

Writing Objectives



Standard #6: Assessment

Standard #7: Planning for Instruction

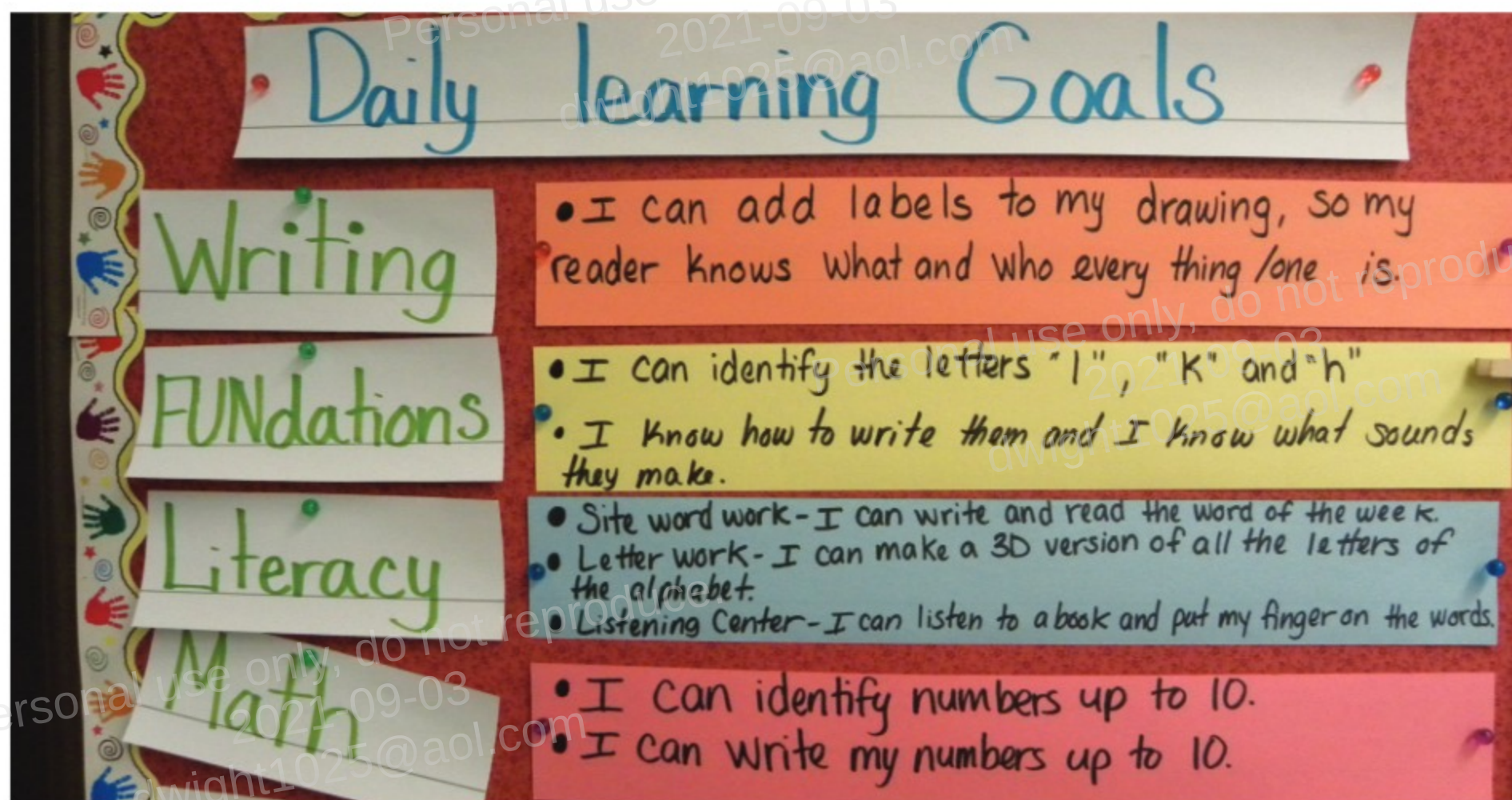
LEARNING OBJECTIVES

After reading this chapter, you should be able to:

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| <p>2-1 State the definition, importance, and purposes of objectives.</p> <p>2-2 Describe the process for developing objectives from standards.</p> <p>2-3 Provide examples of the use of multiple objectives.</p> | <p>2-4 Summarize the four components of measurable objectives, including definitions and examples.</p> <p>2-5 Explain how and why to use Bloom's taxonomy when developing objectives.</p> <p>2-6 Summarize ways to respond to skill diversity when planning objectives.</p> |
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CHAPTER OUTLINE

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| <p>2-1 DEFINITION, IMPORTANCE, AND PURPOSES OF OBJECTIVES</p> <p>2-2 PROCESS OF DEVELOPING OBJECTIVES</p> <p>2-2a State Standards: A Source of Objectives</p> <p>2-2b Common Core State Standards: Another Source of Objectives</p> <p>2-2c From General to Specific</p> <p>2-2d Measurable Objectives</p> <p>2-3 MULTIPLE OBJECTIVES</p> <p>2-3a Efficiency and Multiple Objectives</p> <p>2-3b Diversity and Multiple Objectives</p> <p>2-3c Multiple Objectives versus Multiple Learnings</p> | <p>2-4 THE FOUR COMPONENTS OF MEASURABLE OBJECTIVES</p> <p>2-4a Content</p> <p>2-4b Behavior</p> <p>2-4c Conditions</p> <p>2-4d Criterion</p> <p>2-4e Help with Including the Four Components in Objectives</p> <p>2-4f Practice Writing Objectives</p> <p>2-5 BLOOM'S TAXONOMY OF THE COGNITIVE DOMAIN</p> <p>2-6 RESPONDING TO SKILL DIVERSITY WHEN PLANNING THE OBJECTIVE</p> |
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Introduction

An effective activity or lesson plan begins with a specific objective. This chapter is designed to teach a format for writing objectives in a clear and measurable form. Writing those objectives will enable you to match your activity or lesson with the intended learning outcome, and you will be able to tell

if your teaching was effective (i.e., whether your students learned). It is essential, however, to remember that objectives can be well written in terms of form and yet not be appropriate or important for your students.

