## Learning Outcomes

**At the end of this chapter, you should be able to:**

- Define the concept of "learning"
- Describe principles of behavioral learning theories
- Discuss the implications of behavioral learning principles for classroom practice
- Describe social learning theories and their implications for classroom practice

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Julia Esteban, first-grade teacher at Tanner Elementary School, is trying to teach her students appropriate classroom behavior.

"Children," she says one day, "we are having a problem in this class that I'd like to discuss with you. Whenever I ask a question, many of you shout out your answers instead of raising your hand and waiting to be called on. Can anyone tell me what you should do when I ask the class a question?" Rebecca's hand shoots into the air. "I know, I know!" she says. "Raise your hand and wait quietly!"

Ms. Esteban sighs to herself. She tries to ignore Rebecca, who is doing exactly what she had just been told not to do, but Rebecca is the only student with her hand up, and the longer she delays, the more frantically Rebecca waves her hand and shouts her answer.

"All right, Rebecca. What are you supposed to do?"

"We're supposed to raise our hands and wait quietly for you to call on us."

"If you know the rule, why were you shouting out your answer before I called on you?"

"I guess I forgot."

"All right. Can anyone remind the class of our rule about talking out of turn?"

Four children raised their hands and shouted together.

"One at a time!"

"Take turns!"

"Don't talk when someone else is talking!"

Ms. Esteban calls for order. "You kids are going to drive me crazy!" she says. "Didn't we just talk about how to raise your hands and wait for me to call on you?"

"But Ms. Esteban," says Stephen without even raising his hand. "You called on Rebecca and she wasn't quiet!"

### USING YOUR EXPERIENCE

**Critical and Creative Thinking** Reflect on what Ms. Esteban might do differently in this situation to accomplish her goal.

**Cooperative Learning** Discuss with another student what went wrong here. Also discuss similar ways in which you have seen inappropriate behavior reinforced in the past. Share some of these anecdotes with the class.

Children are excellent learners. What they learn, however, may not always be what we intend to teach. Ms. Esteban is trying to teach students how to behave in class, but by paying attention to Rebecca's outburst, she is actually teaching them the opposite of what she intends. Rebecca craves her teacher's attention, so being called on (even in an exasperated tone of voice) rewards her for calling out her answer. Not only does Ms. Esteban's response increase the chances that Rebecca will call out answers again but also Rebecca now serves as a model for her classmates' own calling out. What Ms. Esteban says is less important than the actual response to her students' behaviors.

**Connections**
See Chapter 6, Information Processing and Cognitive Theories of Learning.

The purpose of this chapter is to define learning and then present behavioral and social learning theories, explanations for learning that emphasize observable behaviors. **Behavioral learning theories** focus on the ways that pleasurable or unpleasant consequences of behavior change individuals' behavior over time and the ways individuals model their behavior on that of others. **Social learning theories** focus on the effects of thought on action and action on thought. Later chapters present **cognitive learning theories,** which emphasize unobservable mental processes that people use to learn and remember new information or skills. In recent years, however, the boundaries between behavioral and cognitive learning theories have become increasingly indistinct as each school of thought has incorporated the findings of the other.

## What Is Learning?

What is learning? This seems like a simple question until you begin to think about it. Consider the following four examples. Are they instances of learning?

1. A young child takes her first steps.
2. An adolescent male feels a strong attraction to certain females.
3. A child feels anxious when he sees the doctor coming with a needle.
4. Long after learning how to multiply, a girl realizes on her own that another way to multiply by 5 is to divide by 2 and multiply by 10 (e.g., $428 \times 5$ can be figured as follows: $428/2 = 214 \times 10 = 2{,}140$).

**INTASC**
2 Knowledge of Human Development and Learning

**Learning** is usually defined as a change in an individual caused by experience (Driscoll, 2000; Hill, 2002; Schunk, 2004). Mayer (2008a) defines learning as "long-lasting change in the learner's knowledge as a result of the learner's experiences" (p. 171). Changes caused by development (such as growing taller) are not instances of learning. Neither are characteristics of individuals that are present at birth (such as reflexes and responses to hunger or pain). However, humans do so much learning from the day of their birth (and some say earlier) that learning and development are inseparably linked. Learning to walk (example 1) is mostly a developmental progression but also depends on experience with crawling and other activities. The adolescent sex drive (example 2) is not learned, but learning shapes individuals' choices of desirable partners.

A child's anxiety on seeing a doctor with a needle (example 3) is definitely learned behavior. The child has learned to associate the needle with pain, and his body reacts emotionally when he sees the needle. This reaction may be unconscious or involuntary, but it is learned nonetheless.

The fourth example, the girl's insight into the multiplication shortcut, is an instance of internally generated learning, better known as thinking. Some theorists would not call this learning, because it was not caused by the environment. But it might be considered a case of delayed learning, in which deliberate instruction in multiplication plus years of experience with numbers plus mental effort on the part of the girl produced an insight.

Learning takes place in many ways. Sometimes it is intentional, as when students acquire information presented in a classroom or when they look something up on the Internet. Sometimes it is unintentional, as in the case of the child's reaction to the needle. All sorts of learning are going on all the time. As you are reading this chapter, you are learning something about learning. However, you are also learning that educational psychology is interesting or dull, useful or useless. Without knowing it, you are probably learning about where on the page certain pieces of information are to be found. You might be learning to associate the content of this chapter with unimportant aspects of your surroundings as you read it, such as the smell of books in a library or the tempera-

**behavioral learning theories**
Explanations of learning that emphasize observable changes in behavior.

**social learning theories**
Learning theories that emphasize not only reinforcement but also the effects of cues on thought and of thought on action.

**cognitive learning theories**
Explanations of learning that focus on mental processes.

**learning**
A change in an individual that results from experience.

ture of the room in which you are reading. The content of this chapter; the placement of words on the page; and the smells, sounds, and temperature of your surroundings are all **stimuli.** Your senses are usually wide open to all sorts of stimuli, or environmental events or conditions, but you are consciously aware of only a fraction of them at any one time.

The problem you face is not how to get students to learn; students are already engaged in learning every waking moment. Rather, it is how to help students learn particular information, skills, and concepts that will be useful in their lives. How do we present students with the right stimuli on which to focus their attention and mental effort so that they will acquire important skills? That is the central problem of instruction.

## What Are Behavioral Learning Theories?

The systematic study of learning is relatively new. Not until the late 19th century was learning studied in a scientific manner. Using techniques borrowed from the physical sciences, researchers began conducting experiments to understand how people and animals learn. One of the most important early researchers was Ivan Pavlov. Among later researchers, B. F. Skinner was important for his studies of the relationship between behavior and consequences.

### ■ Pavlov: Classical Conditioning

In the late 1800s and early 1900s, Russian scientist Ivan Pavlov and his colleagues studied the digestive process in dogs. During the research, the scientists noticed changes in the timing and rate of salivation of these animals. Pavlov observed that if meat was placed in or near the mouth of a hungry dog, the dog would salivate. Because the meat provoked this response automatically, without any prior training or conditioning, the meat is referred to as an **unconditioned stimulus.** Similarly, because salivation occurred automatically in the presence of meat, also without the need for any training or experience, this response of salivating is referred to as an **unconditioned response.**

Whereas the meat will produce salivation without any previous experience or training, other stimuli, such as the ringing of a bell, will not produce salivation. Because these stimuli have no effect on the response in question, they are referred to as **neutral stimuli.** Pavlov's experiments showed that if a previously neutral stimulus is paired with an unconditioned stimulus, the neutral stimulus becomes a **conditioned stimulus** and gains the power to prompt a response similar to that produced by the unconditioned stimulus. In other words, after the bell and the meat are presented together, the ringing of the bell alone causes the dog to salivate. This process is referred to as **classical conditioning.** A diagram of Pavlov's theory is shown in Figure 5.1. In experiments such as these, Pavlov and his colleagues showed how learning could affect what were once thought to be involuntary, reflexive behaviors, such as salivating.

### ■ Skinner: Operant Conditioning

Some human behaviors are clearly prompted by specific stimuli. Just like Pavlov's dogs, we salivate when we are hungry and see appetizing food. However, B. F. Skinner proposed that reflexive behavior accounts for only a small proportion of all actions. Skinner proposed another class of behavior, which he labeled *operant behaviors* because they operate on the environment in the apparent absence of any unconditioned stimuli, such as food. Skinner's work focused on the relation between behavior and its consequences. For example, if an individual's behavior is immediately followed by pleasurable

**Certification Pointer**

Pavlov's work will probably be on your teacher certification test. Know that a ringing bell was the conditioned stimulus that he used to get dogs to salivate without the presence of meat. The bell became a conditioned stimulus because Pavlov first paired ringing with meat.

**stimuli**

Environmental conditions that activate the senses; the singular is *stimulus.*

**unconditioned stimulus**

A stimulus that naturally evokes a particular response.

**unconditioned response**

A behavior that is prompted automatically by a stimulus.

**neutral stimuli**

Stimuli that have no effect on a particular response.

