

## INSTRUCTIONAL PLANNING AND ASSESSMENT



### CHAPTER OBJECTIVES

After reading this chapter, you will be able to:

- Define curriculum, instruction, achievement, and ability
- Cite the basic steps comprising the instructional process
- State the main considerations in planning instruction
- Outline the three levels of teaching objectives
- Describe instruction and assessment in terms of the cognitive, affective, and psychomotor domains of behaviour
- Construct effective learning expectations or outcomes
- Outline instructional planning ideas for accommodating students with exceptionalities

**A**udra is preparing for her practice teaching placement in a school located in Kuujuaq, an Inuit community near Ungava Bay in Quebec. As a person born and raised in this community, Audra is eager to provide the best possible learning experiences for her Aboriginal students. She realizes the importance of the instructional process, including planning for instruction, delivering the planned instruction, and assessing how well her students achieve the outcomes that she will include in her plans. Undaunted by the complexity of the task ahead, Audra begins to collect and organize the resources and documents that she will need, looking forward to the meaningful instruction and assessment that she will provide for her eager students.

The purpose of schools is to educate students, but what does it mean to educate? Under what circumstances can a teacher claim credit for helping to educate a student? To **educate** means to help students change and to help them learn and do new things. When teachers have helped students to read, identify parts of speech in a sentence, use the scientific method, or write a cohesive paragraph, they have educated these students. Many experts describe education as a process intended to help students change in important and desirable ways. This view leads to a fundamental question all teachers have to ask themselves: what do I want my students to know or be able to do following instruction that they did not know or do at the start of instruction? Education is the process of fostering these important and desired student changes.

It is important to point out, however, that this view of education is not the only possible one. Thoughtful critics often suggest that education conceived solely as a process of preplanned student behaviour change can lead to a preoccupation with narrow expectations or learning outcomes and afford the student virtually no role in the creation of his or her own educational program. Critics recognize the importance of a teacher's ability to artistically build upon a student's prior experience and to seek multiple, not necessarily predefined, outcomes from instruction. But despite the merits of alternative views, education for most teachers is conceived, practised, and assessed with the primary function of helping to change learners in desired ways.

A **curriculum** describes the skills, performances, knowledge, and attitudes students are expected to learn in school. The curriculum contains expectations or learning outcomes, which are statements of desired student learning, and descriptions of the methods and materials that will be used to help students attain this. The methods and processes actually used to change students' behaviour are called **instruction**. Lectures, discussions, worksheets, cooperative projects, and homework are but a few of the instructional techniques used to help students learn.

Students undergo many changes during their school years, and many sources beside the school contribute to these changes: maturation, peer groups, family, reading, and TV, among others. The term **achievement** is used to describe school-based learning, while terms like **ability** and

*Education is the process of helping to change students' knowledge and behaviour in desired ways.*

*Achievement refers to school-based learning, while ability and aptitude refer to broader learning acquired mostly through nonschool sources such as parents and peer groups.*

**aptitude** are used to describe broader learning that stems from nonschool sources. Since the focus of schooling is to help students develop particular behaviours, understandings, and processes, almost all of the formal tests that students take in school are intended to assess their achievement. The Friday spelling test, the unit test on chemical equations, the math test on the Pythagorean theorem, the delivery of an oral speech, the autobiography, and midterm and final examinations all should focus on assessing student achievement—that is, what they have learned of the things that were taught in school.

The central concept in this chapter is that planning and assessment should be driven by a clear knowledge of expectations or learning outcomes about what students will learn and master. Some have called this a backward approach to planning, inasmuch as it starts by defining the intended results (Wiggins & McTighe, 1998). Indeed it is; and in this case “backwardness” is a virtue.

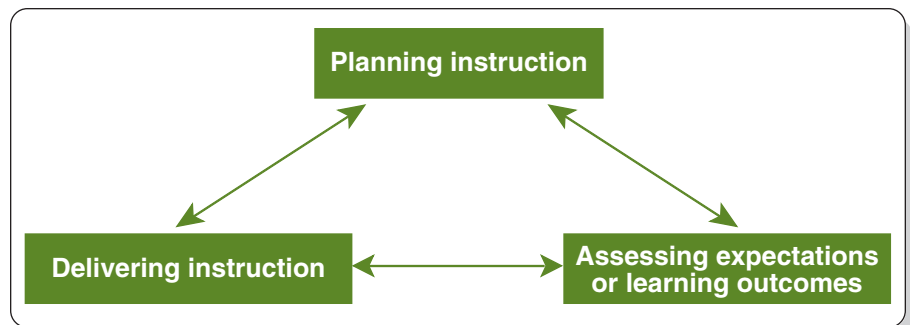
## THE INSTRUCTIONAL PROCESS

*The instructional process involves three interdependent steps: planning, delivering, and assessing.*

The instructional process comprises three basic steps. The first is *planning instruction*, which includes identifying specific expectations or learning outcomes, selecting materials to foster these expectations or outcomes, and organizing learning experiences into a coherent, reinforcing sequence. The second step involves *delivering the planned instruction* to students, that is, teaching them. The third step involves *assessing how well students learn or achieve the expectations or outcomes*. Notice that to carry out the instructional process the three steps should be aligned with one another. That is, the planned instruction should be logically related to the actual instruction and the assessments should relate to the plans and instruction.

Figure 3.1 shows these three steps and the relationships among them. Notice that the diagram is presented as a triangle rather than as a straight line. This indicates that the three steps are interrelated in a more complicated way than a simple one-two-three sequence. For example, in planning

**FIGURE 3.1**  
*Steps in the Instructional Process.*



instruction (step 1), the teacher considers the characteristics of students and the resources and materials available to help attain desired changes (step 2). Similarly, the information gained at the time of student assessment (step 3) is useful in assessing the appropriateness of the learning experiences provided students (step 2) and the suitability of intended expectations or learning outcomes (step 1). Thus, the three steps are interdependent pieces in the instructional process that can be aligned in different orders.

All three steps in the instructional process involve teacher decision making and assessment. Obviously step 3, assessing expectations or learning outcomes, involves the collection and synthesis of formal information about how well students are learning or have learned. But the other two steps in the instructional process are also dependent upon a teacher's assessment activities. For example, a teacher's planning decisions incorporate information about student readiness, appropriate methods, available instructional resources, materials, student culture, language, and other important characteristics obtained from diagnostic assessments. Similarly, during instruction the teacher employs formative assessment to obtain information to help make decisions about lesson pace, reinforcement, interest, and comprehension. Remember that formative assessment includes observations and feedback intended to alter and improve students' learning while instruction is taking place. Thus, the entire instructional process, not just the formal assessment step, depends upon decisions that rely on assessment evidence of various kinds.

