform students what they need to do to meet the objective?
Developing values into a system through conceptualization of a value through its relationship to other values and organization of a value system. Conceptualizes the value of, defends, derives ideas, develops a rationale, forms judgments, forms judgments as to or related to, judges, weighs alternatives

Development of a worldview, is comfortable with it, and lives by it. Obtaining this level requires life experience over time and is not assessable in a meaningful way based on learning in one course. No verbs are recommended here as this level cannot be assessed based on one course.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Potential Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss</td>
<td>This is really an activity or process and does not indicate a level of performance.</td>
</tr>
<tr>
<td>Know, understand, comprehend</td>
<td>These verbs are difficult to assess and may lack interrater reliability.</td>
</tr>
<tr>
<td>Apply</td>
<td>This can be used appropriately if what follows the verb indicates performance. For example, “apply best evidence” does not communicate the desired performance. This is better used as a descriptive phrase, such as—“determine a plan of treatment by applying best evidence.” Many application verbs can be used incorrectly in the same type of instance.</td>
</tr>
<tr>
<td>Develop</td>
<td>The verb itself indicates a process, not a performance, and does not describe “doing.” The “what” of “what is to be developed” is what describes performance, making the objective difficult to assess.</td>
</tr>
</tbody>
</table>

Adapted from Bastable and Alt (2014), Bloom (1956), Gronlund (1995), Krathwohl et al. (1964), Mager (1997), Oermann and Gaberson (2014), and the author’s extensive experience writing objectives.

If the answer to these questions is “no,” then problems exist with the verb and/or the way the objective was structured. Exhibit 4.4 lists problematic verbs with an explanation as to why they are so, again this list is compiled from multiple authors and those with various interpretations of appropriate verbs (Bastable & Alt, 2014; Bloom, 1956; Gronlund, 1995; Krathwohl et al., 1964; Oermann & Gaberson, 2014) as well as my experience. These verbs should be avoided when writing objectives.

**EXHIBIT 4.4**

**Problematic Verbs**

**STRUCTURE OF AN OBJECTIVE**

**Component Parts**

Mager’s (1997) seminal work on the format for writing objectives remains useful today, especially when first learning how to write broad measurable objectives. He maintained that objectives should comprise three parts: performance, condition, and criterion.

The performance component indicates, “what someone would be doing when demonstrating mastery of the objective” (Mager, 1997, p. 52). Here, it is important to focus on:

- What the student will be doing or producing
- A specific domain (cognitive, psychomotor, or affective)
- The level within that domain (knowledge, comprehension, application, etc.) of learning required
- The verb that will demonstrate the performance when assessed

The second part of an objective is more standardized in higher education than in workplace training and addresses the condition, or the circumstances that are associated with the performance (Mager, 1997). An example related to an objective for a health assessment course might be: Using a reflex hammer, the student will demonstrate the correct technique when eliciting deep tendon reflexes. Here, the condition is “using a reflex hammer.”

Mager’s (1997) objectives written for trainings were often quite specific. He believed that “you write as many objectives as you need to describe all instructional results you think are important to accomplish” (p. 49). Having too many objectives can tax students’ cognitive load (Chapter 1) and does not capture the type of performance required of complex nursing roles. In higher education, this specificity is observed in subobjectives written at the weekly content or biweekly module level. This practice, however, is one I do not recommend, as there are better alternatives in the online environment, which are discussed in Chapter 12.

In higher education when broad performance encompassing multiple skills is desired, the condition is often written: At the end of the course, the student will be able to. . . . This phrase is located at the top of the list of objectives to avoid repeating the condition at the start of each objective. A broad objective that would include the skill of using a reflex hammer as well as a stethoscope, tuning fork, ophthalmoscope, and other tools might be: At the end of the course, the student will be able to demonstrate coordinated and skillful use of diagnostic tools, such as a stethoscope, tuning fork, reflex hammer, ophthalmoscope, and otoscope, during a comprehensive physical examination. Listing the tools here leaves little room for misunderstanding,
important to keep in mind when one of the purposes of objectives is communication between students and faculty. Being specific is a practice students will appreciate when it comes time for summative assessment.