**conditioned stimulus**

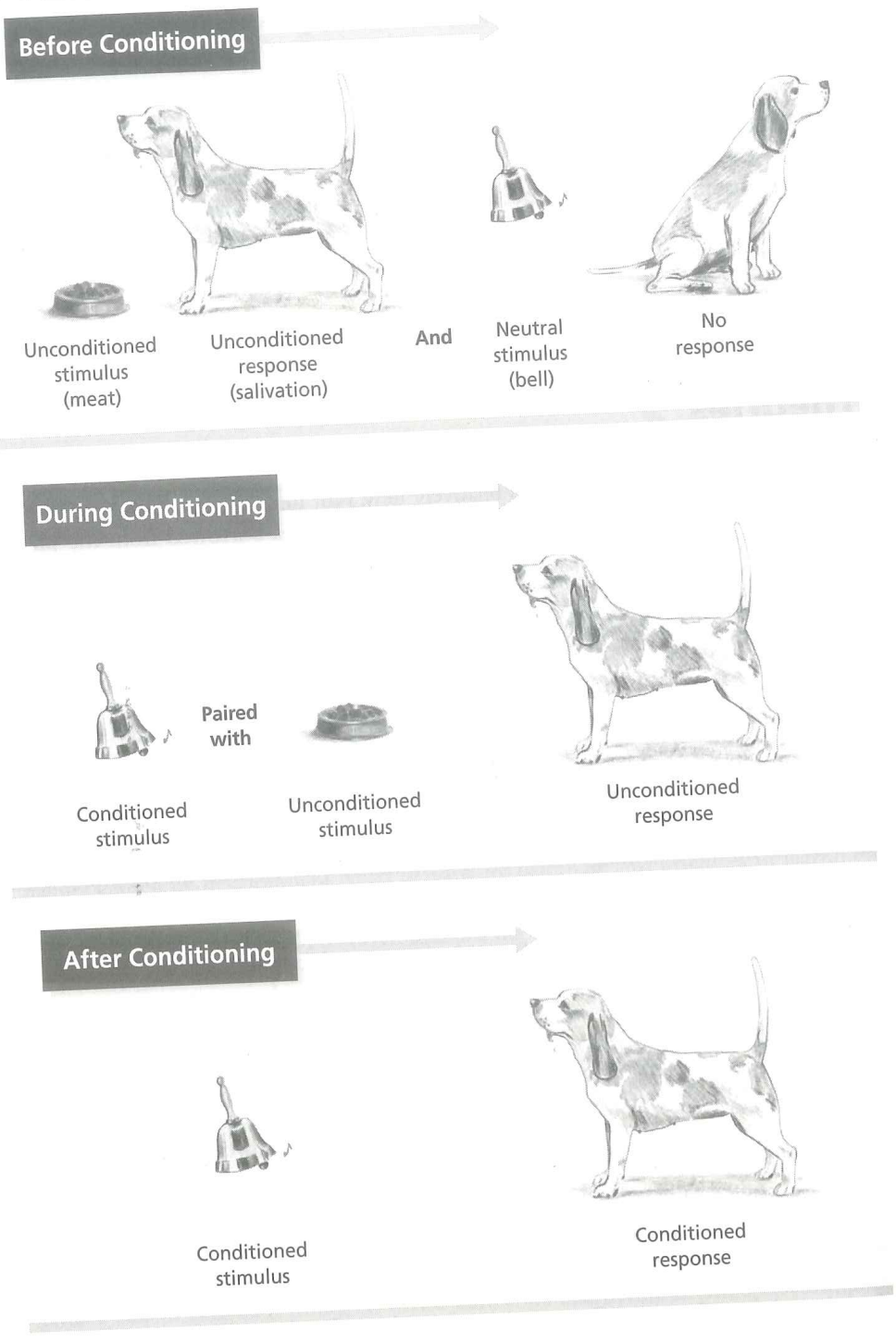
A previously neutral stimulus that evokes a particular response after having been paired with an unconditioned stimulus.

**classical conditioning**

The process of repeatedly associating a previously neutral stimulus with an unconditioned stimulus in order to evoke a conditioned response.

**FIGURE 5.1 Classical conditioning**

In classical conditioning, a neutral stimulus (such as a bell) that at first prompts no response becomes paired with an unconditioned stimulus (such as meat) and gains the power of that stimulus to cause a response (such as salivation).




consequences, the individual will engage in that behavior more frequently. The use of pleasant and unpleasant consequences to change behavior is often referred to as **operant conditioning.**

**operant conditioning**
The use of pleasant or unpleasant consequences to control the occurrence of behavior.

Skinner's work focused on placing subjects in controlled situations and observing the changes in their behavior produced by systematic changes in the consequences of their behavior (see Alberto & Troutman, 2009; Bigge & Shermis, 2004; Malott, 2008). Skinner is famous for his development and use of the **Skinner box,** a device that contains a very simple apparatus for studying the behavior of animals, usually rats and pigeons. A Skinner box for rats consists of a bar that is easy for the rat to press, a food dispenser that can

**Skinner box**
An apparatus developed by B. F. Skinner for observing animal behavior in experiments of operant conditioning.

give the rat a pellet of food, and a water dispenser. The rat cannot see or hear anything outside of the box, so all stimuli are controlled by the experimenter.

In some of the earliest experiments involving Skinner boxes, the apparatus was first set up so that if the rat happened to press the bar, it would receive a food pellet. After a few accidental bar presses, the rat would start pressing the bar frequently, receiving a pellet each time. The food reward had conditioned the rat's behavior, strengthening bar pressing and weakening all other behaviors (such as wandering around the box). At this point, the experimenter might do any of several things. The food dispenser might be set up so that several bar presses were now required to obtain food, or so that some bar presses produced food but others did not, or so that bar presses no longer produced food. In each case the rat's behavior would be electronically recorded. One important advantage of the Skinner box is that it allows for careful scientific study of behavior in a controlled environment (Bigge & Shermis, 2004). Anyone with the same equipment can repeat Skinner's experiments.

**Certification Pointer**

Most teacher certification tests will require you to know that when a teacher reinforces a student who raises her hand to speak, she is using operant conditioning.

**ON THE WEB**

The B. F. Skinner Foundation website at www.bfskinner.org aims to improve the understanding of human behavior through the work of B. F. Skinner.

**consequences**

Pleasant or unpleasant conditions that follow behaviors and affect the frequency of future behaviors.

**reinforcer**

A pleasurable consequence that maintains or increases a behavior.

## What Are Some Principles of Behavioral Learning?

Behavioral learning theory has its own language to describe how consequences of behavior shape later behavior (also see Alberto & Troutman, 2009; Bigge & Shermis, 2004; Kazdin, 2001; Malott, 2008; Walker, Shea, & Bauer, 2004).

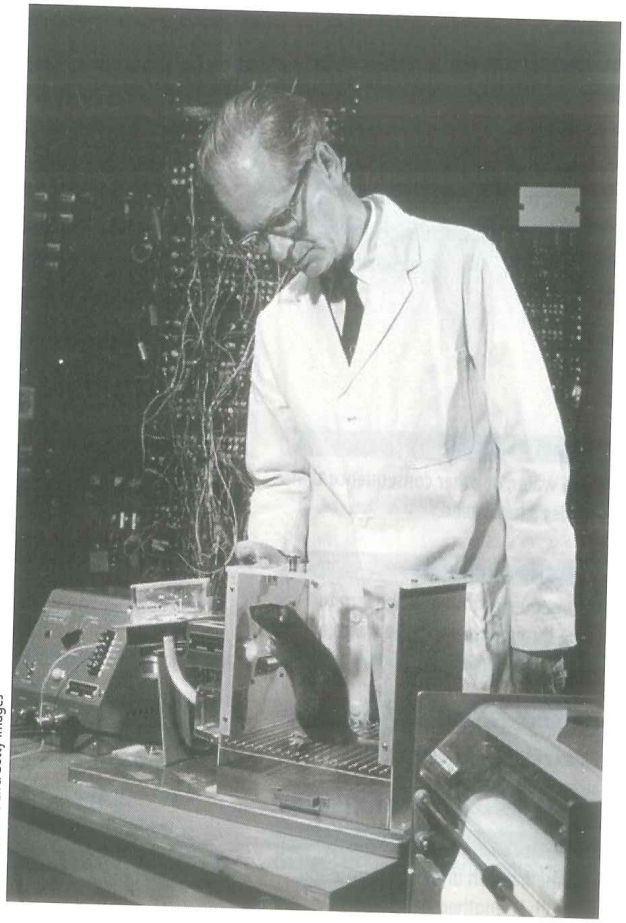
### The Role of Consequences

Skinner's pioneering work with rats and pigeons established a set of principles of behavior that have been supported in hundreds of studies involving humans as well as animals. Perhaps the most important principle of behavioral learning theories is that behavior changes according to its immediate **consequences.** Pleasurable consequences strengthen behavior; unpleasant consequences weaken it. In other words, pleasurable consequences increase the frequency with which an individual engages in a behavior, whereas unpleasant consequences reduce the frequency of a behavior. If students enjoy reading books, they will probably read more often. If they find stories boring or are unable to concentrate, they may read less often, choosing other activities instead. Pleasurable consequences are called *reinforcers;* unpleasant consequences are called *punishers.*

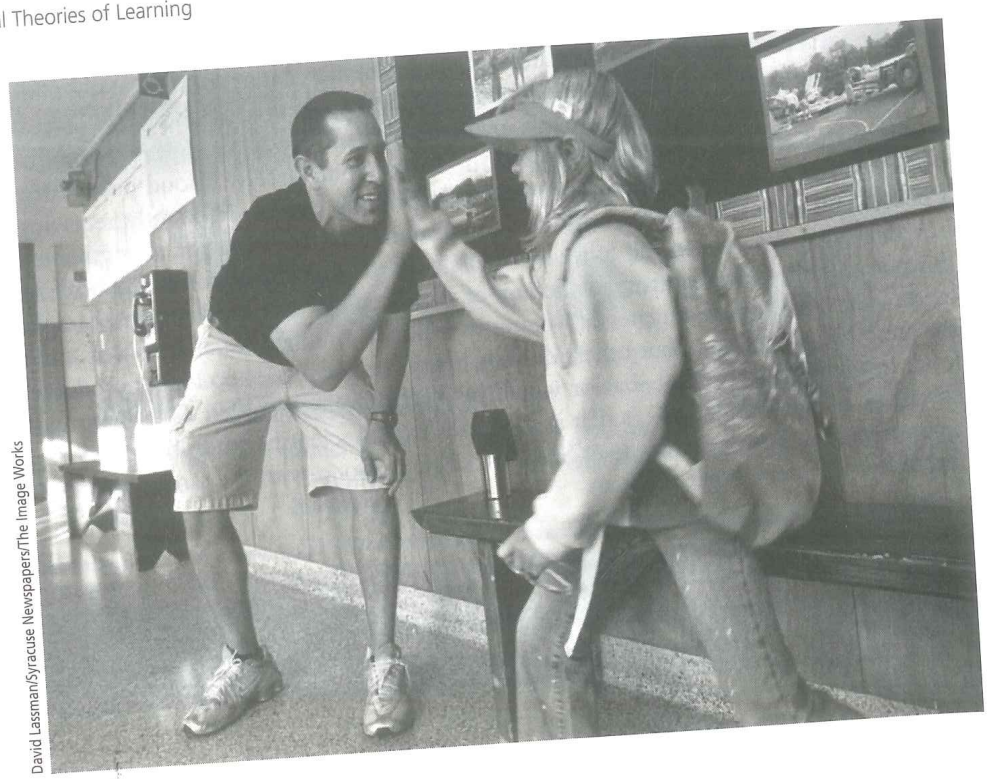
### Reinforcers

A **reinforcer** is defined as any consequence that strengthens (that is, increases the frequency of) a behavior. Note that the effectiveness of the reinforcer must be demonstrated. We

**How does this Skinner box work? What type of conditioning is the rat undergoing? How does that type of conditioning take place, and how is it different from the type of conditioning Pavlov studied?**



Nina Leen/Time Life/Getty Images



David Lassman/Syracuse Newspapers/The Image Works

**Teachers are a primary source of reinforcement in children's lives. What type of secondary reinforcement is this teacher demonstrating? What are the possible outcomes of this reinforcement?**

**Connections**

See Chapter 11, Effective Learning Environments, for classroom applications, including applied behavioral analysis.

cannot assume that a particular consequence is a reinforcer until we have evidence that it strengthens behavior for a particular individual. For example, candy might generally be considered a reinforcer for young children, but after a big meal a child might not find candy pleasurable, and some children do not like candy at all. A teacher who says, "I reinforced him with praise for staying in his seat during math time, but it didn't work," may be misusing the term *reinforced* if there is no evidence that praise is in fact a reinforcer for this particular student. No reward can be assumed to be a reinforcer for everyone under all conditions (Barnhill, 2005).