The processes of planning and providing instruction are important activities for classroom teachers. Not only do they occupy a substantial amount of their time, but teachers define their teaching rewards in terms of their students' instructional successes. Teachers like to work with students, make a difference in their lives, and experience the joy of a student "getting it." Teachers feel rewarded when they know that their instruction has reached their students. Since the classroom is where pride in teaching is forged, it is not surprising to find that teachers guard their classroom instructional time jealously. They want few interruptions to distract them from teaching their students.

*All three steps in the instructional process involve assessment and teacher decision making.*

*Teachers define their own success and rewards in terms of their students' learning.*

## INSTRUCTIONAL PLANNING

The true rewards of teaching are identified in terms of the impact that the teachers' instruction and mentoring has upon students. Pride in teaching does not come from collecting lunch money, planning field trips, meeting the morning bus, and the thousand other semiadministrative tasks teachers perform. It comes from teachers' knowledge that they have taught students to do, think, or perform some things they otherwise would have been unable to do, think, or perform.

Teachers plan in order to modify the curriculum to fit the unique characteristics of their students and resources. To plan, teachers reflect on and integrate information about their students, the subject matter to be taught, the curriculum they are following, their own teaching experience, the resources available for instruction, the classroom environment, and other factors. Their reflection and integration of these factors leads to an instructional lesson plan. The plan helps teachers allocate instructional time, select appropriate activities, link individual lessons to the overall unit or curriculum, sequence activities to be presented to students, set the pace of instruction, select the homework to be assigned, and identify techniques to assess student learning.

Planning helps teachers in five basic ways:

1. By helping them feel comfortable about instruction and giving them a sense of understanding and ownership over the teaching they plan.
2. By establishing a sense of purpose and subject matter focus.
3. By affording the chance to review and become familiar with the subject matter before actually beginning to teach it.
4. By ensuring that there are ways in place to get instruction started, activities to pursue, and a framework to follow during the actual delivery of instruction.
5. By linking daily lessons to broader integrative goals, units, or curriculum topics.

Classrooms are complex environments that are informal rather than formal, ad hoc rather than linear, ambiguous rather than certain, process-oriented rather than product-oriented, and people-dominated rather than concept-dominated. The realities and strains of the classroom call for order and direction, especially when teachers are carrying out formal instruction. In such a world, some form of planning and organization is needed.

Planning instruction is a context-dependent activity that includes consideration of students, teacher, and instructional materials. A lesson that fails to take into account the needs and prior knowledge of the students or that poorly matches lesson aims to lesson instruction is doomed to failure. Similarly, a lesson that does not take into account the context in which it will be taught can also lead to difficulty.

Teachers have a great deal of control over many classroom features associated with instructional planning. For example, most teachers have control over the physical arrangement of the classroom, the rules and routines students must follow, the interactions with students, the kind of instruction planned and the nature of its delivery, and the methods used to assess and grade students. However, there are important features that teachers do not control. For example, most teachers have little control over the number and characteristics of the students in their classes, the size of their classroom, the quality of their instructional resources, and the Ministry/Department curriculum guidelines. In planning, teachers must arrange the factors they do control to compensate for the factors they do not.

**TABLE 3.1** Comparison of Two Classroom Contexts

<b>Classroom A</b>	<b>Classroom B</b>
22 students	34 students
Range of student abilities	Mainly low-ability students
Strong student self-control	Poor student self-control
Good prerequisite skills	Range of prerequisite skills
Intense parental interest	Moderate parental interest
10-year-old textbooks	New textbooks
Poor computer access	Excellent computer access
Small classroom size	Large classroom size
Individual student desks	Students sit at four-person tables
Little colleague support	Strong colleague support

Table 3.1 compares two teachers' classroom situations. Imagine that these classrooms are at the same grade level. Suppose the teachers are each planning a lesson on the same topic. Teachers normally would have little control over these characteristics of their classrooms. How might these different classroom characteristics influence the ways these two teachers plan instruction? What features are especially influential in determining teaching plans? Which characteristics would be advantageous to a teacher and which ones might be disadvantageous? Do you think the teachers would construct identical instructional plans? In what ways might they differ? The following discussion examines in more detail how student and teacher characteristics as well as instructional resources can affect instructional planning.

## *Student Characteristics*

Initial and extremely important considerations when planning instruction are the present status and needs of the students. What are they developmentally ready to learn? What topics have they mastered thus far in the subject area? How complex are the instructional materials they can handle? How well do they work in groups? What exceptionalities do they have and how are they accommodated? What is the range of students' culture and language in a given classroom? What are their learning styles? The answers to these questions provide needed and valuable information about what and how to teach. Note that teachers obtain much of the information to answer these questions from their diagnostic assessments.

At the start of the school year, most teachers begin instruction by reviewing subject matter concepts and skills normally mastered in the prior grade or course. The information gained in such a review provides



the most direct evidence about students' readiness and needs. It is especially important to assess readiness and needs in those subjects that are sequentially organized, such as mathematics and language arts. The structure of these subjects is such that concepts and ideas build upon one another. For example, in order to do long division problems correctly, a student must be able to use the processes of addition, subtraction, regrouping, and multiplication. Thus, it would make little sense for a teacher whose students did not understand regrouping and multiplication to teach only long division, even though it might be a specific curriculum expectation or learning outcome.

It is obvious that student characteristics such as exceptionality, readiness, independence, and self-control should be taken into account in planning instructional activities. To ignore these factors would be irrational. However, it is very important to recognize that much of the needed information comes to teachers from their diagnostic assessments. Consequently, it is crucial that teachers strive to make these assessments as valid and reliable as possible.

*When planning instruction, teachers should take their own characteristics and knowledge into account along with their students' characteristics and the time and resources available.*

### ***Teacher Characteristics***

Most beginning teachers do not take their own characteristics into account when planning instruction. However, subject matter knowledge, personality, and physical limitations are important factors in planning and delivering instruction. It is impossible for teachers to know everything about all the topics they teach. Nor can they be expected to keep abreast of all advances in subject matter knowledge or pedagogy. Consequently, the topics teachers choose to cover, the accuracy and up-to-dateness of their topical coverage, and their teaching methods all are influenced by their own knowledge limitations. Moreover, teachers' personalities often lead them to favour certain instructional techniques over others. While individual preferences are to be expected among teachers, it is important to understand that when carried to the extreme, they can result in an overly narrow repertoire of teaching methods. This has the potential to limit learning opportunities for those students who could learn better from other instructional techniques. Finally, since teaching is a rigorous, fatiguing activity, teachers should consider their own physical limitations when planning instruction. This caution is especially appropriate for beginning teachers, whose enthusiasm and lack of experience often lead them to overestimate what they can physically accomplish in the classroom.