A few words are in order on the debate that exists about the wording of the condition. Which wording seems more supportive of students?: (a) at the end of the course the student will . . . or (b) at the end of the course the student will be able to . . . Mager (1997) differentiates between demand language, as reflected in example (a), the student will, compared to capability language noted in example (b), the student will be able to (p. 78). Gronlund’s (1995) view is that objectives should be written with an economy of words, and he recommends using the verb can, another example of capability language. Writing the condition using at the end of this course the student can . . . is another way to express capability language. To me, capability language is more in line with what should be conveyed to students, which is the confidence the instructor has that as a result of instruction at the end of the course, they will be able to perform.

The third part of an objective is the criterion that conveys to students how well they must perform to meet the objective. This can be accomplished by adding words such as accurate, or a percentage such as 80% of the time. Returning to the previous example: At the end of the course, the student will be able to demonstrate coordinated and skillful use of diagnostic tools, such as a stethoscope, tuning fork, reflex hammer, ophthalmoscope, and otoscope, during a comprehensive physical examination, words indicating the criteria are coordinated and skillful. Although these words may leave room for different interpretations among faculty grading the same performance, the analytic rubric used for grading can specify what is required to gain full points.

A note of caution is in order. Avoid setting 100% of the time as the criterion, as this is often an unrealistic goal for two reasons. Based on Benner’s (1984/2001) work on the novice-to-expert continuum, an expert would most likely achieve this benchmark. However, graduate students are, at the most, competent at graduation. The second reason is that unless performance is assessed more than once for that objective, which may not be possible, 100 percent of the time or referring to every time does not make much sense. The criterion may be difficult to include in some objectives, so forcing it to comply with the preferred format is not wise. Omit the criterion if it does not add meaning and clarity to the objective.

**WRITING BEHAVIORAL OBJECTIVES**

**Goals and Objectives: What’s the Difference?**

In their landmark treatise, Benner et al. (1984/2010) called for a “more effective integration of the three professional nursing apprenticeships” (p. 82), which are “to learn nursing knowledge and science, a practical apprenticeship to learn skilled know-how and clinical reasoning, and an apprenticeship of ethical comportment and formation” (p. 25). The authors challenged nursing educators to teach with integration of clinical and classroom content, essentially to teach within context, so that students can associate domain knowledge, knowing that, with skill-based knowledge, knowing how, in order to prepare students for the complex nature of nursing practice.

The authors urge nursing educators to “shift from a focus on covering decontextualized knowledge to an emphasis on teaching for a sense of salience, situated cognition, and action in particular situations” (p. 82). This call to action will require a transformation of our thoughts on both teaching and learning, stepping away from a role of conveyor of knowledge to that of a catalyst for learning. This shift requires a hard look at how we think about goals and objectives.

To achieve an endpoint of integrated knowledge and skills, I propose a reconceptualization of how objectives are written. Some authors have made a distinction between goals and objectives. Goals have been considered as the desired outcome of instruction in the long term (Bastable & Alt, 2014) and the precursors of objectives (Mager, 1997), whereas objectives have been defined as indicating “a specific, single, unidimensional behavior” (Bastable & Alt, 2014, p. 386) achievable in the short term. Objectives related to goals must be met before that goal can be achieved. Thus, writing specific objectives often resulted in a lengthy list for a course, but then subobjectives were written for each week or module. When referring to the changes in terminology associated with writing objectives, Sosniak (1994) lamented:

> The shift in terminology also typically signaled the need for increasing numbers of carefully worded objectives to specify the goals that had been indicated earlier by a smaller number of more loosely worded intentions. In this regard, the behavioral objectives movement is said to have collapsed under its own weight. (pp. 117–118)

I am certain students feel this weight when being confronted by a long list of objectives that, while designed with good intentions, were, nevertheless, overwhelming instead of instructive.