PRIMARY AND SECONDARY REINFORCERS Reinforcers fall into two broad categories: primary and secondary. **Primary reinforcers** satisfy basic human needs. Some examples are food, water, security, warmth, and sex. **Secondary reinforcers** are reinforcers that acquire their value by being associated with primary reinforcers or other well-established secondary reinforcers. For example, money has no value to a young child until the child learns that money can be used to buy things that are themselves primary or secondary reinforcers. Grades have little value to students unless their families notice and value good grades, and families' praise is of value because it is associated with love, warmth, security, and other reinforcers. There are three basic categories of secondary reinforcers. One is social reinforcers, such as praise, smiles, hugs, or attention. When Ms. Esteban recognized Rebecca, she was inadvertently giving Rebecca a social reinforcer: her own attention. Other types of secondary reinforcers are activity reinforcers (such as access to toys, games, or fun activities) and token (or symbolic) reinforcers (such as money, grades, stars, or points that individuals can exchange for other reinforcers).

**primary reinforcer**
Food, water, or other consequence that satisfies a basic need.

**secondary reinforcer**
A consequence that people learn to value through its association with a primary reinforcer.

**positive reinforcer**
Pleasurable consequence given to strengthen behavior.

**negative reinforcer**
Release from an unpleasant situation, given to strengthen behavior.

POSITIVE AND NEGATIVE REINFORCERS Most often, the reinforcers used in schools are **positive reinforcers** that include praise, grades, and stars. However, another way to strengthen a behavior is if its consequence is an escape from an unpleasant situation or a way of preventing something unpleasant from occurring. For example, a parent might release a student from doing the dishes for completing homework. If doing the dishes is seen as an unpleasant task, release from it will be reinforcing. Escapes from unpleasant situations are called **negative reinforcers** (Landrum & McDuffie, 2008).

This term is often misinterpreted to mean punishment, as in "I negatively reinforced him for being late by having him stay in during recess" (Martella, Nelson, & Marchand-Martella, 2003). One way to avoid this error in terminology is to remember that reinforcers (whether positive or negative) strengthen behavior, whereas punishment is designed to weaken behavior (see Table 5.1).

**TABLE 5.1 Consequences in Behavioral Learning**

| Strengthens Behavior | Discourages Behavior |
|---|---|
| *Positive Reinforcement*<br>*Example:* Rewarding or praising | *No Reinforcement*<br>*Example:* Ignoring |
| *Negative Reinforcement*<br>*Example:* Excusing from an undesirable task or situation | *Removal Punishment*<br>*Example:* Forbidding a desirable task or situation |
| | *Presentation Punishment*<br>*Example:* Imposing an undesirable task or situation |

THE PREMACK PRINCIPLE One important principle of behavior is that we can promote behaviors by making access to something desirable contingent on doing something less desirable. For example, you might say, "As soon as you finish your work, you may go outside" or "Clean up your art project, and then I will read you a story." These are examples of the **Premack Principle** (Premack, 1965), sometimes called "Grandma's Rule" from the age-old statement, "Eat your vegetables, and then you may play." You can use the Premack Principle by alternating more enjoyable activities with less enjoyable ones and making participation in fun activities depend on successful completion of the less enjoyable ones. For example, in elementary school it may be a good idea to schedule music, which most students consider an enjoyable activity, after a difficult subject so students will know not to fool around during the difficult subject and risk losing part of their desired music time (Martella et al., 2003).

**Certification Pointer**

Teacher certification tests are likely to require you to know that when a teacher says, "If you get an A on tomorrow's test, you won't have to do homework the rest of the week," she's using negative reinforcement (escape from an unpleasant consequence, assuming homework is unpleasant!).

## Theory into Practice

### Classroom Uses of Reinforcement

The behavioral learning principle most useful for classroom practice is also the simplest: Reinforce behaviors you wish to see repeated. This principle may seem obvious, but in practice it is not as easy as it appears. For example, some teachers take the attitude that reinforcement is unnecessary, reasoning, "Why should I reinforce them? They're just doing what they're supposed to do!"

Guidelines for the use of reinforcement to increase desired behavior in the classroom are as follows (see Alberto & Troutman, 2009; Jones & Jones, 2004; Kauffman, Mostort, Trent, & Hallahan, 2002; Malott, 2008; Marzano, 2003; Miltenberger, 2001).

1. ***Decide what behaviors you want from students, and reinforce these behaviors when they occur.*** For example, praise or reward good work. Do not praise or reward work that is not up to students' capabilities. As students begin a new task, they will need to be reinforced at every step along the way. Close approximations of what you hope to accomplish as a final product must receive positive feedback. Break down new behaviors (classroom assignments) into smaller parts and provide adequate rewards along the way.

2. ***Tell students what behaviors you want; when they exhibit the desired behaviors and you reinforce them, tell them why.*** Present students with a rubric that itemizes the criteria you will use when evaluating their work and include the point value for each criterion. Students then will be able to discriminate their own strengths and weaknesses from the feedback they receive from you.

**INTASC**

4 Multiple Instructional Strategies

**Premack Principle**

Rule stating that enjoyable activities can be used to reinforce participation in less enjoyable activities.

3. ***Reinforce appropriate behavior as soon as possible after it occurs*** Delayed reinforcement is less effective than immediate reinforcement. When you are grading an assignment, present feedback to your students as soon as possible. It is important that students know how they are doing in class, so don't delay their grades. When constructing an assignment, you should always consider the grading scheme that you will use and how long it will take you to provide the intended feedback.

**Connections**

For more on intrinsic and extrinsic motivation, see Chapter 10, page 301.

INTRINSIC AND EXTRINSIC REINFORCERS Often, the most important reinforcer that maintains behavior is the pleasure inherent in engaging in the behavior. For example, most people have a hobby that they work on for extended periods without any reward. People like to draw, read, sing, play games, hike, or swim for no reason other than the fun of doing it. Reinforcers of this type are called **intrinsic reinforcers,** and people can be described as being intrinsically motivated to engage in a given activity. Intrinsic reinforcers are contrasted with **extrinsic reinforcers,** praise or rewards given to motivate people to engage in a behavior that they might not engage in without it. There is evidence that reinforcing children for certain behaviors they would have done anyway can undermine long-term intrinsic motivation (Deci & Ryan, 2002). Research on this topic finds that the undermining effect of extrinsic reinforcers occurs only in a limited set of circumstances, in which rewards are provided to children for engaging in an activity without any standard of performance, and only if the activity is one that children would have done on their own without any reward (Cameron & Pierce, 1994, 1996; Eisenberger, Pierce, & Cameron, 1999). Verbal praise and other types of feedback are extrinsic reinforcers that have been found to increase, not decrease, intrinsic interest. What this research suggests for practice is that you should be cautious about giving reinforcers to children for activities they would have done on their own. However, for most school tasks, which most students would not have done on their own, there is no basis for concern that use of extrinsic reinforcers will undermine intrinsic motivation, especially if those reinforcers are social and communicate recognition of students' growing mastery and independence. In fact, it has been argued that failure to use positive reinforcement when it would have been effective in increasing positive behaviors is unethical (e.g., Bailey & Burch, 2005; Maag, 2001). For example, consider a student who is at risk of being expelled due to fighting. If a program of positive reinforcement for avoiding fighting might have eliminated the student's fighting, then you would be ethically bound to try such a plan (or others) before considering such a serious step as expulsion.

**ON THE WEB**

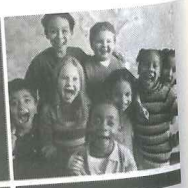
For a debate on the issue of intrinsic versus extrinsic motivation, visit www.restud.com/PDF/intrinsicresfeb4.pdf.

**intrinsic reinforcers**
Behaviors that a person enjoys engaging in for their own sake, without any other reward.

**extrinsic reinforcers**
Praise or rewards given to motivate people to engage in behavior that they might not do otherwise.

## Theory into Practice

### Practical Reinforcers



Anything that children like can be an effective reinforcer, but there are obvious practical limitations on what should be used in classrooms. One general principle

of positive reinforcement is that it is best to use the least elaborate or tangible reinforcer that will work. In other words, if praise or self-reinforcement will work, don't use certificates. If certificates will work, don't use small toys. If small toys will work, don't use food. One way to find out what reinforcers to use is to ask the students themselves, who are more likely to work for a reinforcer they have selected (Cote, Thompson, Hanley, & McKerchar, 2007). However, do not hesitate to use whatever practical reinforcer is necessary to motivate children to do important tasks. In particular, try all possible reinforcement strategies before even thinking of punishment (described next). A few categories of reinforcers and examples of each appear here (also see Burden, 2000; Landrum & Kauffman, 2006; Martella et al., 2003). These are arranged from least to most tangible.

1. ***Self-reinforcement.*** Students may be taught to praise themselves, give themselves a mental pat on the back, check off progress on a form, take a short break, or otherwise reinforce themselves for completing an assignment or staying on task.

2. ***Praise.*** Phrases such as "Good job," "Way to go," "I knew you could do it," and other verbal praise can be effective, but the same message can often be delivered with a smile, a wink, a thumbs-up signal, or a pat on the back. In cooperative learning and peer tutoring, students can be encouraged to praise each other for appropriate behavior (Landrum & Kauffman, 2006).

3. ***Attention.*** The attention of a valued adult or peer can be a very effective reinforcer for many children. Listening, nodding, or moving closer may provide a child with the positive attention she or he is seeking. For outstanding performance or for meeting goals over a longer time period, students might be allowed a special time to visit with the custodian, to help in the office, or to take a walk with the principal (Alber & Heward, 2000).

4. ***Grades and recognition.*** Good marks and other honors (e.g., certificates of accomplishment) can be effective both in giving students positive feedback on their efforts and in communicating progress to families, who are likely to reinforce good reports themselves. Public displays of good work, notes from the principal, and other commendations can have the same effect. Quiz scores, behavior ratings, and other feedback given frequently can be more effective than report card grades covering months of work.