### ***Instructional Resources***

The instructional resources available to a teacher influence not only the nature of instruction but also how effectively the expectations or learning

outcomes can be met. The term *resources* is used here in its broadest sense to include available supplies, equipment, space, educational assistants or volunteers, textbooks, and time. Each of these resources influences the nature of instruction and therefore the student achievements that can be pursued.

A Grade 2 teacher may wish to have his or her students construct felt pictures of book covers, but is unable to because the school cannot afford to provide the felt. A biology teacher may wish his or her class to learn about the internal organs of a frog by having each student perform a frog dissection. However, if the school has no biology laboratory and no dissecting equipment, the teacher must forgo this expectation or learning outcome. In these and other ways, material resources matter.

Educational assistants or volunteers who read to students, work with small groups, or serve as tutors during a unit on the computer can free the classroom teacher to plan and pursue enrichment activities that might not have been possible otherwise. Resources of all kinds are important to consider when planning instruction.

Another resource that greatly influences what is planned, taught, and learned in classrooms is the textbook. More than any other single resource, the textbook determines instructional plans in many classrooms. A large part of students' learning time and a large part of the teacher's instructional time are focused on textbook use.

The teacher's edition of most textbooks contains many resources to help teachers plan, deliver, and assess instruction. However, teachers should not abdicate their planning, teaching, and assessment decision-making responsibilities, which require a teacher to carefully assess the adequacy of the textbook objectives and other materials in terms of student needs and resources. Two recent critics of textbooks assert that many textbooks are too long and at the same time superficial and poorly organized for constructing effective classroom objectives (Daniels & Zemelman, 2004). They note that another potential limitation is to base instructional objectives solely on a textbook; this tends to steer students toward accepting one authority and one point of view.

Teachers should screen textbook objectives using three criteria: (1) Are the objectives and text materials clearly stated? (2) Are the objectives and text materials suitable for students in this particular classroom? (3) Do the objectives and text materials exhaust the expectations or learning outcomes and activities to which these students should be exposed? The following are considerations for each of these three criteria.

The first criterion examines the way objectives and instructional plans are stated. Do objectives and instructional plans contain a clear description of the process and content knowledge the students will learn and the instructional activities that enhance learning? Most, though not all, textbook objectives do provide a clear description of the desired process and content knowledge. In the event that the textbook author's objectives are vague and ambiguous, the teacher must define these terms, recognizing

*To slavishly follow the lessons in a textbook is to abdicate instructional decision making.*



that his or her definition may differ from the author's and thus may not be reflected in the instructional suggestions and materials that accompany the textbook.

The second criterion examines appropriateness for particular students. When teachers develop their own plans, they take into account the status, needs, and readiness of the students. Textbook authors, however, can only state a single set of objectives and plans. Often these objectives and plans are more suitable for some students than for others. Consequently, teachers must ask, "Do my students have the prerequisites needed to master the textbook objectives? Can they be taught these objectives in a reasonable amount of time? Will the lesson activities interest them? Do the lesson activities pertain to all the important expectations or learning outcomes in the unit?"

The final criterion examines completeness. Do the textbook objectives exhaust the important expectations or learning outcomes students should learn? Lesson plans in textbooks tend to emphasize structured didactic methods in which the teacher either tells the students things or elicits brief replies to teacher questions. Lessons using such objectives are easier to devise and present than divergent, complex ones. Relatively few textbook objectives call for synthesis or analysis of ideas, themes, or topics. Although teachers commonly omit topics from a textbook when teaching, they rarely introduce new topics that are not in the textbook. If teachers wish to include or emphasize higher-level objectives in their instruction, they may be forced to break this pattern and introduce additional objectives that round out student learning.

If the textbook material appears useful after all three of these criteria have been applied, then a teacher may use the textbook to help focus instruction and assess student learning. Table 3.2 summarizes the advantages and disadvantages of textbook objectives and instructional plans.

**TABLE 3.2** Advantages and Disadvantages of Textbook Objectives and Instructional Plans

<b>Advantages</b>	<b>Disadvantages</b>
Convenient, readily available objectives and plans	Designed for teachers and students in general, not necessarily for a given teacher or class
Can save valuable time in planning	Heavy emphasis on lower-level objectives and activities
Provide an integrated set of objectives, plans, and assessments	Lesson activities tend to be didactic and teacher-led
May contain ancillary materials for planning, instructing, and assessing	If accepted uncritically, can lead to inappropriate instruction for students

TABLE 3.3 Areas to Consider When Planning Instruction

Student Characteristics	Teacher Characteristics	Instructional Resources
Prior knowledge	Content knowledge	Ministry/Department curriculum expectations/ learning outcomes
Prerequisite skills and knowledge	Instructional method preferences	Time
Work habits, socialization	Assessment preferences	Textbook materials
Special learning needs	Physical limitations	Technology
Learning styles		Collegial and administrative support
Cultural/language differences		Other resources (space, educational assistants, equipment)
Exceptionalities		

A final important, though often overlooked, resource that greatly influences teacher planning is time. Because there is never enough time to teach students all the important skills and concepts in a subject area, teachers must carefully match their instructional time to the curriculum expectations or learning outcomes. Each teacher's decisions about what content to stress or omit is based in part on the instructional time available. When a teacher skips a concept, unit, or chapter in a textbook, the teacher is saying, "All other things being equal, I prefer to spend my limited instructional time focusing on other topics and skills that are more important."

While teachers make decisions about the allocation of instructional time daily, it is often in the last few weeks of the school year that these decisions become most apparent. The end of the school year always seems to arrive before all the planned topics can be taught. At this point, explicit decisions about how to allocate scarce time are made: "We must cover subtraction of fractions before the end of the year, but we can omit rate, time, and distance word problems." "If I don't finish parts of speech this year, next year's teacher will be upset. I'll take the time from the poetry unit to work on parts of speech." Time is a limited resource that has important consequences for planning instruction. Table 3.3 summarizes student, teacher, and instructional resources and considerations.

## THREE LEVELS OF TEACHING OBJECTIVES

In our everyday activities, objectives help us focus on what's important; they remind us of what we want to accomplish. Instructional objectives describe the kinds of content and processes teachers hope their students will learn from instruction. Canadian provinces and territories use the terms *expectations* or *learning outcomes* instead of objectives. Whatever they are called, objectives are important in developing lesson plans. Teachers need to be aware of these objectives and support their students to meet them. Similarly, if teachers don't identify their objectives, instruction and assessment will be purposeless.