To me, this approach, although well accepted in the nursing community, does not take into consideration the complexities of nursing practice and supports teaching in the fragmented, decontextualized manner that has plagued nursing education for decades and may obstruct the realization of transforming nursing education, the path that Benner and her colleagues (1984/2010) have outlined. Thus, I believe the time has come to rethink how we write objectives, and how we communicate desired outcomes to students.

**RETHINKING OBJECTIVES TO TRANSFORM NURSING EDUCATION**

What I propose is a change in definitions and the way we think about goals, objectives, and outcomes. To support the learning outcomes that will truly transform nursing education, the outcomes we share with students should be broadly written and
encompass complex performance and abilities. Consequently, objectives should be written more broadly like a goal, but in the format suggested by Mager (1997), which includes a description of the performance, a broad condition, and a criterion when appropriate. Although speaking from the perspective of medicine, Harden’s (2002) perspective is that objectives are really learning outcomes or goals that:

- Are user friendly and not too cumbersome and can be readily adopted by teachers and students
- Highlight the key broad learning outcomes
- Take account of the realities of medical practice where knowledge, skills, and attitudes are integrated to make up competences
- Engage the individual teacher and student and give them some measure of ownership of the process (pp. 154–155)

Identifying Learning Outcomes

To begin the process of writing objectives, I recommend thinking in terms of the broad learning outcomes that should be met by the end of the course. Start thinking about this by writing: At the end of this course, I want students to . . . and complete the sentence with a bulleted list. Write down what comes to mind without editorial comments by that regulatory inner voice. Refining can be done later. Keep in mind that from a constructivist perspective, the contents of this list may actually be broad enough to become objectives. All that is needed are measurable verbs.

Questions to consider as you think about desired learning outcomes are:

1. What content is unique to this course?
2. What knowledge, skills, and attitudes must students take away from this course because it is not included in any other?

Be sure to include in this initial list of outcomes any programmatic outcomes that must be achieved. Reflecting on a few additional questions can be helpful, such as:

- How and where does this course fit into the broader curriculum for the program?
- Are there terminal program outcomes that students must meet, the content for which comes from this course?
- Does this course provide foundational content for which some facts must be memorized and understanding achieved, or is this a course in which students apply previously learned knowledge?
- What is the requisite knowledge that must be revisited and built into contextualized learning?

**BOX 4.6**

**SAMPLE LIST OF LEARNING OUTCOMES**

*At the end of the course, I want students to:*

- Activate prior knowledge from the basic science courses, such as anatomy and physiology and pathophysiology, and associate them with physical assessment
- Learn how to obtain a comprehensive and focused history by asking branching questions to pursue a line of inquiry
- Learn to extract the salient information on the history to guide what systems are assessed on the exam
- Learn the moves, such as where to place the stethoscope to hear S4 or right-middle-lobe lung sounds
- Learn when and why to use specific and specialized assessment techniques such as egophony, for example, when lung sounds seem diminished in a lung base
- Learn to distinguish normal from abnormal findings
- Learn to integrate multiple findings and associate them with a specific pathology to validate or refute information obtained on the history and arrive at a diagnosis or list of plausible diagnoses

For example, in a health (or physical) assessment course, learning is complex and proceeds down several pathways. Box 4.6 demonstrates a list of outcomes that could be written. These are broad outcomes written with verbs that are not measurable. They indicate learning that is not content-specific, which in a health assessment course means body system–specific. Measuring or assessing specific objectives written for each body system would be too time consuming, increase cognitive load for students, and is related to what I consider the old paradigm of objective writing.

Translating Broad Goals to Broad Objectives

Because the desired outcome from a constructivist perspective is integration of these skills, the objectives should reflect that. If specific, focused objectives are written for every body system to reflect the outcomes listed in Box 4.6, a large list will result. Consider an objective that reads: At the end of the course, the student will be able to distinguish (comprehension level, cognitive domain) normal from pathologic heart sounds to arrive at a diagnosis. The desired outcome of this objective can be incorporated into a more broadly written one that will assess other subordinate skills as well. An objective that states the desired global outcome might be: At the end of the course, the student will be able to compile a list of plausible diagnoses based on elements of the history
and normal and abnormal findings on physical examination. The verb “compile” is from the cognitive domain, synthesis level—a high-level verb. Indicating that this is the desired level of learning is consistent with (a) an integrated constructivist approach, (b) the use of higher cognitive skills, (c) the ability to assess multiple systems under the guise of one objective, and (d) the choice of a wide range of assessment strategies.