5. ***Call home.*** Calling or sending a note to a child's caregivers to recognize success can be a powerful reinforcer.

6. ***Home-based reinforcement.*** Families can be effective partners in a reinforcement system. Teachers can work out an arrangement with families in which children receive special privileges at home if the children meet well-specified standards of behavior or performance.

**Connections**
For more on working with parents to reinforce behavior, see Chapter 11, pages 337–338.

7. ***Privileges.*** Children can get free time, access to special equipment (e.g., soccer balls or games), or special roles (such as running errands or distributing papers). Children or groups who have behaved well can simply be allowed to line up first for recess or dismissal or have other small privileges.

8. ***Activity reinforcers.*** After achieving preestablished standards, students can earn videos, games, or access to other fun activities. Activity reinforcers lend themselves particularly well to group contingencies, in which a whole class can earn free time or special activities if students collectively achieve a standard (Embry, 2002; Theodore, Bray, Kehle, & Jenson, 2001).

**Connections**
For more on the use of activity reinforcers, see Chapter 11, pages 334–337 and 340–341.

9. ***Tangible reinforcers.*** Children may earn points for achievement or good behavior that they can exchange for small toys, erasers, pencils, marbles, comic books, stickers, and so on. Tangible reinforcers usually work better if children have a choice among several options (Cruz & Cullinan, 2001; Walker et al., 2004).

10. ***Food.*** Raisins, apples, carrots, yogurt, or other healthy snacks can be used as reinforcers.

## ■ Punishers

**Certification Pointer**

For teacher certification tests you will probably need to know that unless an unpleasant consequence reduces the frequency of the behavior it follows, it may not be a punisher.

Consequences that weaken behavior are called *punishers.* Note that there is the same catch in the definition of **punishment** as in the definition of *reinforcement:* If an apparently unpleasant consequence does not reduce the frequency of the behavior it follows, it is not necessarily a punisher. For example, some students like being sent to the principal's office or out to the hall because it releases them from the classroom, which they see as an unpleasant situation (Driscoll, 2000; Kauffman et al., 2002; Martella et al., 2003). Some students like to be scolded because it gains them your attention and perhaps enhances their status among their peers. As with reinforcers, the effectiveness of a punisher cannot be assumed but must be demonstrated. Punishment can take two primary forms.

PRESENTATION PUNISHMENT The use of unpleasant consequences, or **aversive stimuli,** characterizes **presentation punishment,** as when a student is scolded.

REMOVAL PUNISHMENT The withdrawal of a pleasant consequence describes **removal punishment.** Examples include loss of a privilege, having to stay in during recess, or receiving detention after school. Another example, called **response cost** (Landrum & McDuffie, 2008), involves charging a cost to students who are behaving inappropriately, such as a minute of detention after school for every minute off task. One frequently used form of removal punishment in classrooms is **time out,** in which a student who misbehaves is required to sit in the corner or in the hall for several minutes (see Nelson & Carr, 2000). Teachers often use time out when they believe that the attention of other students is serving to reinforce misbehavior; time out deprives the student who has misbehaved of this reinforcer. The use of time out as a consequence for misbehavior has generally been found to reduce the misbehavior (Alberto & Troutman, 2006).

**punishment**
Unpleasant consequences used to weaken behavior.

**aversive stimulus**
An unpleasant consequence that a person tries to avoid or escape.

**presentation punishment**
An aversive stimulus following a behavior, used to decrease the chances that the behavior will occur again.

**removal punishment**
Withdrawal of a pleasant consequence that may be reinforcing a behavior, designed to decrease the chances that the behavior will recur.

**response cost**
Procedure of charging misbehaving students against their free time or other privileges.

**time out**
Procedure of removing a student from a situation in which misbehavior was being reinforced.

For example, White and Bailey (1990) evaluated use of a sit-and-watch consequence for physical education classes. Children who misbehaved were told what they had done wrong and were given a 3-minute sand timer and asked to sit and watch until the sand ran out. The program was first tried in an alternative class for fourth- and fifth-graders with serious behavior problems. Figure 5.2 summarizes the findings. After a baseline of up to 343 disruptive behaviors in 10 minutes was observed, a behavioral checklist program was tried, in which teachers rated each child's behavior and sent poorly behaved children to the office or deprived them of a free period. This reduced misbehavior but did not eliminate it. However, when the sit-and-watch procedure was introduced, misbehavior virtually disappeared. The same sit-and-watch method was used in a regular fourth-grade physical education class, and the results were similar.

The issue of if, when, and how to punish has been a source of considerable controversy among behavioral learning theorists. Some have claimed that the effects of punishment, especially presentation (aversive) punishment, are only temporary, that punishment produces aggression, and it causes individuals to avoid settings in which it is used (Kazdin, 2001; Landrum & Kauffman, 2006; Miltenberger, 2001). Even behavioral learning theorists who do support the use of punishment agree that it should be resorted to only when reinforcement for appropriate behavior has been tried and has failed; that when punishment is necessary, it should take the mildest possible form; and that punishment

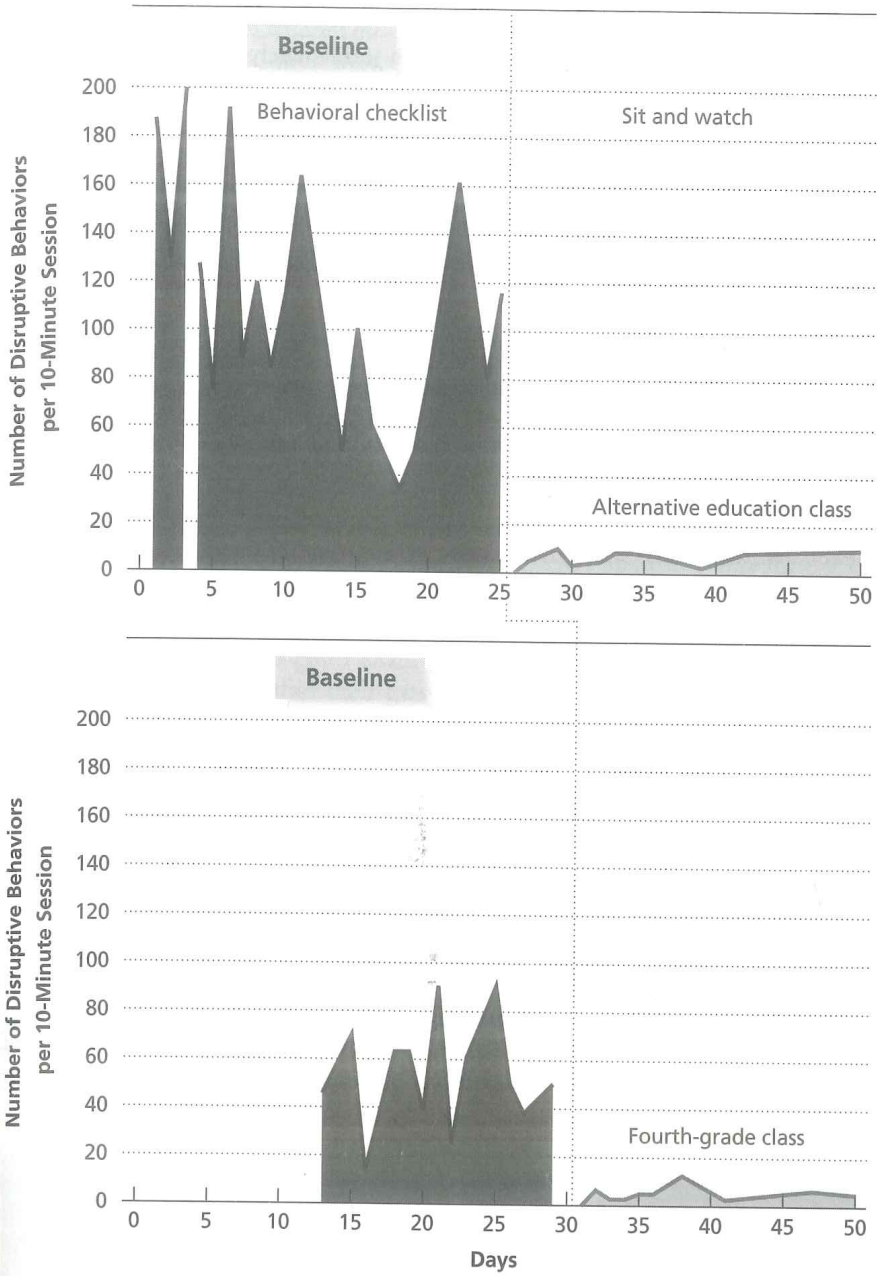



**FIGURE 5.2 Reducing Disruptive Behavior with Sit and Watch**

The number of disruptive behaviors per 10-minute observation period is shown here.

*Source:* A. G. White and J. S. Bailey, "Reducing Disruptive Behaviors of Elementary Physical Education Students with Sit and Watch," *Journal of Applied Behavior Analysis, 3,* 1990, p. 357. Adapted by permission.

should always be used as part of a careful plan, never inconsistently or out of frustration. Physical punishment in schools (such as spanking) is illegal in most places (Jones & Jones, 2007; Levin & Nolan, 2007) and is universally opposed by behavioral learning theorists on ethical as well as scientific grounds (see Bailey & Burch, 2005; Kazdin, 2001; Malott, Malott, & Trojan, 2000).

## ■ Immediacy of Consequences

One very important principle of behavioral learning theories is that consequences that follow behaviors closely in time affect behavior far more than delayed consequences. Waiting a few minutes to give a rat in a Skinner box its food pellet for pressing a bar will significantly increase its learning time for making the connection between bar

pressing and food; by the time the food arrives, the rat may be doing something other than bar pressing. A smaller reinforcer that is given immediately generally has a much larger effect than does a large reinforcer given later (Alberto & Troutman, 2006). This concept explains much about human behavior. It suggests, for example, why people find it so difficult to give up smoking or overeating. Even though the benefits of giving up smoking or of losing weight are substantial and well known, the small but immediate reinforcement of just one cigarette or one doughnut often overcomes the behavioral effect of the large but delayed reinforcers. In the classroom the principle of immediacy of consequences is also very important. Particularly for younger students, praise for a job well done that is given immediately can be a stronger reinforcer than a good grade given much later. Moving close to a student who is misbehaving, touching his or her shoulder, or making a gesture (e.g., finger to lips to ask for silence) may be much more effective than a scolding or warning given at the end of class (Jones & Jones, 2007; Landrum & Kauffman, 2006).