Objectives are particularly crucial in teaching because teaching is an intentional and normative act. Teaching is intentional because teachers teach for a purpose; they want students to learn something as a result of teaching. Teaching is also normative because what teachers teach is viewed by them as being worthwhile for their students to learn. In fact, it would be unethical for teachers to teach things that they did not believe were beneficial to students.

Because teaching is both intentional and normative, it always is based on expectations or learning outcomes. Normative teaching is concerned with selecting expectations or learning outcomes that are worthwhile for students to learn. Intentional teaching is concerned with issues of how teachers will teach these expectations or learning outcomes—what learning environments they will create and what methods they will use to help students learn the intended expectations or learning outcomes. Although expectations or learning outcomes may sometimes be implicit and fuzzy, it is best that they be explicit, clear, and measurable.

Expectations or learning outcomes can range from very general to very specific. Compare the following two expectations or learning outcomes: "The student can add three one-digit numbers," and "The student will become mathematically literate." Clearly the former is more specific than the latter. Notice how different instructional time, learning activities, and range of assessments would be needed for the two expectations or learning outcomes. Because objectives vary widely in specificity, a more limited framework for discussing objectives is commonly used. Three levels of abstraction represent degrees of objective specificity: global, educational, and instructional (Krathwohl & Payne, 1971). Note that regardless of the type or specificity of an objective, its focus should always be on *student* learning and performance.

**Global objectives**, often called "goals," are broad, complex student learning outcomes that require substantial time and instruction to accomplish. They are very general, encompassing a large number of more specific objectives. Examples include:

- The student will become a lifelong learner.
- The student will become mathematically literate.

*There are three general levels of objectives: global, educational, and instructional, ranging from most broad to least broad.*

- Students will learn to use their minds well, so that they may be prepared for responsible citizenship, further learning, and productive employment.

Because they are broadly inclusive, global objectives are rarely used in classroom assessment unless they are broken down into more narrow objectives. Global objectives mainly provide a rallying cry that reflects what is important in education policy. The breadth encompassed in global objectives makes them difficult for teachers to use in planning classroom instruction. Narrower objectives are needed to meet classroom needs.

**Educational objectives** represent a middle level of abstraction. Here are several examples:

- The student can interpret different types of social data.
- The student can correctly solve addition problems containing two digits.
- The student distinguishes between facts and hypotheses.

Educational objectives are more specific than global objectives. They are sufficiently narrow to help teachers plan and focus teaching, and sufficiently broad to indicate the richness of the objective and to suggest a range of possible student outcomes associated with the objective.

**Instructional objectives** are the least abstract and most specific type of objective. Examples of instructional objectives include:

- The student can correctly punctuate sentences.
- Given five problems requiring the student to find the lowest common denominator of a fraction, the student can solve at least four of five.
- The student can list the names of the Canadian provinces and territories.

Instructional objectives focus teaching on relatively narrow topics of learning in a content area. These concrete objectives are used in planning daily lessons.

Table 3.4 illustrates the difference in degree of breadth among the three types of objectives and compares their purposes, scopes, and time frames. The distinctions among these three levels of objectives are far more than semantic. The level at which an objective is stated influences its use in planning, instructing, and assessing. For example, the perspectives of teachers planning instruction and assessment for a global objective such as “The student will become mathematically literate” are quite different from those of teachers planning instruction and assessment for an instructional objective such as “The student will write common fractions in their lowest terms.” Thus, the level at which an objective is stated—global, educational, or instructional—has an impact on the manner in which processes such as planning, instructing, and assessing will be structured and carried out.

TABLE 3.4 Comparing the Three Levels of Teaching Objectives

Level of Objective	Global	Educational	Instructional
Scope	Broad	Intermediate	Narrow
Time to accomplish	One or more years	Weeks or months	Hours or days
Function	Provide vision	Develop curriculum, plan instruction, define suitable assessments	Plan teaching activities, learning experiences, and assessment exercises
Examples of breadth	The student will acquire competency of worldwide geography	The student will gain knowledge of devices and symbols in maps and charts	Given a map or chart, the student will correctly define six of the eight representational devices and symbols on it
	The student will be aware of the role of different levels of government in Canada	The student will interpret various types of social data	The student can interpret bar graphs describing population density
	The student will know how to repair a variety of home problems	The student will use appropriate procedures to find solutions to electrical problems in the home	Given a home repair problem dealing with a malfunctioning lamp, the student will repair it

## THREE DOMAINS OF OBJECTIVES

*Classroom assessments cover cognitive, affective, and psychomotor behaviours.*

By this point it should be clear that objectives are logically and closely tied to instruction and assessment. In addition to differing in terms of level, classroom objectives (and their related instruction and assessments) differ in terms of three general types of human behaviour: the cognitive, affective, and psychomotor domains.

### *The Cognitive Domain*

*Cognitive assessments involve intellectual activities such as memorizing, interpreting, applying, problem solving, reasoning, analyzing, and thinking critically.*

The most commonly taught and assessed educational objectives are those in the cognitive domain. The **cognitive domain** includes intellectual activities such as memorizing, interpreting, applying, problem solving, reasoning, analyzing, and thinking critically. Virtually all the tests that students take in school are intended to measure one or more of these cognitive activities. Teachers' instruction is usually focused on helping students attain cognitive mastery of some content or subject area. A weekly spelling

test, a unit test in history, a worksheet on proper use of *lie* and *lay*, an essay on supply and demand, and an oral recitation of a poem all require cognitive behaviours. The School Achievement Indicators Program (SAIP), the written part of a provincial or territorial driver's licence, an ability test, and standardized achievement tests such as the *Canadian Achievement Test* (CAT-3), the *Woodcock Reading Mastery Tests* (WRMT-R), or the *Gates-MacGinitie Reading Tests, 2nd Edition* (GMRT-2) are all intended to assess students' cognitive behaviours.

### ***Bloom's Taxonomy***

The many cognitive processes have been organized into six general categories. This organization is presented in the *Taxonomy of Educational Objectives: Book 1, Cognitive Domain* (Bloom et al., 1956). Commonly referred to as Bloom's Taxonomy, or the Cognitive Taxonomy, it is widely used by teachers to describe and state cognitive objectives.

A taxonomy is a system of classification. Bloom's cognitive taxonomy is organized into six levels, with each successive level representing a more complex type of cognitive process. Starting with the simplest and moving to the most complex, the six cognitive taxonomic processes are knowledge, comprehension, application, analysis, synthesis, and evaluation (see Table 3.5). It is important to note that in Bloom's Taxonomy "knowledge" refers only to memorizing and remembering information. It does not include other kinds of cognitive processes. The table provides some action verbs indicative of each cognitive process of Bloom's Taxonomy, and the general description of each process. Table 3.5 also lists sample objectives derived from Bloom's Taxonomy.