Perhaps, the question in your mind now is how will students understand exactly what they need to learn to meet the objective? To answer that, an understanding of the affordances of the online environment is needed. Although this topic will be discussed in greater detail in subsequent chapters, online multiple-choice quizzes can point out important knowledge and understandings from the assigned readings with questions building to application, analysis, synthesis, and evaluation. Questions based on a case will help students anchor what they are learning in an appropriate context. Quizzes of this nature accompany each content area (weekly or biweekly), are formative in nature, can be taken multiple times to achieve mastery, and are worth only a few points so students take the learning content seriously. In addition, a podcast to introduce each content area explaining to students why the information is important to their future role, the rationale for the quizzes, and an explanation for other assignments or assessments will help students focus their study time.

The outcomes for student learning at the RN to bachelor of science in nursing (BSN) or graduate level should focus on higher cognitive functions. The desired learning in each course should begin with students activating prior knowledge (what they know and understand) and associated relevant experiences. What they already know and understand is then reviewed in light of the new role-specific content they are learning and their understanding is then validated, updated, or completely revised, resulting in a higher level of performance. Because the goal is an integration of many components of performance, global objectives should be written to align students’ expectations for learning with faculty’s expectations of performance. An example will be forthcoming, but first, additional background information must be discussed.

**Process of Writing Broad Objectives—A Task Analysis**

Once this list of learning outcomes or goals has been completed, an example of which is in Box 4.6, these statements can be converted to objectives. Keep in mind that while cognitive activity lives in the background of most affective and psychomotor performance, it is important to be clear about the type of performance to be assessed and to write an objective to communicate that. Thus, the first step is to determine the domain: cognitive, psychomotor, or affective. Once the domain has been chosen for an objective, the next step is to choose a level within that domain. From a constructivist perspective, the rule of thumb should be to aim for the highest level that is associated with the desired real-life performance. Questions to ask yourself that follow a logical sequence to help you build the objective are presented in Exhibit 4.5. Once you have written the objective, reread it to be certain that the sentence is in good form grammatically. As you can see after reviewing the questions, using the Backward Design method (Wiggins & McTighe, 2005) in every step of writing objectives will ensure that you have considered assessment and teaching methods when making decisions about the domain, level, and verb. Keep in mind as you are asking yourself these questions that you should not get hung up on assessments and teaching methods. Jot down ideas, but maintain focus on writing the objectives at the appropriate domain and appropriate level within that domain. Let us go through the steps of this process with an example.

**EXHIBIT 4.5**

**Questions to Ask Yourself as You Build the Objective**

<table>
<thead>
<tr>
<th>To Determine</th>
<th>Questions to Ask</th>
</tr>
</thead>
</table>
| The domain   | 1. What is the desired type of learning involved—thinking (cognitive); muscle movement (psychomotor); or feelings, attitudes, or values (affective)? *Keep in mind that cognitive processes lurk in the background of psychomotor and affective learning.*  
2. How will the learning from this domain be assessed?  
3. How will the content be taught? |
| Level of learning (within the domain) | 1. What level of learning or performance is required in order for the students to function in their future role?  
2. How can this level of learning be authentically assessed?  
3. Will that type of assessment indicate mastery as expected by the role?  
4. How will this content be taught?  