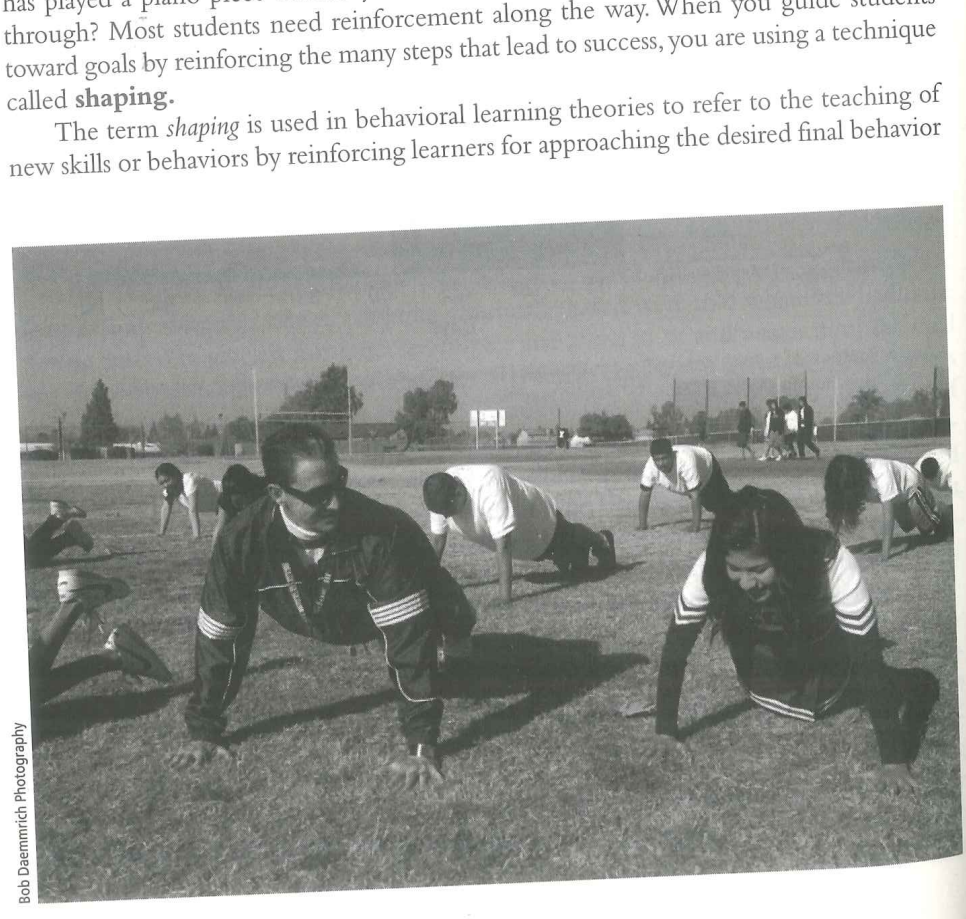
Immediate feedback serves at least two purposes. First, it makes clear the connection between behavior and consequence. Second, it increases the informational value of the feedback. In dealing with misbehavior, you can apply the principle of immediacy of consequences by responding immediately and positively when students are not misbehaving—in effect, by catching them in the act of being good!

## ■ Shaping

Immediacy of reinforcement is important to teaching, but so is the decision of what to reinforce. Should a kindergarten teacher withhold reinforcement until a child knows the sounds of all 26 letters? Certainly not. It would be better to praise children for recognizing one letter, then for recognizing several, and finally for learning the sounds of all 26 letters. Should a music teacher withhold reinforcement until a young student has played a piano piece flawlessly? Or should the teacher praise the first halting run-through? Most students need reinforcement along the way. When you guide students toward goals by reinforcing the many steps that lead to success, you are using a technique called **shaping.**

**shaping**
The teaching of a new skill or behavior by means of reinforcement for small steps toward the desired goal.

The term *shaping* is used in behavioral learning theories to refer to the teaching of new skills or behaviors by reinforcing learners for approaching the desired final behavior



Bob Daemmrich Photography

**Whether teaching children new physical skills or academic skills, teachers and coaches begin with the basics and build from there. What techniques can they use to shape children's behaviors?**

(Bigge & Shermis, 2004; Driscoll, 2000). For example, in teaching children to tie their shoelaces, we would not simply show them how it is done and then wait to reinforce them until they do the whole job themselves. Rather, we would first reinforce them for tying the first knot, then for making the loops, and so on, until they can do the entire task. In this way we would be shaping the children's behavior by reinforcing all those steps that lead toward the final goal.

Shaping is an important tool in classroom instruction. Let's say we want students to be able to write paragraphs with a topic sentence, three supporting details, and a concluding sentence. This task has many parts: being able to recognize and then produce topic sentences, supporting details, and concluding sentences; being able to write complete sentences using capitalization, punctuation, and grammar correctly; and being able to spell. If you taught a lesson on all these skills and then asked students to write paragraphs, scoring them on content, grammar, punctuation, and spelling, most students would fail and would probably learn little from the exercise.

Instead, you might teach the skills step by step, gradually shaping the final skill. Students might be taught how to write first topic sentences, then supporting details, then concluding sentences. Early on, they might be held responsible only for paragraph content. Later, the requirement for reinforcement might be increased to include grammar and punctuation. Finally, spelling might be added as a criterion for success. At each stage, students would have a good chance to be reinforced because the criterion for reinforcement would be within their grasp. The principle here is that students should be reinforced for behaviors that are within their current capabilities but that also stretch them toward new skills.

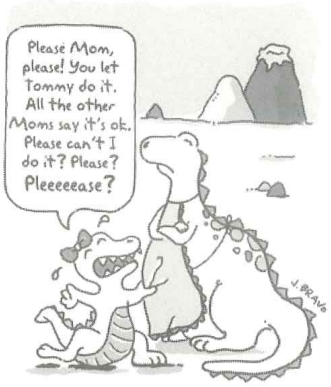
## ■ Extinction

By definition, reinforcers strengthen behavior. But what happens when reinforcers are withdrawn? Eventually, the behavior will be weakened, and ultimately it will disappear. This process is called **extinction** of a previously learned behavior.

Extinction is rarely a smooth process. When reinforcers are withdrawn, individuals often increase their rate of behavior for a while. For example, think of a door that you've used as a shortcut to somewhere you go frequently. Imagine that one day the door will not open. You may push even harder for a while, shake the door, turn the handle both ways, perhaps even kick the door. You are likely to feel frustrated and angry. However, after a short time you will realize that the door is locked and go away. If the door is permanently locked (without your knowing it), you may try it a few times over the next few days and then perhaps once after a month; only eventually will you give up on it.

Your behavior when confronted by the locked door is a classic extinction pattern. Behavior intensifies when the reinforcer is first withdrawn and then rapidly weakens until the behavior disappears. Still, the behavior may return after much time has passed. For example, you could try the door again a year later to see whether it is still locked. If it is, you will probably leave it alone for a longer time, but perhaps not forever.

The characteristic **extinction burst,** the increase in levels of a behavior in the early stages of extinction, has important consequences for classroom management. For example, imagine that you have decided to extinguish a child's inappropriate calling out of answers (instead of raising her hand to be recognized) by ignoring her until she raises her hand quietly. At first, ignoring the child is likely to increase her calling-out behavior, a classic extinction burst. You might then mistakenly conclude that ignoring isn't working, when in fact continuing to ignore inappropriate call-outs is exactly the right strategy if you keep it up (Landrum & Kauffman, 2006; Martella et al., 2003). Worse, you might finally decide to give in and recognize the child after the third or fourth call-out. This would teach the worst possible message: that calling out works eventually if you keep doing it. This would probably result in an increase in the very behavior you were trying to reduce, as the child learns that "if at first you don't succeed, try, try again" (Landrum & McDuffie, 2008). This is the case in the vignette presented at the beginning of this




*A dinosaur goes through extinction.*

**extinction**
The weakening and eventual elimination of a learned behavior as reinforcement is withdrawn.

**extinction burst**
The increase in levels of a behavior in the early stages of extinction.

chapter. Ms. Esteban at first ignores Rebecca's calling out, so she calls out even louder. Then the teacher calls on Rebecca, unintentionally communicating to her that only loud and persistent calling out will be reinforced.

Extinction of a previously learned behavior can be hastened when some stimulus or cue informs the individual that behaviors that were once encouraged will no longer be reinforced. In the case of the locked door, a sign saying, "Door permanently locked—use other entrance" would have greatly reduced the number of times you tried the door before giving up on it. Call-outs will be reduced much more quickly if Ms. Esteban tells her class, "I will no longer respond to children unless they are silent and are raising their hand," and then ignores all other attempts to get her attention.

## ■ Schedules of Reinforcement

The effects of reinforcement on behavior depend on many factors, one of the most important of which is the **schedule of reinforcement** (see Alberto & Troutman, 2009; Kazdin, 2001; Miltenberger, 2001). This term refers to the frequency with which reinforcers are given, the amount of time that elapses between opportunities for reinforcement, and the predictability of reinforcement.

**schedule of reinforcement**
The frequency and predictability of reinforcement.

FIXED RATIO (FR) One common schedule of reinforcement is the **fixed-ratio (FR) schedule,** in which a reinforcer is given after a fixed number of behaviors. For example, you might say, "As soon as you finish 10 problems, you may go outside." Regardless of the amount of time it takes, students are reinforced as soon as they finish 10 problems. This is an example of an FR10 schedule (10 behaviors for one reinforcer). One common form of fixed-ratio schedule gives reinforcement for each behavior. This is called *continuous reinforcement* (CRF), or FR1. Putting money in a soda machine is (usually) an example of continuous reinforcement because one behavior (inserting coins) results in one reinforcer (a soda). Giving correct answers in class is also usually continuously reinforced. The student gives a good answer, and you say, "Right! Good answer!"

**fixed-ratio (FR) schedule**
Reinforcement schedule in which desired behavior is rewarded following a fixed number of behaviors.

One important process in instruction is gradually increasing reinforcement ratios. Early in a sequence of lessons, it may be necessary to reinforce students for every correct answer, such as responding to every successful math problem. However, this is inefficient in the long run. As soon as students are answering math problems correctly, it may be possible to reinforce every 5 problems (FR5), every 10 (FR10), and so on. Thinning out the reinforcement schedule in this way enhances the student's ability to work independently without reinforcement and makes the behavior more resistant to extinction. Ultimately, students might be asked to do entire projects on their own, receiving no reinforcement until the projects are completed.

Fixed-ratio schedules are effective in motivating individuals to do a great deal of work—especially if the fixed ratio starts with continuous reinforcement (FR1) to get the individual going and then moves to higher requirements for reinforcement. One reason that high requirements for reinforcement produce higher levels of behavior than low requirements is that reinforcing too frequently can make the value of the reinforcer wear off. Students who are praised for every math problem will soon grow tired of being praised, and the reinforcer might lose its value.