In recent years, besides Bloom's Taxonomy, other systems of cognitive-related objectives have been developed (Anderson et al., 2001; Marzano, Pickering, & McTighe, 1993). Although these taxonomies have extended the reach of objectives, Bloom's taxonomy remains the most used in assessment.

Although cognitive taxonomies can differ in the particular levels or categories they include, their most important function is to remind teachers of the distinction between higher- and lower-level thinking behaviours. In general, any cognitive behaviour that involves more than rote memorization or recall is considered to be a **higher-level cognitive behaviour**. Thus, the knowledge level of Bloom's Taxonomy represents **lower-level cognitive behaviour**, since the focus is upon memorization and recall. All succeeding levels in these taxonomies represent higher-level behaviours that call for students to carry out thinking and reasoning processes more complex than memorization. There is a growing emphasis in classroom instruction and assessment to focus upon teaching students higher-order thinking skills that go beyond rote memorization.

*Lower-level cognitive behaviours involve rote memorization and recall; cognitive behaviours that involve more than rote memorization or recall are termed higher-level cognitive behaviours.*



TABLE 3.5 Types of Cognitive Processes Identified in Bloom's Taxonomy

1. Knowledge	Memorizing facts	Remember, recall, identify, recognize	The students can identify the correct punctuation marks in a writing assignment.
2. Comprehension	Explaining in one's own words	Translate, rephrase, restate, interpret, describe, explain	The students can translate French sentences into English.
3. Application	Solving new problems	Apply, execute, solve, implement	The students can add previously unseen proper fractions.
4. Analysis	Breaking into parts and identifying relationships	Break down, categorize, distinguish, compare	The students can categorize paintings by their historical periods.
5. Synthesis	Combining elements into a whole	Integrate, organize, relate, combine, construct, design	The students can integrate the information from a science experiment into a lab report.
6. Evaluation	Judging quality or worth	Judge, assess, value, appraise	The students can judge the quality of various persuasive essays.

## The Affective Domain

*Affective assessments involve feelings, attitudes, interests, preferences, values, and emotions.*

*Teachers rarely make formal affective assessments but are constantly making them informally.*

A second behavioural domain is the affective domain. The **affective domain** involves feelings, attitudes, interests, preferences, values, and emotions. Emotional stability, motivation, trustworthiness, self-control, and personality are all examples of affective characteristics. Although affective behaviours are rarely assessed formally in schools and classrooms, teachers constantly assess affective behaviours informally. Teachers need to know who can be trusted to work unsupervised and who cannot, who can maintain self-control when the teacher has to leave the classroom and who cannot, who needs to be encouraged to speak in class and who does not, who is interested in science but not in social studies, and who needs to be prodded to start class work and who does not. Most classroom teachers can describe their students' affective characteristics based on their informal observations and interactions with the students.

In contrast to the cognitive domain, there is no single, widely accepted taxonomy of affective behaviours, although the taxonomy prepared by Krathwohl, Bloom, and Masia (1964) is the most commonly referred to and used. In general, affective taxonomies are all based upon the degree of a person's involvement in an activity or idea. The lower levels of affective taxonomies contain low-involvement behaviours such as paying attention, while the higher levels contain high-involvement behaviour characterized by strong interest, commitment, and valuing.

## *The Psychomotor Domain*

A third behavioural domain is the psychomotor domain. The **psychomotor domain** includes physical and manipulative activities. Shooting a basketball, setting up laboratory equipment, building a bookcase, word processing, holding a pencil, buttoning a jacket, brushing teeth, and playing a musical instrument are examples of activities that involve psychomotor behaviours. Although psychomotor behaviours are present and important at all levels of schooling, they are especially stressed in the preschool and elementary grades, where tasks like holding a pencil, opening a locker, and buttoning or zippering clothing are important to master. (How would you like to button the jackets of 24 students?) Similarly, with certain special-needs students, a major part of education involves so-called "self-help" skills such as getting dressed, attending to personal hygiene, and preparing food, all of which are psychomotor accomplishments.

There are a number of psychomotor behaviour domain taxonomies (Hannah & Michaels, 1977; Harrow, 1972). Like the affective domain, however, no single taxonomy has become widely accepted and used by the majority of teachers and schools. The organization of psychomotor taxonomies typically ranges from a student showing a readiness to perform a psychomotor task, to the student using trial and error to learn a task, to the student actually carrying out the task on his or her own.

As noted previously, diagnostic assessments encompass the cognitive, affective, and psychomotor domains because teachers are interested in knowing about their students' intellectual, attitudinal, and physical characteristics. Notice, however, that different assessment approaches characterize the different behaviour domains. For example, the cognitive domain is most likely to be assessed using paper-and-pencil tests or various kinds of oral questioning. Behaviours in the affective domain are most likely to be assessed by observation or questionnaires: for example, which subject do you prefer, English or chemistry? Do you believe that teachers should be accountable for their students' learning? Psychomotor behaviours are generally assessed by observing students carrying out the desired physical activity.

*Psychomotor assessments involve physical and manipulative behaviours.*

*Psychomotor assessments are particularly important with very young or some students with exceptionalities.*

## STATING AND CONSTRUCTING EXPECTATIONS OR LEARNING OUTCOMES

There are many ways to state expectations or learning outcomes, but not all of them convey clearly what students are to learn from instruction. Ensuring clarity requires being aware of what makes an expectation or learning outcome statement complete.

### *Essential Elements of the Statement*

Consider the following three expectations or learning outcomes:

1. Students will learn to use their minds well, so that they may be prepared for responsible citizenship, further learning, and productive employment.
2. The student can read French poetry.
3. The student can correctly punctuate sentences.

Although they represent a global, educational, and instructional objective, respectively, these objectives have common characteristics. First, all are stated in terms of what the student is to learn from instruction. Objectives describe *student learning*, not teacher learning or the activities teacher or students engage in during instruction. Second, each objective contains two parts: some content for students to learn and a process to show their learning. The content in the three objectives above are, respectively, “citizenship,” “French poetry,” and “sentences.” The cognitive processes are “develop,” “read,” and “punctuate.” Another way to think about an objective’s content and process is in terms of nouns and verbs. The content is the noun and the process is the verb. Thus, at a minimum, an objective is stated in terms of the content (noun) and process (verb) the student is expected to learn. Third, notice that the nouns and verbs differ from one objective to another because different subject matter, grade levels, and teaching styles require different objectives.