*Jumping ahead in the Backward Design process to consider assessment strategies and teaching methods may help you determine the level of performance required.* |
| Verb | Which verb from the list associated with the domain and level chosen:  
1. Best informs me of the desired performance, assessment, and teaching methods?  
2. Expresses to students what is ultimately expected of them?  
3. Makes the most sense from a grammatical and syntax perspective? |
| The outcome or goal, assessment, and teaching methods should be aligned with the domain, level, and verb chosen for the objective. If they are not aligned, repeat these steps. |

To illustrate this process, it may be useful to complete a task analysis (Mager, 1997), a means to determine the components of learning required to meet the desired outcome. Returning to the advanced health assessment course, perhaps an identified outcome would be for students to be able to combine findings on the history and exam to arrive at a diagnosis. Successfully meeting this...
objective requires that students activate prior knowledge from their pathophysiology course and correlate it with findings on the history and exam. Although the learning required could be considered both cognitive and psychomotor, we will first focus on writing a cognitive objective. As the verb “correlate” comes to mind when thinking about what we want students to do, synthesis is involved, which means putting pieces of data together to create a unified and unique whole. A verb from the cognitive domain, synthesis level would be appropriate to describe the learning required. The objective arising from that desired outcome or goal might be: At the end of the course, the student will be able to correlate salient information from the history with abnormal findings on a focused physical examination to arrive at a plausible diagnosis. The verb correlate is from the synthesis level of Bloom’s cognitive domain. Completing a task analysis on the objective will help you fully understand the component skills that must be mastered to meet this objective. The results of this process are shown in Box 4.7. Although the outcome of the task analysis looks very similar to the initial list of outcomes, the task analysis is more specific to the objective. For example, the objective is cognitive, so the ability to perform examination techniques is not relevant.

Getting ahead of things a bit, one can readily see how taking the time to complete a task analysis sets the stage for the development of a rubric that can be used to grade the performance. This topic is discussed in detail in Chapter 9, but suffice to say that a task analysis is a worthwhile activity, done early on to fully understand the components that go into the performance to validate that you will be assessing what you wanted to assess.

The take-away point here is to aim as high as possible when choosing a verb for an objective. Consider at least the application-level verbs and above in the cognitive domain; the “receiving” through “organization” levels in the affective domain; and the “guided response” level and below in the psychomotor domain. Remember to start the list of objectives with the condition: At the end of the course, the student will be able to (or can) and a criterion if appropriate. Another rule of thumb is to keep the number of objectives to fewer than 10; including six is really more practical. The reasoning behind this recommendation is that (a) too many objectives can increase cognitive load and be overwhelming for students; (b) may indicate to faculty that either too much course content is planned for the course, or that faculty have not written broad objectives that truly assess authentic performance.

| BOX 4.7 |
| SAMPLE TASK ANALYSIS OF AN OBJECTIVE |

- Ask appropriate questions on the history
- Extract the salient data from the information obtained in the history
- Based on the salient data, determine what systems should be assessed on exam
- Know which basic and specialized examination techniques are indicated
- Know what the normal findings are for the examination techniques used
- Recognize an abnormal finding and what it indicates
- Understand how the findings on exam validate or refute what was found on the history
- Combine the data to arrive at a plausible diagnosis

| COMMON MISTAKES MADE WHEN WRITING OBJECTIVES |

Writing objectives is not an easy task. Seasoned faculty often struggle with the process, mainly because they do not often write objectives. Most likely, their job is to interpret objectives provided by the curriculum committee in order to determine appropriate assessment methods and teaching strategies, topics discussed later in this chapter.

Common mistakes made when writing objectives are shown in Box 4.8.

Too Specific, Too Many, Too Narrow

The mistake of writing specific objectives in a step-wise fashion probably originated with Mager’s (1997) early behaviorist-driven ideas of writing objectives in a step-wise fashion that reflected the order in which content was taught. This is problematic on two fronts. First, objectives should state desired learning outcomes and be written from the student’s perspective (Bloom, 1956; Gronlund, 1995; Mager, 1997). Recall that the recommended condition is: At the end of the course, the student will be able to . . ., which indicates that what follows will be a broad statement of performance that combines multiple sublayers of learning acquired throughout the course. Second, all objectives must be assessed. Writing multiple specific objectives takes the focus away from the desired integration of concepts and requires instead assessing the individual elements of content taught.