**variable-ratio (VR) schedule**
Reinforcement schedule in which desired behavior is rewarded following an unpredictable number of behaviors.

VARIABLE RATIO (VR) A **variable-ratio (VR) schedule** of reinforcement is one in which the number of behaviors required for reinforcement is unpredictable, although it is certain that the behaviors will eventually be reinforced. For example, a slot machine is a variable-ratio reinforcer. It may pay off after 1 pull one time and after 200 the next, and there is no way to predict which pull will win. In the classroom teachers often use a variable-ratio schedule when students raise their hands to answer questions. Although they never know when they will be reinforced by being able to give the correct answer, students may expect to be called on about 1 time in 20 in a class of 20, called a VR20 schedule because, on the average, 20 behaviors are required for one reinforcer.

Variable-ratio schedules tend to produce high and stable rates of behavior. In fact, almost all gambling games involve VR schedules, and so they can be quite literally addicting. Similarly, use of frequent random checks of student work can help to motivate steady, careful work.

Variable-ratio schedules are highly resistant to extinction. Even after behaviors are no longer being reinforced, people may not give up working for a long time. Because they have learned that it may take a lot of work to be rewarded, they keep on working in the mistaken belief that the next effort might just pay off.

FIXED INTERVAL (FI) In **fixed-interval (FI) schedules,** reinforcement is available only at certain periodic times. The final examination is a classic example. Fixed-interval schedules create an interesting pattern of behavior. The individual may do very little until just before reinforcement is available and then put forth a burst of effort as the time for reinforcement approaches. This pattern can be demonstrated with rats and pigeons on fixed-interval schedules, but it is even more apparent in students who cram at the last minute before a test or who write their monthly book reports the night before they are due. These characteristics of fixed-interval schedules suggest that frequent short quizzes may be better than infrequent major exams for encouraging students to give their best effort all the time rather than putting in all-nighters before the exam (Malott, 2008).

VARIABLE INTERVAL (VI) In a **variable-interval (VI) schedule,** reinforcement is available at some times but not at others, and we have no idea when a behavior will be reinforced. An example of this is making spot checks of students who are doing assignments in class. Students are reinforced if they are working well at the particular moment you come by. Because they cannot predict when you will check them, students must be doing good work all the time. People may obey traffic laws out of respect for the law and civic responsibility, but it also helps that the police randomly check drivers' compliance with the law. Troopers using speed cameras often hide on overpasses or behind hills so that they can get a random sampling of drivers' behavior. If they were always in plain sight, they would be a signal to drive carefully, so the necessity for driving carefully at other times would be reduced.

Like variable-ratio schedules, variable-interval schedules are very effective for maintaining a high rate of behavior while being highly resistant to extinction. For example, let's say you have a policy of having students hand in their seatwork every day. Rather than checking every paper, you pull three papers at random and give these students extra credit if their seatwork is done well. This variable-interval schedule would probably motivate students to do their seatwork carefully. If you secretly stopped spot-checking halfway through the year, the students might never know it, figuring that their own paper just hadn't been pulled to be checked rather than realizing that reinforcement was no longer available for anyone.

Table 5.2 defines and gives additional examples of schedules of reinforcement.

## ■ Maintenance

The principle of extinction holds that when reinforcement for a previously learned behavior is withdrawn, the behavior fades away. Does this mean that teachers must reinforce students' behaviors forever?

Not necessarily. For rats in a Skinner box, the withdrawal of reinforcement for bar pressing will inevitably lead to extinction of bar pressing. However, humans live in a much more complex world that is full of natural reinforcers for most of the skills and behaviors that we learn in school. For example, students may initially require frequent reinforcement for behaviors that lead to reading. However, once they can read, they have a skill that unlocks the entire world of written language, a world that is highly reinforcing to most students. After a certain point, reinforcement for reading may no longer be necessary because the content of reading material itself maintains the behavior.

**fixed-interval (FI) schedule**
Reinforcement schedule in which desired behavior is rewarded following a constant amount of time.

**variable-interval (VI) schedule**
Reinforcement schedule in which desired behavior is rewarded following an unpredictable amount of time.

**TABLE 5.2 Schedules of Reinforcement**

Specific response patterns during reinforcement and extinction characterize each of the four types of schedules.

| Schedule | Definition | Response Patterns | |
|---|---|---|---|
| | | During Reinforcement | During Extinction |
| Fixed ratio | Constant number of behaviors for required for reinforcement | Steady response rate; pause after reinforcement | Rapid drop in response rate after required number of responses passes without reinforcement |
| Variable ratio | Variable number of behaviors required for reinforcement | Steady, high response rate | Response rate stays high, then drops off |
| Fixed interval | Constant amount of time passes before reinforcement is available | Uneven rate, with rapid acceleration at the end of each interval | Rapid drop in response rate after interval passes with no reinforcement |
| Variable interval | Variable amount of time passes before reinforcement is available | Steady, high response rate | Slow decrease in response rate |

Similarly, poorly behaved students may need careful, systematic reinforcement for doing schoolwork. After a while, however, they will find out that doing schoolwork pays off in grades, in family approval, in ability to understand what is going on in class, and in knowledge. These natural reinforcers for doing schoolwork were always available, but the students could not experience them until their schoolwork was improved by more systematic means.

The concept of resistance to extinction, discussed earlier (in the section on schedules of reinforcement), is central to an understanding of **maintenance** of learned behavior. As was noted, when new behaviors are being introduced, reinforcement for correct responses should be frequent and predictable. However, once the behaviors are established, reinforcement for correct responses should become less frequent and less predictable. The reason for this is that variable schedules of reinforcement and schedules that require many behaviors before reinforcement is given are much more resistant to extinction than are fixed schedules or easy ones. For example, if you praise a student every time the student does a math problem but then stop praising, the student may stop doing math problems. In contrast, if you gradually increase the number of math problems a student must do to be praised and praise the student at random intervals (a variable-ratio schedule), then the student is likely to continue to do math problems for a long time with little or no reinforcement from you.

**Certification Pointer**

Teacher certification tests may require you to know that holding up your hand to get students' attention is cueing, an antecedent stimulus that informs students which behaviors will be reinforced.

**maintenance**
Continuation (of behavior).

**antecedent stimuli**
Events that precede behaviors.

**cues**
Signals as to which behavior(s) will be reinforced or punished.

## ■ The Role of Antecedents

We have seen that the consequences of behavior strongly influence behavior. Yet it is not only what follows a behavior that has influence. The stimuli that precede a behavior also play an important role (Kazdin, 2001).

CUEING **Antecedent stimuli,** events that precede a behavior, are also known as **cues** because they inform us about which behavior will be reinforced and which will be punished. Cues come in many forms and give us hints as to when we should change our behavior and when we should not. For example, during a math session, most teachers will reinforce students who are working on problems. However, after the teacher has announced that math is over and it is time for music, the consequences change. The ability to behave one way in the presence of one stimulus—"It's math time"—and a different way in the presence of another stimulus—"It's time for music"—is known as *stimulus discrimination.*

### DISCRIMINATION

When is the best time to ask your boss for a raise? When the company is doing well, the boss looks happy, and you have just done something especially good? Or when the company has just gotten a poor earnings report, the boss is glowering, and you have just made a costly error? Obviously, the first situation is more likely to lead to success. You know this because you have learned to discriminate between good and bad times to ask your boss to do something for you. **Discrimination** is the use of cues, signals, or information to know when behavior is likely to be reinforced. The company's financial condition, the boss's mood, and your recent performance are discriminative stimuli with regard to the chances that your request for a raise will be successful. For students to learn discrimination, they must have feedback on the correctness or incorrectness of their responses. Studies of discrimination learning have generally found that students need to know when their responses are incorrect as well as correct.

Learning is largely a matter of mastering more and more complex discriminations. For example, all letters, numbers, words, and mathematical symbols are discriminative stimuli. A young child learns to discriminate between the letters *b* and *d*. An older student learns the distinction between the words *effective* and *efficient*. An educational psychology student learns to discriminate negative reinforcement from punishment. A teacher learns to discriminate facial and verbal cues indicating that students are bored or interested by a lecture.

Applying the concept of discriminative stimuli to classroom instruction and management is easy: You should tell students what behaviors will be reinforced. In theory, you could wait until students did something worthwhile and then reinforce it, but this would be incredibly inefficient. Rather, you should give students messages that say, in effect, "To be reinforced (e.g., with praise, grades, or stars), these are the things you must do." In this way, you can avoid having students spend time and effort on the wrong activities. If students know that what they are doing will pay off, they will usually work hard.

### GENERALIZATION

If students learn to stay in their seats and do careful work in math class, will their behavior also improve in science class? If students can subtract 3 apples from 7 apples, can they also subtract 3 oranges from 7 oranges? If students can interpret symbolism used by Shakespeare, can they also interpret symbolism used in African folktales? These are all questions of **generalization,** or transfer of behaviors learned under one set of conditions to other situations. Generalization cannot be taken for granted. For example, when a classroom management program is successfully introduced in one setting, students' behaviors do not automatically improve in other settings. Instead, students learn to discriminate among settings. Even young children readily learn what is encouraged and what is forbidden in kindergarten, at home, and at various friends' houses. Their behavior may be quite different in each setting, according to the different rules and expectations.

For generalization to occur, it usually must be planned for. A successful classroom management program used in social studies class may be transferred to English class to ensure generalization to that setting. Students may need to study the use of symbolism by many authors in many cultures before they acquire the skill to interpret symbolism in general.

Obviously, generalization is most likely to occur across similar settings or similar concepts. A new behavior is more likely to generalize from reading class to social studies class than to recess or home settings. However, even in the most similar-appearing settings, generalizations may not occur. For example, many students will demonstrate complete mastery of spelling or language mechanics and then fail to apply this knowledge to their own compositions. You should not assume that because students can perform effectively under one set of circumstances, they can also do so under a different set of circumstances.

### TECHNIQUES FOR INCREASING GENERALIZATION

There are many techniques for increasing the chances that a behavior learned in one setting, such as a given class, will generalize to other settings, such as other classes or, more importantly, real-life applications (see Alberto & Troutman, 2006; Martella et al., 2003; Walker et al., 2004). Some of these strategies involve teaching in a way that makes generalization easier. For example, arithmetic lessons involving money will probably transfer better to real life if they involve manipulating real or simulated coins and bills than if they involve only problems on

**discrimination**

Perception of and response to differences in stimuli.