Objectives such as those shown above are widely used to guide teachers’ planning, instruction, and assessment. For example, the objective “The students can categorize paintings by their historical periods” is focused on analysis (categorize) by identifying relationships. Or, the objective “The student can explain in his or her own words the meaning of a second-year-level French paragraph” is focused on comprehension (explain). Note that the verbs in the objectives we have examined (e.g., summarize, add, remember, categorize, explain) are *not* labelled using Bloom’s generic taxonomy names (e.g., knowledge, comprehension, analysis). Instead, they are described using narrower, more specific verbs. These more specific and

observable cognitive verbs are preferred over the generic taxonomy names because they more clearly indicate the particular process (verb) the students will be expected to carry out.

## *Forming Complete Statements*

Examine the sample objectives in Table 3.6 and consider their usefulness in helping a teacher plan and guide instruction and assessment. Remember, the intent of an objective is to clearly identify what students are to learn in order to (1) communicate to others the purpose of instruction, (2) help teachers select appropriate instructional methods and materials, and (3) help plan assessments that will indicate whether or not students have learned what they were taught.

In Table 3.6, objectives 1, 2, and 3 all have the same deficiency. Each describes a body of content that will be covered in instruction, but each omits information about what the students will be expected to do with that content. Will they be expected to identify causes of the war, match generals to battles, cite strengths and weaknesses of the two sides, or explain in their own words why the Battle of the Plains of Abraham was the turning point of the war? What should students know or understand about Canadian government and the laws of motion? Without including information about what students are to know or do about the Seven Years' War, Canadian government, or laws of motion, it is hard to select appropriate instructional materials, activities, and assessment techniques. For example, it will make a difference in instruction and assessment if students have to match generals to battles (teach recall and assess with a matching item) or explain in their own words why the Battle of the Plains of Abraham was the turning point of the war (teach interpretation and assess with an open-ended question). Clarity and consistency between what is taught and what is assessed is necessary for valid assessment results.

**TABLE 3.6** Sample Statements of Poor Educational Objectives

1. The Seven Years' War
2. Canadian government
3. The laws of motion
4. Analyze
5. Understand
6. Appreciate
7. Worthy use of leisure time
8. Pursue lifelong learning
9. Become a good citizen

Objectives 4, 5, and 6—analyze, understand, and appreciate—provide no reference to content matter. These statements prompt the question: analyze, understand, and appreciate what? Just as a content description by itself lacks clarity because it does not include a desired student performance, so too does a behaviour by itself lack clarity if there is no reference to a targeted body of content.

There is an additional problem in objectives 4, 5, and 6. Words like *analyze*, *understand*, and *appreciate* are themselves nonspecific. They can be interpreted in many different ways and hence do not clearly convey what students will learn. For example, one teacher might interpret the objective “understanding the basic features of a society” to mean the students will be able to explain the features in their own words. Another teacher might interpret the same objective to mean the students will give a real-life example of the social features studied. A third teacher might want students to distinguish between correct and incorrect applications of features. Although each teacher taught “understanding the basic features of society,” each would teach and assess completely different outcomes. Such misunderstandings can be avoided if teachers describe their educational objectives in terms of the actual behaviours they expect their students to perform after instruction. For example, students can explain features in their own words, give real-life examples of the features, or distinguish correct from incorrect applications of the features. This level of specificity distinguishes clearly the different interpretations of *understand*.

*Well-written educational objectives should clearly specify what students are to learn and how they are to demonstrate that learning.*

In stating educational objectives, it is better to clearly describe the behaviour the student will perform than to use more general, ambiguous terms that are open to many different interpretations. Thus, it is better to say *explains* the importance of conserving natural resources than to say *realizes* the importance of conserving natural resources; better to say *translates* French sentences into English than to say *understands* French sentences; better to say *can differentiate* subjects and predicates than to say *knows* about subjects and predicates; better to say *states* three differences between good and bad art than to say *appreciates* art. In each example, the first statement describes a student behaviour that can be observed, instructed, and assessed, while the second uses less clear, unobservable, and ambiguous terms. Clear descriptions foster alignment among objectives, instruction, and assessment, thus producing valid assessment results.

Objectives 7, 8, and 9 are too general and complicated to be achieved by students in a single subject area or grade level. They are, as noted previously, goals. Not only do these outcomes take years to develop, but their generality provides the classroom teacher with little guidance regarding the activities and materials that could be used to attain them. Broad goals such as these must be narrowed by the classroom teacher before they can be used to instruct and assess students.

## *Some Good Examples of Objectives*

In summary thus far, the basic requirements for well-stated educational objectives are that they (1) describe a student behaviour that should result from instruction; (2) state the behaviour in terms that can be observed and assessed; and (3) indicate the content on which the behaviour will be performed. A simple model for preparing educational objectives is “the students can” (observable behaviour) (content). Here are examples of appropriately stated educational objectives.

- The students can list three causes of the Seven Years' War.
- The students can solve word problems requiring the sum of two numbers.
- The students can write a correctly formatted and punctuated business letter.
- The students can translate a French paragraph into English.
- The students can count to 20 aloud.
- The students can list three differences between the climates of Canada and Mexico.
- The students can write balanced chemical equations.
- The students can state the main idea of short stories.
- The students can explain the water cycle in their own words.

Notice how these objectives help focus the intended student learning and thus help the teacher identify suitable instructional activities, materials, and assessments.

Other information can be added to elaborate an objective. For example, some teachers wish to include information in their objectives about the conditions of student performance and about how well the student must perform the objective in order to master it. Such extended objectives would be written as follows:

- Given 10 word problems requiring the sum of two numbers, the students can solve at least eight correctly.
- Given a diagram of the water cycle, the students can explain in their own words what the water cycle is with fewer than two errors.
- Given a French paragraph of less than 20 lines and a dictionary, the students can translate the paragraph into English in 5 minutes with fewer than six errors.

Extended objectives provide more details about the conditions under which the behaviour must be performed and the level of performance the student must show. Extended objectives take more time to prepare than their simpler counterparts and are sometimes difficult to state prior to the

*Extended objectives provide additional details about the conditions under which students must demonstrate their learning and the level of performance they must show.*



## KEY ASSESSMENT TOOLS 3.1

## Criteria for Successful Objectives

1. Be sure the objectives have clear answers.
2. Be sure the objectives represent important aspects of a lesson or chapter.
3. Be sure the objectives center on a verb that specifies student performance.
4. Be sure that the objective can be fulfilled in a reasonable amount of time.

start of instruction. Consequently, the simpler model suffices in most instructional situations. Key Assessment Tools 3.1 is a brief reminder of criteria for successful objectives.