2-1 Definition, Importance, and Purposes of Objectives

Objectives describe where we want students to go and how we'll know if they got there. Objectives pinpoint the destination—not the journey. Well-written objectives help teachers clarify precisely what they want their students to learn, help provide lesson focus and direction, and guide the selection of appropriate practice. Using objectives, teachers can evaluate whether their students have learned and whether their own teaching has worked. Objectives also help focus and motivate students and are important communication tools to use with other teachers and families.

Objectives are not only written for lessons and activities. They are also written for individualized education programs (IEPs) and for units of instruction. Objectives may be written for individuals (e.g., Ralph will solve . . .) or for groups of any size (e.g., Eighth-graders will demonstrate . . .). They can be long or short term and can be written for any content area. Teachers write objectives for themselves to help guide the growth of their teaching skills. Students can be asked to write their own objectives as part of goal-setting and self-management. In all of these cases, writing clear and measurable objectives is important. This chapter focuses on objectives written by teachers for students as part of a lesson or activity, but the format you will learn applies to all kinds of objectives and reasons for writing them.

2-2 Process of Developing Objectives

Backward planning or *backward design*, terms that Wiggins and McTighe (2005) used, are good descriptions of the process that teachers should use in developing lesson or activity objectives. The sequence

of planning objectives is very important. First, decide on the learning outcomes. Second, break down general outcomes into more specific goals or objectives. Next, figure out how you'll assess the outcomes or, as Wiggins and McTighe (2005) express it, what evidence you'll accept that students have achieved the understanding. Then, and only then, plan the lessons and activities that will help students achieve those outcomes. For the first step, deciding what you want students to learn, look to state standards.

2-2a State Standards: A Source of Objectives

States have developed sets of standards that provide descriptions of learning outcomes for K–12 students across each state. **State standards** are written as goals in the various content areas: reading, writing, mathematics, science, social studies, and so on. These standards establish priorities in what should be taught to students. They give teachers focus for long-term curriculum planning. Example 2.1 shows an example of state standards for history. See Chapter 1 for additional information on state standards.

EXAMPLE 2.1: STATE STANDARDS

- History 4.1: Understands historical chronology.
- History 4.2: Understands and analyzes causal factors that have shaped major events in history.
- History 4.3: Understands that there are multiple perspectives and interpretations of historical events.
- History 4.4: Uses history to understand the present and plan for the future.

Note that all examples of state standards in this chapter come from Washington State.

2-2b Common Core State Standards: Another Source of Objectives

The **Common Core State Standards** are a set of guidelines for English language arts/literacy and mathematics that attempt to describe what students across the United States need to know or be able to do at each grade level and by the time they graduate from high school in order to succeed in college and career. These standards are intended to help teachers decide what content should take priority so they know where to focus their instructional time. They are meant to be useful as teachers do their long-term planning. Example 2.2 shows an example of Common Core Standards. For more information on Common Core State Standards, go to www.corestandards.org. Also see Chapter 1.

EXAMPLE 2.2: COMMON CORE STATE STANDARDS

MATH, GRADE 7

1. Analyze proportional relationships and use them to solve real-world and mathematical problems.
2. Apply and extend previous understandings of operations with fractions.
3. Use properties of operations to generate equivalent expressions.
4. Draw, construct, and describe geometrical figures and the relationships between them.
5. Use random sampling to draw inferences about a population.

The Common Core Standards included in Example 2.2 are somewhat general and are helpful for identifying long-term outcomes. Whether using state standards or common core standards as a starting place, the second step in developing objectives is to make general outcomes more specific.

2-2c From General to Specific

Teachers are typically provided with general standards that are further defined and specified for various grade levels. This is the case with the Common Core Standards, and this is true for the

following Washington state history standard for sixth grade:

Component 4.1: Understands historical chronology

4.1.1 Analyzes different cultural measurements of time.

- Example: Compares the different ways calendars were used in ancient Egypt and the Mayan civilization to plan agriculture.

Although state standards and Common Core State Standards provide direction, teachers must develop their own very specific objectives for lessons, activities, and units. This is also true in special education, where teachers help develop IEPs that include goals and objectives intended to enable students to progress in the general curriculum based on the state standards. A teacher's task is to translate the standards into useful, specific objectives that are used to guide instruction. In this way, the learning outcomes included in the objectives will link to the state standards.

Writing specific objectives from standards and goals begins with an understanding of how standards, goals, and objectives differ. The following are some of the main differences:

- *Specificity.* Specific learning outcomes are described in objectives, whereas standards include more general outcome statements. Goals may be general (e.g., understand the concept of fractions) or specific (e.g., write fractions to describe relationships).
- *Long or short term.* Objectives are considered short term because they describe the learning outcome expected in days, weeks, or months. Goals and standards describe learning outcomes expected to occur at the end of a longer period of time—weeks, months, or years; thus, they are long-term outcome statements.
- *Uses.* Objectives are used in lesson and activity plans and sometimes in IEPs. Measurable annual goals are included in IEPs. Goals are also found in units of instruction. Standards are used in state or district curricula or are set by professional organizations.

The following is an example of developing a specific objective more suitable for a lesson or activity from a standard:

Reading 1. The student understands and uses different skills and strategies to read.

1.1. Use word recognition skills and strategies to read and comprehend text.

1.1.1. Understand and apply concepts of print.

- Recognize letters and spaces between words.

Objective: Students will identify first and last letters of words in context.

Civics 2. The student analyzes the purposes and organization of governments and laws.

2.1. Understand and explain the organization of federal, state, and local government including the executive, legislative, and judicial branches at, and among, the three levels of government.

2.1.1. Analyze problems and solutions related to the distribution of authority.

Objective: Students will understand how branches of the government check and balance each other.

2-2d Measurable Objectives

The third step in backward planning is to decide how you'll know if students have achieved the learning outcome. This is the process of making objectives measurable.

Objective: Student will identify first and last letters of words in context.

Measurable objective: Student will circle the first and underline the last letters of each word in a given five-word sentence.

Objective: Students will understand how branches of the government check and balance each other.

Measurable objective: Given the power of the legislative branch to enact laws, students will name the other two branches and describe in two sentences how this power is checked and balanced by each.