**generalization**

Carryover of behaviors, skills, or concepts from one setting or task to another.

paper. Another teaching strategy known to contribute to generalization is using many examples from different contexts. For example, students are more likely to be able to transfer the concept of supply and demand to new areas if they learn examples relating to prices for groceries, prices for natural resources, values of collectibles (such as baseball cards), and wages for common and rare skills than if they learn only about grocery pricing. An obvious strategy for increasing generalization is "on-the-job training": teaching a given skill in the actual environment in which it will be used, or in a simulation of such an environment.

After initial instruction has taken place, there are many ways to increase generalization. One is to repeat instruction in a variety of settings. For example, after teaching students to use a given test-taking strategy in mathematics, such as "skip difficult problems and go back to them after answering the easy ones," you might give students the opportunity to use this same strategy on a science test, a grammar test, and a health test. Another after-teaching technique is to help students make the link between a new skill and natural reinforcers in the environment so as to maintain that skill. For example, when children are learning to read, they can be given a regular homework assignment to read books or magazines that are of high interest to them, even if those materials are not "good literature." Initially, new reading skills may be better maintained by comic books than by literary classics because for some children the comic books tie their new skill more immediately to the pleasure of reading, making generalization to nonschool settings more likely. Finally, you can increase generalization by directly reinforcing generalization—for example, by praising a student who connects a new idea to a different context or uses a skill in a new application.

## How Has Social Learning Theory Contributed to Our Understanding of Human Learning?

**Connections**
For the relation of social learning theory to social construction of meaning, see Chapter 8, page 219.

Social learning theory is a major outgrowth of the behavioral learning theory tradition. Developed by Albert Bandura, social learning theory accepts most of the principles of behavioral theories but focuses to a much greater degree on the effects of cues on behavior and on internal mental processes, emphasizing the effects of thought on action and action on thought (Bandura, 1986).

### ■ Bandura: Modeling and Observational Learning

**Connections**
For the relation of social learning theory to Vygotskian and neo-Piagetian views of development, see Chapter 2, page 41.

Bandura noted that the Skinnerian emphasis on the effects of the consequences of behavior largely ignored the phenomena of **modeling**—the imitation of others' behavior—and of vicarious experience—learning from others' successes or failures. He felt that much of human learning is not shaped by its consequences but is more efficiently learned directly from a model (Bandura, 1986; Schunk, 2000). The physical education teacher demonstrates jumping jacks, and students imitate. Bandura calls this *no-trial learning* because students do not have to go through a shaping process but can reproduce the correct response immediately.

Bandura's (1986) analysis of **observational learning** involves four phases: attentional, retention, reproduction, and motivational phases.

**ON THE WEB**
For more on social learning theory, go to http://tip.psychology.org/bandura.html.

**modeling**
Imitation of others' behavior.

**observational learning**
Learning by observation and imitation of others.

1. ***Attentional phase.*** The first phase in observational learning is paying attention to a model. In general, students pay attention to role models who are attractive, successful, interesting, and popular. This is why so many students copy the dress, hairstyle, and mannerisms of pop culture stars. In the classroom you gain the students' attention by presenting clear and interesting cues, by using novelty or surprise, and by motivating students.

2. ***Retention phase.*** Once teachers have students' attention, it is time to model the behavior they want students to imitate and then give students a chance to practice or rehearse. For example, you might show how to write the letter *A*. Then students would imitate your model by trying to write *A*'s themselves.

3. ***Reproduction.*** During the reproduction phase, students try to match their behavior to the model's. In the classroom the assessment of student learning takes place during this phase. For example, after seeing the letter *A* modeled and practicing it several times, can the student reproduce the letter so that it looks like your model?

4. ***Motivational phase.*** The final stage in the observational learning process is motivation. Students will imitate a model because they believe that doing so will increase their own chances to be reinforced. In the classroom the motivational phase of observational learning often entails praise or grades given for matching your model. Students pay attention to the model, practicing and reproducing it because they have learned that this is what you like and they want to please you. When the child makes a recognizable *A*, you say, "Nice work!"

**INTASC**

**2** Knowledge of Human Development and Learning

VICARIOUS LEARNING Although most observational learning is motivated by an expectation that correctly imitating the model will lead to reinforcement, it is also important to note that people learn by seeing others reinforced or punished for engaging in certain behaviors (Bandura, 1986; Zimmerman & Schunk, 2003). This is why magazine distributors always include happy winners in their advertisements to induce people to enter promotional contests. We may consciously know that our chances of winning are one in several million, but seeing others so handsomely reinforced makes us want to imitate their contest-entering behavior.

**Certification Pointer**

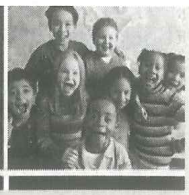
Teacher certification tests may require you to know that learning vicariously means that you learn from observing or hearing about another's experiences.

Classroom teachers use the principle of **vicarious learning** all the time. When one student is fooling around, teachers often single out others who are working well and reinforce them for doing a good job. The misbehaving student sees that working is reinforced and (it is hoped) gets back to work. This technique was systematically studied in a classic study by Broden, Hall, Dunlap, and Clark (1970). Two disruptive second-graders, Edwin and Greg, sat next to each other. After a baseline period, the teacher began to notice and praise Edwin whenever he was paying attention and doing his classwork. Edwin's behavior improved markedly under this condition. Of greater interest, however, is that Greg's behavior also improved, even though no specific reinforcement for appropriate behavior was directed toward him. Apparently, Greg learned from Edwin's experience. In the case of Ms. Esteban and Rebecca at the opening of this chapter, other students saw Rebecca get Ms. Esteban's attention by calling out answers, so they modeled their behavior on Rebecca's.

One of the classic experiments in social learning theory is a study done by Bandura (1965) in which children were shown one of three films. In all three, an adult modeled aggressive behavior. In one film the model was severely punished. In another the model was praised and given treats. In a third the model was given no consequences. After viewing one of the films, the children were observed playing with toys. The children who had seen the model punished engaged in significantly fewer aggressive acts in their own play than did the children who had seen the model rewarded or had viewed the film with no consequences.

## Theory into Practice

### Observational Learning



Have you ever tried to teach someone to tie his or her shoes? Imagine explaining this task to someone without the use of a model or imitation! Learning to tie our shoes is an example of how observational learning works.

**vicarious learning**

Learning based on observation of the consequences of others' behavior.

Acquiring new skills by observing the behaviors of others is a common part of everyday life. In many situations children watch others talking and acting, and they witness the consequences of those activities as well. Such observations provide models that teach children strategies to use at other times and places.

Although the major focus of research on observational learning has been on specific behaviors, studies have also shown that attitudes, too, may be acquired through observation (Miller, 1993). Teachers and parents alike are concerned with the models emulated by children. The value of these models goes beyond the specific abilities they possess and includes the attitudes they represent. In the classroom you must be certain to exemplify a standard of behavior consistent with the expectations you have for the students. For instance, if promptness and politeness are characteristics you want to foster in the students, then you must be certain to be prompt and polite.

**Connections**

For more on self-regulated learning, see Chapter 8, page 222.

SELF-REGULATED LEARNING Another important concept in social learning theory is **self-regulation** (Boekaerts, Pintrich, & Zeidner, 2000; Schunk & Pajares, 2004; Zimmerman, 2000). Bandura (1997) hypothesizes that people observe their own behavior, judge it against their own standards, and reinforce or punish themselves. We have all had the experience of knowing we've done a job well and mentally patting ourselves on the back, regardless of what others have said. Similarly, we all know when we've done less than our best. To make these judgments, we have to have expectations for our own performance. One student might be delighted to get 90 percent correct on a test, whereas another might be quite disappointed.

Students can be taught to use self-regulation strategies, and they can be reminded to do so in a variety of contexts so that self-regulation becomes a habit. For example, students might be asked to set goals for the amount of time they expect to study each evening and to record whether they meet their goals. Children who are studying multiplication facts might be asked to time themselves on how quickly and accurately they can complete a 50-item facts test and then to try to beat their own record. Students might be asked to grade their own essays in terms of content, mechanics, and organization, and to see whether they can match your ratings. Gureasko-Moore, DuPaul, and White (2006) asked four 12-year old boys who were frequently late and forgot materials and homework to keep a daily log of these behaviors. They met with each other daily, set goals for the group, and gradually all began coming to class on time and prepared. Each of these strategies puts students in control of their own learning goals, and each is likely to build a general strategy of setting and meeting personal goals and personal standards (Schunk & Zimmerman, 2003).

As with any skill, self-regulated learning skills are likely to remain limited to one situation or context unless they are applied in many contexts. For example, children who learn to set study goals for themselves when working alone may not transfer these skills to situations in which they are working in groups or in your presence (Schunk & Pajares, 2004; Zimmerman, 2000), although they can readily learn to make these generalizations if they are taught or reminded to do so. Similarly, children may not transfer self-regulated learning strategies from English to math, or even from computations to problem solving (Boekaerts, 1995). For this reason, students need many opportunities to use goal-setting and self-evaluation strategies in a variety of contexts; to monitor and celebrate their progress; and to understand how, when, and why they should self-regulate.

**self-regulation**

Rewarding or punishing one's own behavior.

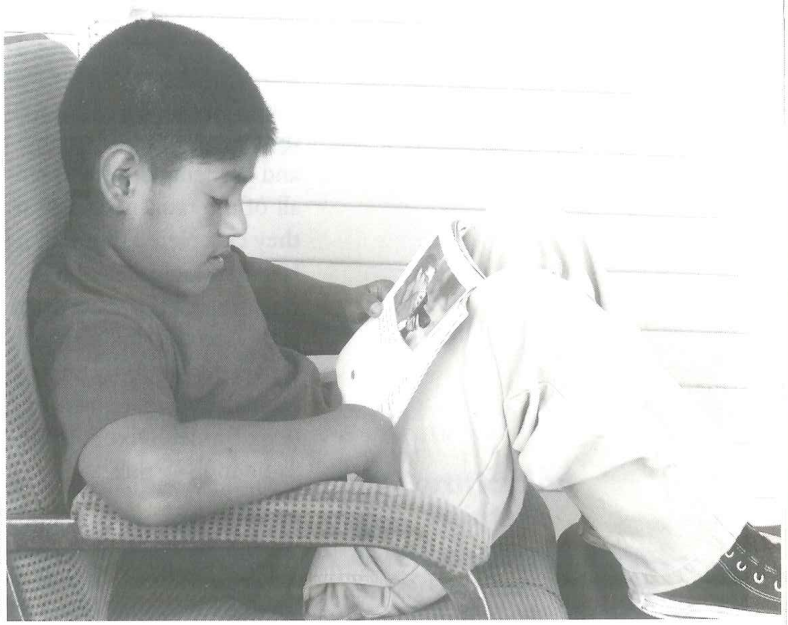
**cognitive behavior modification**

Procedures based on both behavioral and cognitive principles for changing one's own behavior by means of self-talk and self-instruction.