### Questions Often Asked about Educational Objectives

1. *Is it necessary to write down objectives?* Beginning teachers and students in a teaching practicum usually are required to write lesson objectives. Even if you are an experienced teacher, listing your objectives reminds you to focus on what students are expected to get out of instruction, not just what your teaching activities will be. Annual assessment of existing objectives is an important part of any teacher's classroom assessment responsibilities, because each year students and curricula change.
2. *What are higher-level objectives?* Cognitive behaviours can be divided into lower-level ones such as memorizing and remembering and higher-level ones requiring more complex thinking behaviours. Higher-level behaviours, or higher-order thinking skills (HOTS), include activities such as analyzing information, applying information and rules to solve new problems, comparing and contrasting objects or ideas, and synthesizing disparate pieces of information into a single, organized idea. In the following examples, the lower-level objective calls only for memorization, while the higher-level objective calls for a more complex behaviour.

*Higher-level objectives include cognitive activities such as analysis, application, synthesis, and evaluation. These take longer to teach and evaluate than lower-level objectives involving rote memorization.*

Lower level: The student can write a definition of each vocabulary word.

Higher level: The student can write sentences using each vocabulary word correctly.

Lower level: The student can match quotes from a short story to the characters who said them.

Higher level: The student can contrast the motives of the protagonist and the antagonist in a short story.

Lower level: The student can write the formula for the Pythagorean theorem.

Higher level: The student can use the Pythagorean theorem to solve new word problems involving the length of ladders needed by the fire department.

All teachers should be aware of the difference between lower- and higher-level thinking skills and should strive to incorporate some higher-level objectives in their plans and instruction.

3. *How many objectives should I state in a subject area?* The answer to this question depends in part upon the time frame being considered and the specificity of the objectives: the longer the period of instruction and the more specific the objectives, the more objectives that can be stated with expectation for students to attain. In general, there may be many instructional objectives and fewer educational objectives. Also, higher-level objectives usually take longer to teach and learn, so fewer of them can be taught in a given instructional period; it takes longer to teach students to interpret graphs than to memorize a formula. Teachers who have hundreds of objectives for the year's instruction either are expecting too much of themselves and their students or are stating their objectives too narrowly. On the other hand, teachers who have only five objectives for the school year are either underestimating their students or stating their objectives much too broadly.
4. *Are there any cautions I should keep in mind regarding objectives?* Objectives are usually stated before instruction actually begins and are meant to guide both instruction and assessment. However, objectives are not meant to be followed slavishly when circumstances suggest the need for adjustments. Because objectives are written before instruction starts and because it is difficult to anticipate the flow of classroom activities during instruction, teachers must exercise discretion regarding how closely they will follow the objectives they stated prior to the start of actual instruction.

*Because educational objectives are written before instruction begins, teachers must be ready to deviate from them when necessary.*

## IMPROVING THE TIE BETWEEN PLANNING AND ASSESSMENT

In planning instruction, there are a few common guidelines that teachers can follow to strengthen the effectiveness of their planning.

1. *Perform complete diagnostic assessments of students' needs and characteristics.* Because the purpose of instruction is to help students

do things they were unable to do before instruction, planning responsive lessons requires that the needs and characteristics of students be taken into consideration. Knowledge of students' readiness, abilities, and attention spans helps the classroom teacher determine how long lessons should be, whether they should involve whole-class or small-group activities, and whether they should be teacher-led or student-directed. The more valid and reliable student and class diagnostic assessments are, the more appropriate the lesson plans are likely to be.

2. *Use diagnostic assessment information when planning.* A teacher may have done an exceptional job with the diagnostic assessment of students, but if the teacher does not use that information when planning lessons, it is useless. Planning involves fitting instruction to student needs and characteristics, and it is the teacher's responsibility to plan accordingly.
3. *Do not rely entirely and uncritically on textbooks and their accompanying aids when planning.* The teacher's edition of textbooks can provide much of the information needed to plan, carry out, and assess instruction, but usually not all. It is important to match the suitability of textbook plans and assessments with student characteristics and needs. Teacher's guides should be assessed, adapted, and supplemented to provide the best possible instruction to each teacher's class.
4. *Include a combination of lower-level and higher-level objectives.* The instructional activities offered in most teacher's editions are heavily weighted toward whole-class practices such as recitation, teacher presentation, and seatwork. Such practices normally emphasize lower-level objectives. It is important, therefore, that lesson plans and activities (whether textbook or teacher-made) include *both* lower- and higher-level objectives.
5. *Include a wide range of instructional activities and strategies to fit your students' instructional needs.* Teachers who use the same strategy (e.g., lecture, seatwork, or board work) every day with little change or variety create two problems. First, they risk boring students and reducing their motivation to attend to the repetitive activity. Second, by limiting their teaching repertoire to a single or very few strategies, they may not be reaching students whose learning styles, needs, or language backgrounds are best suited to some other method (e.g., small-group instruction, learning games, hands-on materials). It is important to include varied teaching strategies and activities in lesson plans.
6. *Match educational objectives with teaching strategies and planned assessments.* Objectives describe the desired results of instruction. Teaching strategies and activities represent the means to achieve those results. Assessment is a measure of the success of the objectives and instruction. To reach the desired ends, the means must be rele-

- Means:** Read a short story silently.  
**End:** The students can summarize a short story in their own words.
- Means:** Show a film about computers.  
**End:** The students can differentiate between computer hardware and software.
- Means:** Discuss the organization of the periodic table.  
**End:** The students can place an element in its periodic group when given a description of the element's properties.

**FIGURE 3.2**  
*Examples of  
 Instructional Means  
 and Ends.*

vant and appropriate. Without student ends clearly in mind, it is difficult to judge the adequacy of an instructional plan or the quality of an assessment. Figure 3.2 shows the relationship between statements of ends (objectives) and statements of means (teaching activities).

7. *Recognize one's own knowledge and pedagogical limitations and preferences.* Teachers assess many things when planning instruction, but they often neglect an assessment of themselves. Content knowledge limitations may lead a teacher to omit an important topic, teach it in a perfunctory or superficial manner, or provide students with incorrect information. Likewise, preferences for one or two teaching methods may deprive students of exposure to other methods or activities that would enhance their learning. When a teacher's knowledge limitations and pedagogical preferences outweigh student considerations in determining what is or is not done in classrooms, serious questions must be raised about the adequacy of the teacher's instructional plans.
8. *Include assessment strategies in instructional plans.* The object of planning and conducting instruction is to help students learn new content and behaviours. Consequently, lesson plans should include some formal measure or measures to determine whether students have learned the desired objectives and to identify areas of misunderstanding or confusion. While informal assessments about student enthusiasm and participation can be useful, they are not substitutes for more formal assessments such as follow-up seatwork, homework, quizzes, or oral questioning.