Notice in the previous **measurable objectives** that the assessment or evidence of learning is built into the objective. These are what we mean by “measurable” objectives. You begin with the desired learning

outcome (e.g., apply writing conventions), make the outcome specific (e.g., capitalize proper nouns accurately), and define what evidence you will accept that students can do that (e.g., correct capitalization errors in a list of nouns and proper nouns). Only then do you plan your lesson or activity. Special educators are very familiar with this process—first come measurable goals, then specially designed instruction.

2-3 Multiple Objectives

Teachers sometimes design lessons or activities for the achievement of more than one objective. They do this for a variety of reasons. One such reason is for efficiency, and another is to be responsive to diversity.

2-3a Efficiency and Multiple Objectives

Because of the many valuable learning outcomes for students, teachers have tough decisions to make about what to teach and what to leave out. Sometimes, teachers can develop dual-purpose lessons or activities. They might plan class discussions designed to help students develop a deeper understanding of a historical event and to learn to disagree politely. They might plan a math game designed to help students achieve a math objective (e.g., fluency with multiplication facts) and a social skills objective (e.g., showing good sportsmanship in winning and losing). They might plan a lesson in which they present information to help students learn the planets of the solar system and information on how to use a learning strategy to memorize items in order. They might plan an activity for students to practice problem-solving skills related to the school recycling program and to practice technology skills by creating a digital media presentation about their solutions. It can be more efficient to use one lesson or activity to teach toward multiple objectives.

2-3b Diversity and Multiple Objectives

Another purpose for multiple objectives is to be responsive to diversity. Many classrooms today include students who are English language learners. Teachers can respond to linguistic diversity by designing lessons or activities that can be used to help students achieve objectives in subject areas (such as science or social studies) while also meeting

language objectives for speaking, listening, reading, and writing. For example, you might plan a lesson designed to help students achieve a science objective such as “describing the life cycle of a butterfly,” as well as helping students meet language objectives such as “using sequence indicator words such as *first*, *second*, *next*, and *last* in lists” and “following three-step oral directions for completing tasks.”

Teachers can also be responsive to diversity using multiple objectives by creating activities designed to provide instruction or practice for several students who are working on individual objectives. For example, in a special education preschool setting, students may be working on color and shape identification, physical skills, and language skills objectives. Teachers may use one activity, such as snack time, to provide different students with practice on different objectives (see Photo 2.1):

- Rosita will be asked to name the shape and colors of plates (objective = producing shape and color names), and
- Wendy will be asked to point to the green plate and the blue plate (identifying colors).
- John will be expected to ask for more by saying, “More juice, please” (using three-word phrases), while
- Bridget signs the word *juice* (increasing sign vocabulary).
- Denzel’s objective may be to grasp the handle of an adaptive spoon and take three bites (fine motor skill), whereas
- Desiree’s is to sit at the table in a chair without arms (balancing skill).



Photo 2.1 Each student may have a different objective for a given activity, such as snack time.

The same three-step backward planning process is used to develop objectives regardless of whether multiple objectives will be taught through one lesson or activity. Note that it is our intention to concentrate on specific short- and long-term objectives throughout this book. This means that when we talk about writing objectives for activity plans, for example, we mean writing specific long-term objectives. When we talk about writing lesson objectives, we mean specific, short-term objectives.

2-3c Multiple Objectives versus Multiple Learnings

We want to distinguish between multiple objectives and multiple “learnings” in one objective because confusion can result if the difference is not clear. *Multiple objectives* means that more than one objective is included in one instructional plan. This is most common in activity plans designed to provide more practice or promote generalization of a variety of skills. (See Chapter 14 for more information.) It is possible to include multiple objectives in lesson plans as well, as long as students will be taught the information they need to be successful with each objective. In both of these examples, multiple objectives means there are several distinct objectives (see Teaching Plan 3 in the Appendix for an example of multiple objectives).

Multiple learnings in one objective, on the other hand, means that one objective includes two different skills in the same content area or possibly, skills from two different content areas. Here’s an example: “Students will compare and order fractions and decimals correctly” involves two different skills. This mixing of skills muddles clarity because, as you will see later on in this chapter, it is more difficult to evaluate students on their progress toward an objective when trying to look at two skills at the same time. One way to create clear objectives is to stick to one “learning” per objective.

2-4 The Four Components of Measurable Objectives

The easy way to write a measurable objective is to include four components: content, behavior, condition, and criterion (Howell and Nolet 2000). Including these four components (see Figure 2.1) will help ensure that your objectives represent a clear, specific learning outcome and a description of how

Figure 2.1 Components of Measurable Objectives



that learning will be measured. In this section, we provide an example objective (see Example 2.3) followed by descriptions of each of the four objective components, with examples and nonexamples. Common errors are noted, and suggestions for writing each objective component are included.

EXAMPLE 2.3: OBJECTIVE

OBJECTIVE

Students will write answers to 20 subtraction problems (two-digit numbers from three-digit numbers with regrouping) with no errors, on a worksheet.

2-4a Content

The **content component** describes the specific subject matter to be learned. In the objective given in Example 2.3, the content is “subtraction problems, two-digit numbers from three-digit numbers with regrouping.”

Suggestions when Writing the Content

1. Be specific enough that anyone reading the objective will understand the subject matter.
2. Be sure the description of content can stand alone, that is, be “materials-free.” The reader should be able to understand the content of the objective without tracking down specific materials.

3. Be generic enough that the emphasis is on knowledge and skills that are important and applicable in a variety of contexts.

Common Errors when Writing Content

A common error teachers make is to include content appropriate for an activity or assignment rather than a learning outcome. The following are examples of errors in writing content:

1. Write *adjectives for 10 animals and plants from the rain forest unit.*

Are you looking for knowledge of the rain forest or knowledge of adjectives? This may be a good integrated practice activity, but it is not a clear objective.

2. Present *five facts about a bird of your choice.*

The content is unclear. We do not know what facts are to be learned. Is the real content using reference books to find facts, making presentations, or summarizing from the unit on birds? Don’t confuse an instructional theme with content.

Example 2.4 gives both examples and nonexamples of content.

EXAMPLE 2.4: CONTENT

The content component is italicized in the following examples and nonexamples:

EXAMPLES OF CONTENT

- Add *unlike fractions with common factors between denominators.*
- Write *two-syllable spelling words with -ing endings (e.g., hoping, hopping).*
- Compare and contrast *fables and fairy tales.*

NONEXAMPLES OF CONTENT

- Add *fractions* (not specific); answer *fraction problems 1–7 on p. 42* (not materials-free).
- Write *spelling words* (not specific); complete *Unit 4 in spelling book* (not materials-free).
- Compare and contrast *“The Lazy Princess” and “Lost in the Woods”* (not generic or materials-free).