| BOX 4.8 |
| COMMON MISTAKES MADE WHEN WRITING OBJECTIVES |

- Are too specific and written in a step-wise fashion
- Are not broadly written to reflect the complexity of performance necessary for the role
- Are focused on process and not outcomes; on teaching and not learning
- Include two verbs in one objective (two outcomes)
- Include verbs not appropriate for the domain that faculty plan to assess
Process Instead of Outcome

Writing objectives that describe a process instead of an outcome is easy to do. For example, the verb “discuss” is often included in lists of verbs for the comprehension level of the cognitive domain. As discussion boards are often used in online courses, this verb seems appropriate. However, it describes the process in which knowledge construction occurs, not the outcome. If students discuss a topic, but they are off base on many aspects of the content, do they meet the objective? The best way to avoid writing process-oriented objectives is to be clear on the learning outcomes before starting to write your objectives.

Two Verbs

By far, the most common mistake encountered is including two measurable verbs in one objective. This indicates a poor understanding of a taxonomy. Remember that a taxonomy in educational terms is a hierarchy of learning that proceeds from simple to complex and concrete to the abstract in the cognitive domain (Bloom, 1956), integration in the affective domain (Krathwohl et al., 1964), and increasing fluidity and automaticity of movement in the psychomotor domain (Simpson, 1966). For example, consider the objective: At the end of the course, the student will be able to use appropriate physical examination techniques and discriminate normal from abnormal findings on a focused physical examination to arrive at a diagnosis. Two measurable cognitive domain verbs are included: “use” is from the application level and “discriminate” is from the analysis level (Gronlund, 1995). When the necessary cognitive skills are considered for this performance, it seems obvious that one must recall (knowledge level) appropriate examination techniques, understand (comprehension) what they indicate, be able to use (application level) these techniques correctly in a given situation in order to elicit findings and discriminate (analysis level) normal from abnormal. From the hierarchy of learning represented in the taxonomy, one cannot discriminate findings unless one has the necessary requisite skills.

Two measurable psychomotor domain verbs are included: “use” is from the application level and “discriminate” is from the analysis level (Gronlund, 1995). Let us assume that you plan to assess this objective by having the student complete a focused history and physical examination on a standardized patient and verbally present the case to you. Is this a cognitive or psychomotor performance that is being assessed? Although performance involves using the correct assessment techniques of inspection, auscultation, percussion, and/or palpation, which are cognitive and psychomotor skills, what the objective is really about is discriminating normal from abnormal findings, which is a cognitive activity. True, the techniques of performing a physical examination that students use during the exam with the standardized patient can be observed and faculty will make some decisions whether the techniques were performed correctly, but that is not what the objective is about. The objective will be assessed when the student presents the case. That is when you will be able to determine if the student identified and made a judgment based on abnormal findings.

Verbs in Multiple Domains

Many lists of measurable verbs are available on the Internet and in nursing texts. In some of these lists, the same verb appears in more than one domain, requiring that when writing objectives you first become clear on the type of performance required (the domain). Let us look at this objective as an example: At the end of the course, the student will be able to discriminate normal from abnormal findings on a focused physical examination. The verb “discriminate” can be found in two domains in some lists of verbs for objectives (Bastable & Alt, 2014): in the analysis level of the cognitive domain and the guided response mechanism and complex overt response levels of the psychomotor domain. Let us assume that you plan to assess this objective by having the student complete a focused history and physical examination on a standardized patient and verbally present the case to you. Is this a cognitive or psychomotor performance that is being assessed? Although performance involves using the correct assessment techniques of inspection, auscultation, percussion, and/or palpation, which are cognitive and psychomotor skills, what the objective is really about is discriminating normal from abnormal findings, which is a cognitive activity. True, the techniques of performing a physical examination that students use during the exam with the standardized patient can be observed and faculty will make some decisions whether the techniques were performed correctly, but that is not what the objective is about. The objective will be assessed when the student presents the case. That is when you will be able to determine if the student identified and made a judgment based on abnormal findings.