## PLANNING FOR STUDENTS WITH EXCEPTIONALITIES

Initially it may seem odd to introduce student exceptionalities and accommodations in a chapter focused on objectives and planning instruction. On reflection, however, it is not really odd at all. Student exceptionalities and, particularly, student accommodations are very important aspects that must be addressed in a teacher's instructional planning.

According to the Canadian Charter of Rights and Freedoms (1982), every Canadian has the right to equal treatment under the law without discrimination based on race, national or ethnic origin, colour, religion, sex, age, or mental or physical disability. By extension, all Canadian provinces and territories have developed policies and procedures that guarantee *all* students access to equitable educational opportunities without discrimination based on a designation as “exceptional.”

From an analysis of special education services across Canada, Dworet and Bennett (2002) found that similarities exist that “include the use of individual education plans (IEPs), a collaborative approach to problem-solving, and an emphasis on inclusion” (p. 22). Therefore, regardless of location, each exceptional student in Canada will receive an IEP outlining the strengths and needs of the student and the program and instructional modifications that are necessary to support the student's learning opportunities. The IEP will include information about the student's present level of educational performance, annual goals and short-term objectives, prescribed educational services, degree of inclusion in regular education programs, and assessment criteria for determining achievement of the goals and objectives of the plan.

The requirement for inclusionary practices and fair and appropriate educational opportunities for exceptional children has placed greater responsibility and challenge on the classroom teacher. If a student is identified as exceptional, a committee, which includes the teacher, will decide on how and what the student will be taught and assessed. Using the IEP, the teacher must modify objectives, instructional strategies, and assessment methods to best suit the student's needs and learning style. The following lists provide some instructional planning ideas for accommodating students with exceptionalities.

Accommodations when planning content:

- If students have fallen behind in the curriculum, teach what is most generalizable.
- Teach learning strategies along with teaching content.
- Select content based on student interest; for example, allow students to read the sports page to practise reading skills.

Accommodations when planning objectives:

- Pretest before teaching to make sure the objectives are appropriate for the students.
- Determine whether an objective can be altered for some students; for example, can students who have poor writing skills demonstrate their knowledge orally?

Accommodations when deciding on instructional methods:

- Recognize that students with some learning and behavioural exceptionalities often need very explicit directions.
- Evaluate the level of structure students need to be successful; do not assume that all students learn best with unstructured approaches.
- If students have fallen behind in the curriculum, use time-efficient methods.
- Be sure students have the necessary skills to be successful with the instructional method being used.

Accommodations when planning the lesson:

- Provide directions, procedures, and rules; describe them orally and in writing.
- Follow up by asking questions or by having students repeat or paraphrase what they are to do.
- Repeat key words often, using the same wording.
- Ask for frequent active responses.
- Break up information: teach a couple of steps, practise, teach a few more steps, practise. Keep reminding students of the whole task. Stop often to summarize.
- Point to steps on a written list as they are demonstrated.



## CHAPTER REVIEW



### CHAPTER REVIEW

Visit Chapter 3 of the Online Learning Centre at [www.mcgrawhill.ca/college/airasian](http://www.mcgrawhill.ca/college/airasian) to take chapter quizzes, link to related Web sites, and read PowerWeb articles and news feed updates.

#### *What purpose does a curriculum serve?*

- A curriculum describes the skills, performances, knowledge, and attitudes students are expected to learn in school.

#### *What is instruction?*

- Instruction is the set of methods and processes used to change students' behaviour.

#### *What is the difference between achievement and aptitude or ability?*

- Achievement refers to school-based learning, while ability or aptitude refer to broader learning acquired mostly through nonschool sources such as parents and peer groups.

#### *Describe the three steps of the instructional process.*

- Planning instruction, which includes identifying specific expectations or learning outcomes, selecting materials to foster these outcomes, and organizing learning experiences into a coherent, reinforcing sequence.
- Delivering the planned instruction to students (i.e., teaching them).
- Assessing students, which involves the collection and synthesis of formal information about how well students are learning or have learned the expectations or learning outcomes.

#### *What are the three general levels of teaching objectives?*

- The three general levels of teaching objectives are global objectives, educational objectives, and instructional objectives.

#### *What are the three domains of human behaviour for which educational objectives can be written?*

- The cognitive domain, which includes knowledge, comprehension, application, analysis, synthesis, and evaluation.
- The affective domain, which involves feelings, attitudes, interests, preferences, values, and emotions.
- The psychomotor domain, which includes physical and manipulative activities.

#### *What is Bloom's Taxonomy?*

- Bloom's Taxonomy is a system of cognitive processes organized into six levels, with each successive level representing a more complex type of cognitive process.
- Starting with the simplest and moving to the most complex, the six cognitive taxonomic processes are knowledge, comprehension, application, analysis, synthesis, and evaluation.

*What are some essential elements of a well-written teaching objective?*

- It is stated in terms of what the student is to learn from instruction.
- It contains two parts: some content for students to learn and a process to show their learning.

*What are some important guidelines to follow when planning instruction?*

- Perform complete diagnostic assessments of students' needs and characteristics.
- Use diagnostic assessment information when planning.
- Do not rely entirely and uncritically on textbooks and their accompanying aids when planning.
- Include a combination of lower-level and higher-level expectations or learning outcomes.
- Include a wide range of instructional activities and strategies to fit your students' instructional needs.
- Match educational expectations or learning outcomes with teaching strategies, activities, and planned assessments.
- Recognize one's own knowledge and pedagogical limitations and planned preferences.
- Include assessment strategies in instructional plans.

## QUESTIONS FOR DISCUSSION

1. What student characteristics are most important to take into account when planning instruction? How realistic is it to expect a teacher to plan instruction that takes into account the important needs of all the students?
2. Which subject areas are the most difficult to plan for? Why?
3. What would be the characteristics of a class that would be easy to plan for? What would be the characteristics of a difficult-to-plan-for group?
4. Why do you think that many teachers describe stating expectations or learning outcomes as "backward planning"? Is "backward planning" useful? Why or why not?
5. What differentiates a well-stated expectation or learning outcome from one that is poorly stated?
6. What are the most common exceptionalities that students have? How might they influence planning, instruction, and assessment?
7. A teacher's skill at instructional planning has been linked to his or her students' academic success. Explain why this is the case? What other teacher characteristics may be correlated with student achievement?

## ACTIVITIES

1. Ask a teacher to show and discuss with you a lesson plan that he or she has used. Report on the teacher's expectations or learning outcomes and how the plan took various resources and conditions into account, as well as how closely the plan was actually followed when the lesson was taught.
2. In a small group, choose an imaginary student with a certain exceptionality in a certain grade. To each student in the group assign the role of teacher, parent, a school administrator, and possibly a learning resource teacher within the school. Describe the types of accommodations that a person in each role would emphasize in an IEP for that student.