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**THE CONTENT COMPONENT
WITHIN OBJECTIVES**

- Given a chapter in a textbook, students will construct a *concept map* that includes all main headings and subheadings.
- Students will list the *six steps for treating a burn* as recommended by the American Red Cross, from memory.

2-4b Behavior

The **behavior component** states what students will do to demonstrate their learning. Write the behavior or performance as an observable verb so outcomes can be measured.

In the objective given in Example 2.3, the behavior is “write.” The student will demonstrate knowledge of subtraction by writing the answers to 20 problems. Example 2.5 gives some examples and nonexamples of behavior.

EXAMPLE 2.5: BEHAVIOR**EXAMPLES OF BEHAVIOR**

say	write	list
draw	diagram	paraphrase
operate	throw	volunteer
circle	complete	demonstrate
label	predict	calculate
add	design	select
name	perform	laugh
choose	initiate	put in order
define	compare	contrast

NONEXAMPLES OF BEHAVIOR

know	realize	comprehend
understand	experience	discover
memorize	believe	appreciate
learn	value	be familiar with

**THE BEHAVIOR COMPONENT WITHIN
OBJECTIVES**

- Given 10 incomplete sentences, students will *rewrite* each as a complete sentence that includes a subject and a predicate.
- Students will *demonstrate* all five steps of the “accepting *no* for an answer” social skill in a role-play.

Some of the verbs listed under Examples of Behavior can be made more specific; for example, one could “define” in writing or orally. You must judge how much specificity is needed, but when in doubt, be more specific rather than less. For example, the commonly used verbs “identify” and “recognize” often need further specifics, such as “identify by underlining.”

The verbs listed under Nonexamples of Behavior may be appropriate when writing general goals, aims, outcomes, or standards. However, they are not appropriate for measurable objectives because you cannot be sure that a student “knows” or “comprehends” or has “learned” something unless she does something overt. For example, you may have a goal that your students appreciate poetry. You cannot tell if that objective has been reached unless your students do something (e.g., voluntarily check out poetry books from the library or write poetry without being assigned to do so).

Suggestions when Writing the Behavior

- Decide whether you want students to “identify” or “produce” as you write the behavior component in objectives (Howell and Nolet 2000). A lesson for teaching students to produce or write metaphors will be quite different from a lesson for teaching students to identify or recognize metaphors someone else has written.
- Include only one or two required behaviors in an objective. Objectives that include many behaviors (e.g., students will research, write, draw, and present) make evaluation confusing and often end up being descriptions of activities or assignments rather than learning outcomes.
- Consider including alternate behaviors (e.g., write, type, or say) to provide the flexibility to allow all students, including those with disabilities, to be successful (see Photo 2.2). This is an excellent way to incorporate the principles of universal design for learning or to differentiate instruction.
- Leave out nonessential or redundant behaviors. For example,
 - In the objective, “Students will copy the sentences and circle all nouns,” omit “copy the sentences.” It has nothing to do with the skill of identifying nouns.

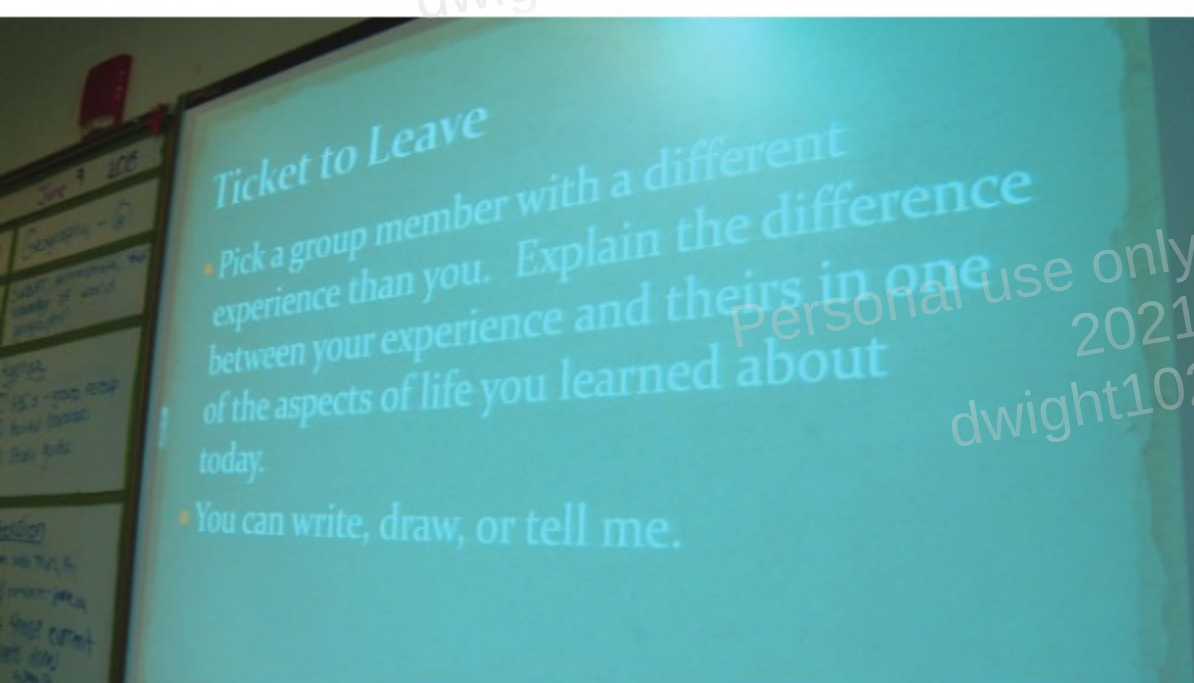


Photo 2.2 This seventh-grade teacher allows her students to demonstrate that they've met the objective in a variety of ways.

- In the objective, “Students will locate and point to . . .,” omit “locate.” If the student is pointing to something, then you can assume he has located it.