Verb Does Not Match Desired Outcome

Another common mistake when writing objectives is using a verb from one domain to write an objective from another. Consider the following objective written to guide learning from a reflective journal: At the end of the course, the student will be able to recall feelings and attitudes after completing a visit with a dying patient. The verb “recall” is used in two domains: the cognitive domain at the knowledge level and the affective domain at the responding level (Bastable & Alt, 2014). Because feelings and attitudes are
the focus of the affective domain, what will be assessed by this objective is the student’s ability to later recall (knowledge level, cognitive domain) the feelings at the time of the encounter, which is a cognitive activity. If the objective were: At the end of the course the student will be able to express (organization level of the affective domain) understanding and empathy of the dying patient through body language, reassuring words, or silence, assessing performance in the affective domain could be done by observing the student interacting with a dying patient.

Gibberish

In an effort to sound scholarly, some faculty write objectives that are very difficult to understand because of the words chosen, the convoluted sentence structure, or incomprehensible terms, something that Mager (1997) refers to as “gibberish” (p. 142). Mager cites this example: “Embark on a lifelong search for truth, with the willingness and ability to pose questions, examine experience, and construct explanations and meanings” (p. 143). Not only is the verb “embark” not measurable, but from a student’s perspective it would also be difficult to understand what performance is required to successfully meet the objective. This pitfall can be avoided by keeping in mind that the purpose of objectives is to communicate the desired performance to students so they can adequately prepare for the assessment. Keeping language simple and using an economy of words will ensure that all stakeholders understand the objectives.

TRANSLATING PROVIDED OBJECTIVES

Often in academia, course objectives are written by the curriculum committee and cannot be changed by faculty who will be teaching the course. Although this seems to somewhat restrict academic freedom, the curriculum committee has the broad programmatic overview required to assign learning outcomes to courses throughout the program, thereby avoiding unnecessary repetition of content and ensuring that content required to function in the particular nursing role and by accrediting bodies is included. The job for faculty becomes devising assessments and teaching strategies to ensure that students actually learn what they are expected to learn to meet the objectives. A useful step in coming to terms with provided objectives is to complete a task analysis of the objective as was discussed in an earlier section, Process of Writing Broad Objectives—A Task Analysis.

COURSE-ALIGNMENT TEMPLATES

Although the focus of this chapter has been on writing goals and objectives, I have mentioned how this activity must be aligned with assessment strategies and teaching methods. To help you keep the entire process in mind, I developed two course-alignment templates that follow the Backward Design process of Wiggins and McTighe (2005). Exhibit 4.6 can be used when you are tasked with writing the objectives for a course. In this exhibit, the outcomes or goals appear in the far-left column, followed by columns for the objectives, assessments, and teaching strategies. Exhibit 4.7 can be used when the objectives have been written for you and your job is to identify the appropriate assessments and teaching strategies that align. These numbered objectives, and perhaps the course description as well, should be copied and pasted at the top of this exhibit to keep you focused. The columns in this exhibit are listed in the following order: objective number, assessments, and teaching strategies.

EXHIBIT 4.6
Course-Alignment Template for Use When Writing Objectives

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Objectives—At the End of This Course, the Students Will Be Able to:</th>
<th>Assessments</th>
<th>Teaching Strategies</th>
</tr>
</thead>
</table>

EXHIBIT 4.7
Course-Alignment Template for Use When Interpreting Objectives

Course description:
Objectives:

<table>
<thead>
<tr>
<th>Objective Number</th>
<th>Assessments</th>
<th>Teaching Strategies</th>
</tr>
</thead>
</table>
Most likely you will assess each objective in multiple ways. For example, you may plan a quiz with each module to take advantage of the testing effect discussed in Chapter 1. In the course-alignment template, you can list the quizzes by number and the actual discussion questions as well. Keep in mind that in online teaching, formative and summative assessments as well as some of the teaching methods may be the same activity. This is also discussed in detail in Chapter 1.