5. Omit “be able to” as in the example, “The student will be able to make a speech . . .” The phrase adds words but no meaning. Remember that the performance is important, not an assumed ability or inability.
6. Do not use the phrase, “Student will pass a test on . . .” It does not communicate specific information about what the student will do or learn.
7. Write objectives for what the students will do, not what the teacher will do. Objectives may be written for one student or a group of students.

2-4c Conditions

It is important to describe the conditions—circumstances, situation, or setting—in which the student will perform the behavior. The **condition component** provides additional specificity about what the student will learn. This component describes the conditions that will apply when the student is being evaluated, rather than the learning condition that describes the circumstances or setting in which the learning occurred. In the objective given in Example 2.3, the students must write answers to 20 subtraction problems, with the condition “on a worksheet,” not in a real-world context such as “in a check register.”

Notice that the *italicized* conditions in the following objectives result in three different learning

outcomes. They affect the level of difficulty of the objective and, thus, the lesson and practice activities that you need to plan for your students.

- Students will write the capitals of each of the 17 western states *given a list of the states and a list of the capitals*. (They must recognize state capitals. This is really a matching task.)
- Students will write the capitals of each of the 17 western states *given a list of the states*. (They must recall the state capitals rather than simply recognize them.)
- Students will write the capitals of each of the 17 western states *on a blank outline map*. (They must recall the names and locations of the states and the names of the capitals in order to write the capitals in the correct places.)

Types of Conditions

Various types of conditions may be included in objectives. A very important condition is whether we are asking students to perform a skill in isolation, in context, or in artificial or real-world circumstances. This is important to think about when sequencing objectives and when planning for generalization or transfer of the skill. The information or materials provided—often called the “givens”—may be important to specify. Visualize the evaluation or testing situation and what the students will have available. A third type of condition—a description of the setting or situation—may help clarify the objective as well, especially social skill and learning strategy objectives. Obviously, all conditions need not be mentioned (e.g., the lights will be on in the room). However, be sure to include those that communicate important information about the learning outcome.

You may want to specify whether the student is going to solve mixed math problems or correct mixed grammar errors. Otherwise, you may only be evaluating whether students can figure out the pattern (e.g., all problems require regrouping or all sentences are missing a question mark).

In some cases—for example, when writing objectives for students with severe disabilities or for very young students—it may be important to specify whether students will be performing the behavior independently. Note that the “default” condition typically is without assistance. Example 2.6 gives examples and nonexamples of conditions.

EXAMPLE 2.6: CONDITIONS**EXAMPLES OF CONDITIONS***In isolation or in context*

- Compute measurement equivalents *on a worksheet or while following a recipe*
- Respond to teasing *in a role-play or on the playground*
- Correct punctuation errors *in given sentences or while proofreading an essay*
- Pronounce words *when shown flash cards or in a story*

Information or materials provided

- Given an incomplete proof
- Given population figures for each country
- With a calculator, ruler, scale
- From memory, with nothing provided

Setting or situation

- When given directions
- In the lunchroom
- During teacher presentations
- When teased; when angry; when refused

A combination of conditions

- Given 10 problems and a calculator
- Given eight map terms (key) and a dictionary

Independently or with assistance

- With or without reminders
- With or without physical assistance
- With or without verbal cues

NONEXAMPLES OF CONDITIONS**Describing the learning condition rather than the evaluation condition**

Avoid using conditions such as:

- As a result of my instruction . . .
- Given a lesson on . . .
- After completing the weather unit . . .
- After studying . . .

It doesn't matter where or when the students learned the knowledge or skill. Remember that objectives focus on outcomes.

Adding unimportant information

Avoid using conditions such as:

- When asked by the teacher . . .
- Given a blank piece of paper . . .

Some conditions are obvious and do not need to be written.

Selecting conditions at random from lists of examples

Incorporate conditions that reflect important decisions about how learning will be measured.

THE CONDITION COMPONENT WITHIN OBJECTIVES

- *Before turning in seatwork assignments*, students will write a heading on their papers that includes name, subject, period, and date, on eight consecutive assignments.
- *Given six topics receiving attention during the congressional campaign* (such as end-of-life issues), students will explain in writing how each candidate would likely vote on the issue (explanation must include a rationale supported by facts).

2-4d Criterion

The **criterion component** specifies the level of acceptable performance, the standard of mastery, or the proficiency level expected. This component describes how well (i.e., how accurately, fluently, frequently, or consistently) the students should perform in order to say that they have met the objective. In the objective given in Example 2.3, the criterion is “with no errors.”

Common Errors when Writing the Criterion

1. *The criterion is too low.* Keep high performance standards, especially for basic skills in reading, writing, and arithmetic. Do not confuse setting criteria in objectives with assigning grades. It will take some students longer to reach an objective. You may want to set gradually increasing criteria—50 percent accuracy by October 1; 75 percent accuracy by November 1; 100 percent accuracy by December 1. However, be sure that the final outcome is high enough. If a student is only 80 percent accurate on number recognition, she is doomed to failure in arithmetic.

2. *The criterion is set arbitrarily.* Do not make the error of automatically writing 85 percent accuracy for every objective. Set realistic standards and time limits. Establish criteria either by doing the task yourself or by having a successful peer do the task. Do *not* write: “. . . will say the multiples of 10 from 10 to 100 in 3 minutes” or “. . . locate a word in the online dictionary in 5 minutes.” Try it! If it took you 5 minutes to find a word, you would never choose to use an online dictionary.
3. *“Percent accuracy” is misused.*
 - When there are many possible divergent or complex responses, percent accuracy as the criterion does not make sense. One cannot write a story with 100 percent accuracy nor manage anger with 80 percent accuracy.
 - There needs to be a number of responses for percent accuracy to be sensible—not simply correct or incorrect. For example, choose “name the state you live in” or “correctly name the state you live in,” rather than “name the state you live in with 100 percent accuracy.” Write “turn off the computer correctly” or “without damaging anything” rather than “turn off the computer with 100 percent accuracy.”
 - Sometimes “percent accuracy” works, but it would be too much work to compute. To decide if someone reached 85 percent accuracy in punctuating a story, you would first have to count all of the opportunities for punctuation within the story.
4. *There’s no end in sight.* If the objective is for the student to spell words correctly in all written work, when would you be able to say that a student had met this objective? At the end of his life?

Suggestions when Writing the Criterion

1. Think about how many times you want the students to demonstrate the skill during evaluation to be confident that they have met the objective. For example, do they need to write their addresses five times to prove they can do it? If Jorge responds to teasing appropriately during one recess, are you sure he has learned that skill?

2. Be specific enough so that any evaluator would reach the same conclusion as to whether the student meets the objective. Avoid vague criteria such as “Student will write *descriptive* sentences.” This criterion is not specific enough to determine if the objective of the lesson has been met. The following two sentences cannot be evaluated reliably using this criterion: “The bike is big,” and “Perched on the seat of the bike, I felt like Hillary on the peak of Everest.”
3. Make sure the criterion addresses the skill you want. For example, if the skill you are looking for is writing descriptively, don’t write your criterion as “all words need to be spelled correctly.” Do not write a criterion solely because it is easy to think of. In attempting to make the objective specific and measurable, don’t end up making it trivial!

Example 2.7 gives examples and nonexamples of criteria.

EXAMPLE 2.7: CRITERIA

EXAMPLES OF CRITERIA

As a total number or proportion

- Comparing or contrasting four key issues
- With 10 out of 10 correct
- With 90 percent accuracy

In terms of time

- Within 10 minutes; per minute
- The first time
- For five consecutive days

As a variation

- Within plus or minus 1 inch
- Within 1 percent
- To the closest hundredth

As a description or result

- Until consensus is reached
- Story includes a conflict and resolution
- The strategy selected solves the problem in the fewest steps

Using a combination of criteria

- 50 per minute with 100 percent accuracy by March 10

(Continued from previous page)

- Backing up opinion with data from three relevant research studies
- Paragraphs include topic sentences and at least three supporting details

NONEXAMPLES OF CRITERIA

Does not pass the “stranger test”

- As judged by the teacher
- To teacher’s satisfaction

These obviously do not pass the “stranger test” (Kaplan et al 2017)—that is, they are open to interpretation. A stranger may not interpret them the same way as you do. Remember that one of the purposes of writing objectives is to communicate clearly with students, families, and other teachers and professionals.

THE CRITERION COMPONENT WITHIN OBJECTIVES

- Given addition problems with sums no greater than 18, students will write *40 correct sums* in no more than *1 minute*.
- In a debate, the student will argue for one side of a controversial issue (e.g., capital punishment) and provide *three reasons supported with facts* for that position.

2-4e Help with Including the Four Components in Objectives

When you are learning to write objectives, using a template and scaffold will help ensure that you will include all four components. The template looks like this: The SUBJECT will DO/SAY SOMETHING this WELL in this SITUATION. Figure 2.2 gives labels and descriptors for each component to create a scaffold for writing measurable objectives.

Here are examples of the filled-in template:

- The STUDENTS will TELL the TIME with 100% ACCURACY given PICTURES OF 10 CLOCK FACES.
- HENRY AND MALIA will WALK AWAY from TEASING on 4/4 OCCASIONS at RECESS.
- YUNI will WRITE a SENTENCE that is COMPLETE given a SENTENCE FRAGMENT.

If the objective sounds awkward, rewrite it by changing the order of the components:

- Given a sentence fragment, Yuni will write a complete sentence.

2-4f Practice Writing Objectives

Once you have mastered the skill of writing measurable objectives, planning useful activities and lessons will be easier and less time-consuming. Following are strategies to help you become accurate and fluent at writing objectives. As with other writing tasks, editing and rewriting will always be important.

1. Study the component names and definitions. Paraphrase them.
2. Review the lists of component examples. Explain why each example fits the definition. Create your own examples.
3. Practice writing your own objectives. You may wish to use the objective scaffold (see Figure 2.2).
 - a. Think of a general instructional goal, such as:
 - Know how to use an index.
 - Learn baseball skills.
 - Understand cell division.
 - Distinguish between fact and fiction.
 - Resolve conflicts nonviolently.
 - Do homework.

Figure 2.2 Template and Scaffold for Writing Objectives

COMPONENTS:	behavior	content	criterion	condition
	↑	↑	↑	↑
The <u>SUBJECT</u> will	<u>DO/SAY</u>	<u>SOMETHING</u>	this <u>WELL</u>	in this <u>SITUATION</u> .
DESCRIPTORS:	observable verb	specific, but generic	how accurately, frequently, or consistently	what setting or with what provided

- b. Specify the content (e.g., “index” becomes “subject index” in textbook).
- c. Specify the behavior (e.g., “know how to use” becomes “locate page numbers for topics”).
- d. Add necessary conditions (e.g., “given a textbook and a list of topics”).
- e. Add criteria (e.g., “no errors, within 30 seconds”).

(Notice that there are many possibilities for each component. You may wish to practice writing a variety of objectives on one topic.)

- f. Put the components together into a one- or two-sentence objective. For example, “Given a textbook and a list of topics, the student will locate page numbers for topics in the textbook’s subject index with no errors, within 30 seconds.”
- g. Examine your objective for clarity and conciseness, and rewrite as necessary. For example, “Given a textbook, the student will write the correct page number from the index for four out of four listed topics within 2 minutes.”

After you have written an objective, critique it using Teacher Checklist 2.1. For examples of well-written measurable objectives, see Example 2.8.

TEACHER CHECKLIST 2.1: MEASURABLE OBJECTIVES

- ✓ Are all four components present? Label them.
- ✓ Is each component correct?
 - ✓ Content specific? Generic? Materials-free?
 - ✓ Behavior observable?
 - ✓ Evaluation condition described?
 - ✓ Criterion specific? Measurable? Realistic?
- ✓ Does the objective need editing? Is it wordy? Is it awkward?
- ✓ Does it pass the stranger test?
- ✓ Does it represent an important learning outcome?