THE TAKE-AWAY

Course objectives remain useful for faculty when designing an online course and for students as a road map toward learning. However, if we are to transform nursing education that integrates didactic and clinical practice, knowing that with knowing how within an authentic context, and ways of thinking that go beyond critical thinking, our objectives must be globally written, perhaps a new paradigm in writing course objectives. To help with the process, a task analysis of the performance as well as consideration of potential assessments and teaching methods are helpful. A task analysis of the objective, once written, is a way of validating that the performance is accurately specified within the objective.

REFERENCES


Rethinking Teaching and Assessments

TRANSFORMING NURSING EDUCATION

In their call for radical transformation in nursing education, a must read for all nurse educators, Benner, Sutphen, Leonard, and Day (1984/2010) made four recommendations to accomplish the “integration of knowledge, skilled know-how, and ethical comportment” (p. 82) when educating nurses. These recommendations call for nurse educators to:

• “Teach for a sense of salience, situated cognition, and action in particular situations” (p. 82)
• Integrate classroom and clinical teaching
• Emphasize clinical reasoning and multiple ways of thinking that include critical thinking
• Emphasize formation instead of socialization to the role

Although the site visits that provided the information for their book were done in undergraduate programs of nursing exclusively, eight generic and one RN to bachelor of science in nursing (BSN) program, their findings apply to graduate nursing education as well. Discussing these recommendations in more detail, you will understand how they are grounded in sound educational theory and provide a framework to improve our teaching.

The first recommendation is in reaction to teaching decontextualized content organized in textbook fashion such that students’ only choice was to memorize. Content is presented in such courses as lists of isolated facts and categorized information with little indication of how to use this information. Without applying it to a specific patient’s situation, students cannot extract the important or salient information, understand why it is so, and use it to guide practice. As Brown, Collins, and Duguid (1989) note:

in order to learn these subjects (and not just to learn about them) students need much more than abstract concepts and self-contained examples. They need to be exposed to the use of a domain’s conceptual tools in authentic activity—to teachers acting as practitioners and using these tools in wrestling with problems of the world. (p. 34)

This authentic context provides a backdrop for the theory of situated cognition (Lave & Wenger, 1991) in which learning is enhanced when cognitive activities are embedded in a real-life context of co-participation. Foundational to situated cognition is that knowing cannot be separated from doing, and by giving students opportunities to wrestle with problems common to the role that are complex and unstable, students learn to recognize what is important and what is not when assessing a situation and problem solving. This is what Benner et al. (1984/2010) referred to when they encouraged nurse educators to teach for a sense of salience, or “linking perception and discernment with the ability to use knowledge from a rich knowledge base” (p. 83).

The second recommendation focuses on the separation of classroom and clinical teaching, which applies to online teaching as well. During the site visits that were the basis for their conclusions, Benner et al. (1984/2010) noticed that although students had adequate time to practice skills in a skills lab, for example, doing so was not embedded in a case scenario representing a real-life situation, again referring to the separation of knowing and doing from a relevant context. From an online teaching perspective, lectures are not the main teaching method as they often are in the classroom. Instead, small group discussions become the learning space. Creating engaging discussion questions (DQs), the topic of Chapter 7, allows for the combination of theory and application, content and context.

In the third recommendation, Benner et al. (1984/2010) referred to the term critical thinking, which they feel has become a “catch all phrase” (p. 84) when referring to the various cognitive processes that nurses use to problem solve. They point to the broader need for nursing students to develop skillful critical reflection, clinical and diagnostic reasoning, and “creative, scientific, and formal criterial reasoning” (p. 85) processes. However, what can be taught directly is the theory of these cognitive processes only, which results in knowing. Students then need the opportunity to develop these cognitive skills through practice using these skills (doing) when problem solving in real-life situations without the chance of hurting anyone.

To the online nursing educator, doing refers to using cognitive skills and is best promoted by teaching content within context, either engaging DQs or authentic cases. Although students may know the definition of diagnostic reasoning and the steps of the process, unless they apply that knowledge to a situation, they are really not doing diagnostic reasoning.

Online discussions provide such opportunities, if the questions asked require higher cognitive functioning. Fact-based