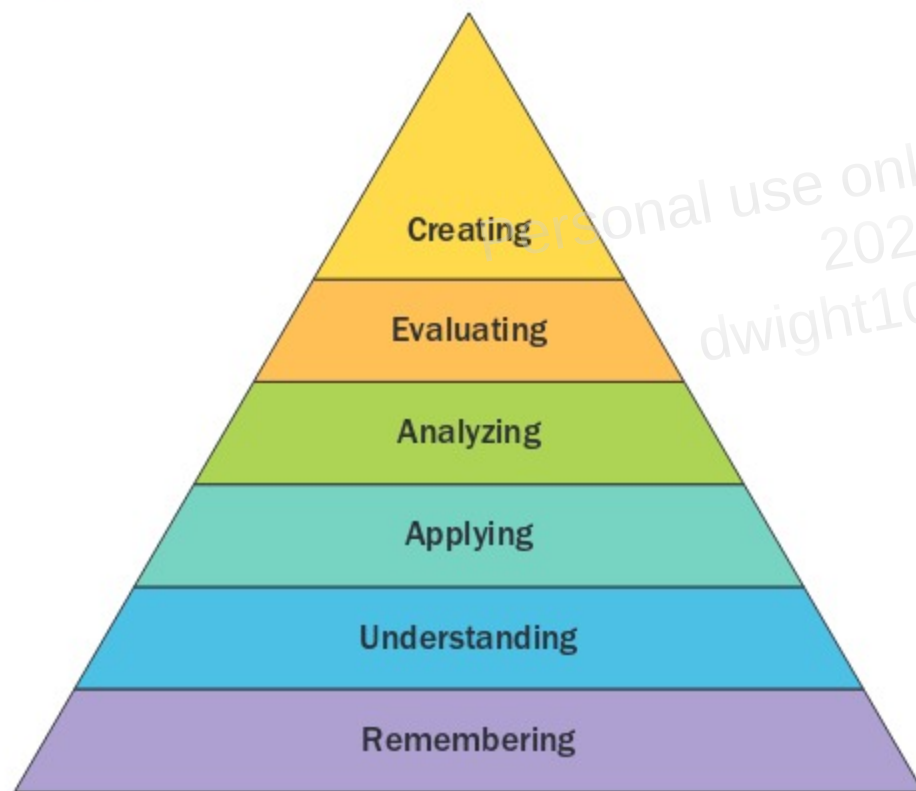
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EXAMPLE 2.8: MEASURABLE OBJECTIVES

- Given 10 sets of five pictures, four of which are related (e.g., belong to the same category, such as vegetables or tools), students will point to the one in each set that does not belong, without error (lesson objective).
- Students will correctly state temperatures, with an accuracy of plus or minus 1 degree, shown on pictures of five thermometers depicting temperatures between 220 degrees Fahrenheit and 95 degrees Fahrenheit (lesson objective).
- Randi will write correct answers to five of five inference questions on a grade-level reading passage (IEP objective).
- Students will return the change from \$1.00, using the fewest possible coins, for four purchases, with no errors (unit objective).
- When the fire alarm sounds for a fire drill, Mr. Springsteen’s class will form a line within 30 seconds and leave the building following the correct route, without teacher prompting (lesson objective).
- Katie and Caleb will correctly compute the amount of wallpaper needed to cover a wall of given dimensions (lesson objective).
- When teased by peers, Fadia will respond by ignoring, walking away, or quietly asking the person to stop in eight out of eight observed opportunities by May 1 (IEP objective).
- Michael will complete all of his independent seatwork assignments during class with at least 90 percent accuracy for two consecutive weeks (IEP objective).

2-5 Bloom’s Taxonomy of the Cognitive Domain

Benjamin Bloom and colleagues (1956) designed a hierarchy of intellectual skills, called **Bloom’s Taxonomy of the Cognitive Domain**. Bloom developed this hierarchy in response to the observation that teaching in schools focused heavily on having students recall facts (low-level thinking) rather than developing their higher-level thinking skills. The six categories in the taxonomy of the cognitive domain are organized in a hierarchy from basic

Figure 2.3 Bloom's Levels

understanding of information to high-level information processing (see Figure 2.3). The taxonomy was originally developed to help teachers recognize the varying degrees of complexity involved in various classroom activities so they could construct objectives that included higher-level learning outcomes.

Bloom's taxonomy has been used in classrooms in a variety of ways since it was developed, and we discuss two of those applications. One application helps teachers plan questions that promote various kinds of thinking. You will read about these questions in Chapter 4. The other application helps teachers write objectives. Heacox (2002) writes that one of the most important applications of Bloom's taxonomy is in the design of learning activities: "Looking at instruction through the lens of *challenge* means considering the rigor, relevance, and complexity of what you're teaching" (p. 67). By thinking about the instructional challenges of various outcomes included in objectives, teachers can plan for variation and avoid focusing solely on lower-level thinking skills.

A group of Bloom's students revised the taxonomy that Bloom and colleagues designed. Lorin Anderson and others (Anderson and Krathwohl 2001) updated the taxonomy so it would better mesh with current theories about how children learn. The taxonomy has been renamed "taxonomy for learning, teaching, and assessing" (Arends 2012). When we present each level of Bloom's taxonomy, we will use the label and order from the revised version.

Remembering. This is the lowest level of the cognitive domain. The learning outcome here is the simple recall of facts and information. The information to be recalled can be quite complicated, but nonetheless, all that is required is for one to remember and recall it.

- General types of outcomes: knows specific facts, concepts, methods, and procedures
- Behavior stem examples: define, tell, name, label, recite, match
- *Sample objective:* Teacher education students will recite the names of the levels of Bloom's Revised Taxonomy in order from simple to complex, from memory, without error.

Understanding. The learning outcome at the understanding level of the cognitive domain is comprehension. Here students go beyond mere recall and show that they comprehend.

- General types of outcomes: interprets charts and graphs, estimates future consequences implied in data, understands facts and principles
- Behavior stem examples: restate/rewrite, give an example of, recognize examples, summarize, describe, paraphrase, conclude
- *Sample objective:* When given a list of the levels of the cognitive domain, teacher education students will define the learning task for each, in their own words, with no more than one error.

Applying. The application level refers to an outcome where students use the new information they have learned. This requires a higher level of understanding than does comprehension.

- General types of outcomes: constructs charts and graphs, applies concepts and principles to new situations, demonstrates correct usage of a method or procedure
- Behavior stem examples: predict, solve, demonstrate, operate, illustrate, solve, construct
- *Sample objective:* When given a list of 12 objectives, teacher education students will select those that are at the application level with 100 percent accuracy.

Analyzing. When students analyze information, they break it down so they can understand the parts as well as the whole. This outcome requires that students understand both the content and the structural form of the material.

- General types of outcomes: distinguishes between facts and inferences, analyzes the organizational structure of a work (art, music), evaluates the relevancy of data
- Behavior stem examples: compare, contrast, categorize, diagram, outline, subdivide, distinguish
- *Sample objective:* When shown a list of objectives from a social studies unit, teacher education students can support their conclusion that the writer did or did not include objectives from all levels of the cognitive domain, citing specific examples of each.

Evaluating. The learning outcome for evaluation is one of the highest levels, because in order to evaluate, one must use information from the other levels. Evaluation is not random, but rather occurs against a set of criteria.

- General types of outcomes: judges the adequacy of a rationale, rates how well a written product meets established criteria, selects the most appropriate example
- Objective stem examples: select, predict, rate, explain, justify, interpret, support
- *Sample objective:* When given three lesson plans, teacher education students can judge the quality of each and decide which best encourages higher-level thinking skills, giving at least three reasons for this judgment.

Creating. This learning outcome of the cognitive domain is where students take the information they know and put it together into something new. The main idea is the creation of something new to the student.

- General types of outcomes: writes a clearly organized research paper, creates a plan for an experiment to test a hypothesis, designs a new system for organizing information
- Behavior stem examples: produce, design, develop, reorganize, combine, compose, devise
- *Sample objective:* Given a topic, teacher education students will accurately write objectives that represent each level of the cognitive domain.

Bloom's taxonomy can be used to help you write effective, relevant objectives. As you plan, make sure that you write objectives that encourage higher-level thinking as well as those that provide

students with basic information. This does not mean that your goal should be to include an objective for higher-level thinking in every lesson or activity you teach, as this is probably not reasonable. Rather, strive to emphasize higher-level thinking as often as possible. Objectives written to reflect a variety in outcomes better meets the needs of a diverse group of students. Take a look at Example 2.9 to see the same content reflected in different levels.

EXAMPLE 2.9: OBJECTIVES WRITTEN AT VARIOUS LEVELS OF REVISED BLOOM'S TAXONOMY

Remembering: Students will name two types of graphs (bar graph and line graph), from memory.

Understanding: Students will explain information displayed on a given line graph.

Applying: Students will draw a bar graph given information for five different groups.

Analyzing: Students will compare the design of two different graphs of the same information.

Evaluating: Students will judge which of two given graphs best displays information and why.

Creating: Students will design a new type of graph (not a bar or line graph) to effectively display given information.

2-6 Responding to Skill Diversity when Planning the Objective

Consider the following when writing objectives for students with disabilities:

- Be sure that your objective represents important learning and is connected to generalizations and big ideas, state standards, and IEP goals.
- Pretest to make sure the objective is necessary for students.
- Examine the criterion. Is it at the right level? Basic skills that are prerequisites for higher-level skills need high criterion levels. For example, 100 percent accuracy is necessary for letter recognition because that is an important basic skill needed for acquiring later skills. On the other hand, 100 percent accuracy in distinguishing reptiles from amphibians may not be necessary.

- Examine the condition. Is it realistic? Students may be more motivated to reach objectives when they can see the real-world applications.
- After analyzing prerequisite skills, the objective for individual students may need to be altered. For example, could students who have poor writing skills demonstrate that they can recognize the key conflict in a short story by saying it rather than writing it? Could students who are inaccurate on multiplication facts demonstrate that they know how to find the area of a rectangle using a calculator? In other words, the purpose of altering the objective is to allow the

student to go on learning, not to be held back by those writing or multiplication difficulties. On the other hand, in most cases, the student continues to need instruction and practice on writing and multiplication.

- Don't rush to make changes in the curriculum for students with learning problems. Changes may affect success in upper grades, options for employment, or further schooling in the long term. Having a student draw a picture or sing a song rather than write a paragraph may provide momentary success, but it is unlikely to be an option offered by future employers.

Summary

Be sure to begin your lesson or activity planning with a clear idea of what you want your students to learn. Writing a specific, measurable objective will cause you to think this through. When teachers experience frustration with a particular lesson or activity, it is often the case that they are unable to clearly state what students were to learn. Using the process of backward planning will prevent this problem. First, decide where you want them to be. Then decide on the steps needed to get there. Next, decide how you'll know they got there, and last, how to get them there. (See the Teaching Plans in the appendix for examples of both long- and short-term objectives connected to standards.)

Remember to keep the following ideas in mind when you are writing objectives.

- Write objectives that describe learning *outcomes*, not activities or assignments (Tenbrink 2014).

NOT: Wyatt will write spelling words missed on the pretest five times each.

NOT: Students in pairs will take turns throwing dice, adding the numbers together, and stating the total.

NOT: Students will play a quiz show game in which they divide into two teams, and ask and answer questions from Chapter 4 in the social studies book.

NOT: Ben will write letters to the main character in the story.

- Keep objectives clean and simple. Save creativity for instruction.

NOT: Students will demonstrate their understanding of the reasons that pandas were endangered by graphing the average number of panda babies born and the number of pandas who died per year for the last 10 years.

NOT: Students will create a poster that demonstrates their knowledge of modern Mexican culture.

- Be sure to write objectives that represent *important* learning outcomes!

NOT: Michelle will write the names of the counties in each state in the United States from memory without error.

Key Terms & Definitions

Behavior component: The component of a measurable objective that states what students will do to demonstrate their learning.

Bloom's Taxonomy of the Cognitive Domain: A way to classify objectives by levels of thinking.

Common Core State Standards: Learning outcomes in language arts and math intended for K–12 students across all states where they have been adopted.

Condition component: The component of a measurable objective that describes the circumstances in which the student will perform the behavior.

Content component: The component of a measurable objective that describes the specific subject matter to be learned.

Criterion component: The component of a measurable objective that describes the level of acceptable performance.

Measurable objectives: Describe a specific objective or outcome with assessment or evidence of learning built in.

Objectives: Outcomes that describe what students are to learn.

State standards: General learning outcomes in various content areas for K–12 students in the state.

Portfolio Pointers

- In your planning documents, highlight the measurable objectives you developed that allow you to monitor student progress toward the achievement of important learning outcomes. (InTASC Standard 6: Assessment)

- In your planning documents, draw attention to the backward planning steps you followed as you created learning experiences appropriate to standards, goals, and specific outcomes. (InTASC Standard 7: Planning for Instruction)