## ■ Meichenbaum's Model of Self-Regulated Learning

Students can be taught to monitor and regulate their own behavior. Self-regulated learning strategies of this kind are often called **cognitive behavior modification** (Harris et

al., 2001; Zimmerman, 2000). For example, Meichenbaum (1977) developed a strategy in which students are trained to say to themselves, "What is my problem? What is my plan? Am I using my plan? How did I do?" This strategy has been used to reduce disruptive behavior of students at many grade levels (Jones & Jones, 2007; Martella et al., 2003). Manning (1988) taught disruptive third-graders self-statements to help them remember appropriate behavior and to reinforce it for themselves. As one instance, for appropriate hand-raising, students were taught to say to themselves while raising their hands, "If I scream out the answer, others will be disturbed. I will raise my hand and wait my turn. Good for me. See, I can wait!" (Manning, 1988, p. 197). Similar strategies have been successfully applied to help students monitor their own achievement. For example, poor readers have been taught to ask themselves questions as they read and to summarize paragraphs to make sure they comprehend text (Bornstein, 1985).



Bill Aron/PhotoEdit

**How do community summer reading programs encourage young children to read? How is this a form of self-regulated learning?**

The steps involved in self-instruction are described by Meichenbaum (1977) as follows:

1. An adult model performs a task while talking to self out loud (cognitive modeling).
2. The child performs the same task under the direction of the model's instructions (overt, external guidance).
3. The child performs the task while instructing self aloud (overt self-guidance).
4. The child whispers the instructions to self as he or she goes through the task (faded, overt self-guidance).
5. The child performs the task while guiding his or her performance via private speech (covert self-instruction). (p. 32)

**Connections**
For the related concept of teaching self-questioning strategies to develop metacognitive skills, see Chapter 6, pages 168–169.

Encouraging self-regulated learning is a means of teaching students to think about their own thinking. Self-regulated learning strategies not only have been found to improve performance on the task students were taught but also have generalized to other tasks (Hadwin, 2008; Harris et al., 2001; Schunk & Zimmerman, 2003).

One example of a way to help children engage in self-regulated learning is providing students, when assigning a long or complex task, with a form for monitoring their progress. For example, a teacher who assigns students to write a report on the life of Martin Luther King, Jr., might hand out the following self-monitoring checklist:

**Task Completion Form**

- ☐ Located material on Martin Luther King, Jr., in the library and online
- ☐ Read and took notes on material
- ☐ Wrote first draft of report
- ☐ Checked draft for sense
- ☐ Checked draft for mechanics:
  - ☐ Spelling
  - ☐ Grammar
  - ☐ Punctuation
- ☐ Composed typed or neatly handwritten final draft

The idea behind this form is that breaking down a complex task into smaller pieces encourages students to feel that they are making progress toward their larger goal. Checking off each step allows them to give themselves a mental pat on the back that reinforces their efforts. After seeing many checklists of this kind, students might be asked to make up their own to learn how to chart their own progress toward a goal. For example, Reid and Lienemann (2006) taught a group of students with attention deficit disorders to list all of the tasks necessary to complete a writing assignment and then check them off as they completed them. This increased the length and quality of their writing. Along similar lines, Trammel, Schloss, and Alper (1994) found that having children with learning disabilities keep records and make graphs of their homework completion significantly increased the amount of homework they did. A review by Robinson, Robinson, and Katayama (1999) found that cognitive behavior modification strategies can have a substantial impact, especially on reducing hyperactive, impulsive, and aggressive behaviors (e.g., Binder, Dixon, & Ghezi, 2000). Several of the studies reviewed found these effects to be long-lasting.

**SELF-REINFORCEMENT** Drabman, Spitalnik, and O'Leary (1973) designed and evaluated a classic procedure to teach students to regulate their own behavior. They asked teachers to rate student behaviors each day and reinforce students when they earned high ratings. Then they changed the program: They asked students to guess what rating the teacher had given them. The students were reinforced for guessing correctly. Finally, the reinforcers were gradually removed. The students' behavior improved under the reinforcement and guessing conditions, and it remained at its improved level long after the program was ended. The authors explained that students who were taught to match the teacher's ratings developed their own standards for appropriate behavior and reinforced themselves for meeting those standards.

Information about one's own behavior has often been found to change behavior, even when that information is self-provided. For example, researchers have increased on-task behavior by having children mark down every few minutes whether they have been studying in the last few minutes (Maag, Rutherford, & DiGangi, 1992; Webber, Scheuermann, McCall, & Coleman, 1993). Many of us use this principle in studying, saying to ourselves that we will not take a break for lunch until we have finished reading a certain amount of material. Or we might buy ourselves chocolate if we've been conscientiously going to the gym.

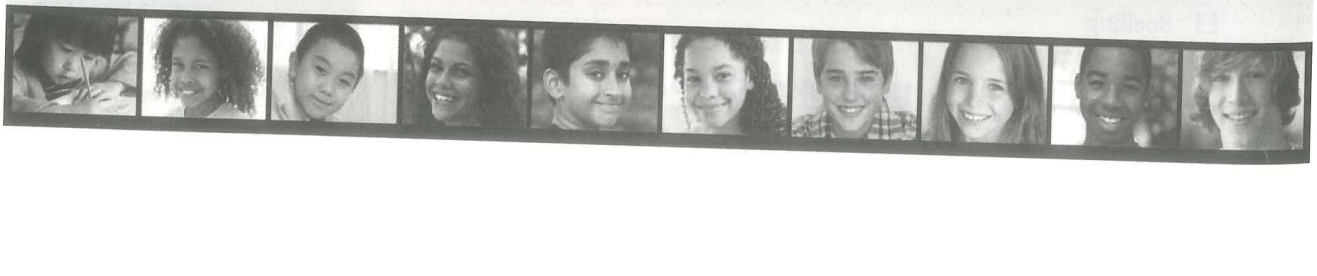
## 21st Century Learning

### Self-Reliance

In the 21st century, high-paying jobs increasingly depend on the ability to work independently or with others for long periods without a superior closely monitoring the work. More than ever, students need to learn how to break assignments into bite-sized chunks and monitor (and reinforce) their own accomplishments. Students who learn how to motivate themselves have a skill that will help them succeed with any challenge that school or life brings.

**Questions**

- What do you think is the biggest barrier in getting students to be self-reliant?
- Do you think that self-reliance is something that can be taught early on, or do all students have to experience failure first in order to want to experience success?



Students who feel confident in their ability to use metacognitive and self-motivational behaviors are likely to be high in self-efficacy—the belief that one's own efforts (rather than luck or other people or other external or uncontrollable factors) determine one's success or failure. Self-efficacy beliefs are perhaps the most important factor (after ability) in determining students' success in school (Bandura, 1997; Schunk & Zimmerman, 2003).

**Connections**

For more on self-efficacy beliefs and student success, see Chapter 10, pages 291–292.

## Strengths and Limitations of Behavioral Learning Theories

The basic principles of behavioral learning theories are as firmly established as any in psychology and have been demonstrated under many different conditions. These principles are useful for explaining much of human behavior; they are even more useful in changing behavior in the classroom.

It is important to recognize, however, that behavioral learning theories are limited in scope. With the exception of social learning theorists, behavioral learning theorists focus almost exclusively on observable behavior. This is one reason why so many of the examples presented in this chapter involve the management of behavior (see Driscoll, 2000). Less visible learning processes, such as concept formation, learning from text, problem solving, and thinking, are difficult to observe directly and have, therefore, been studied less often by behavioral learning theorists. These processes fall more into the domain of cognitive learning. Social learning theory, which is a direct outgrowth of behavioral learning theories, helps to bridge the gap between the behavioral and cognitive perspectives.

Behavioral and cognitive theories of learning are often posed as competing, opposite models. There are indeed specific areas in which these theories take contradictory positions. However, it is more accurate to see them as complementary rather than competitive—that is, as tackling different problems (Kazdin, 2001; Miltenberger, 2001).

**Certification Pointer**

The idea that behavioral learning theories apply best to observable behavior (rather than thinking, for example) may appear on teacher certification tests.

# Chapter 5 Summary

### What Is Learning?

Learning involves the acquisition of abilities that are not innate. Learning depends on experience, including feedback from the environment.

### What Are Behavioral Learning Theories?

Early research into learning studied the effects of stimuli on reflexive behaviors. Ivan Pavlov contributed the idea of classical conditioning, in which neutral stimuli can acquire the capacity to evoke behavioral responses through their association with unconditioned stimuli that trigger reflexes. B. F. Skinner continued the study of the relationship between behavior and consequences. He described operant conditioning, in which reinforcers and punishers shape behavior.

### What Are Some Principles of Behavioral Learning?

Reinforcers increase the frequency of a behavior, and punishers decrease its frequency. Reinforcement can be primary or secondary, positive or negative. Intrinsic reinforcers are rewards inherent in a behavior itself. Extrinsic reinforcers are praise or rewards. Punishment involves weakening behavior by either introducing aversive consequences or

removing reinforcers. The Premack Principle states that a way to increase less-enjoyed activities is to link them to more-enjoyed activities.

Shaping through timely feedback on each step of a task is an effective teaching practice based on behavioral learning theory. Extinction is the weakening and gradual disappearance of behavior as reinforcement is withdrawn.

Schedules of reinforcement are used to increase the probability, frequency, or persistence of desired behavior. Reinforcement schedules may be based on ratios or intervals and may be fixed or variable.

Antecedent stimuli serve as cues indicating which behaviors will be reinforced or punished. Discrimination involves using cues to detect differences between stimulus situations, whereas generalization involves responding to similarities between stimuli. Generalization involves the transfer or carryover of behaviors learned under one set of conditions to other situations.

# The Intentional Teacher

## USING WHAT YOU KNOW about Behavioral and Social Learning Theory to Improve Teaching and Learning

One role of the intentional teacher is functioning as an instructional designer, carefully planning what new abilities learners will acquire. Sometimes called "behavioral" or "performance" objectives, such outcome statements often imply two performance levels. Robert Mager (1997) reminds us to "always state the *main intent*" of an objective. Many important outcomes state performances that *cannot be observed*. You can't see your students adding or composing or comparing or relating, but these "cognitive" actions are often the real goal you intend to help your students achieve. For these "covert," unobservable behaviors, Mager suggests that you, in your role as a designer of instruction, think of "indicator behaviors," observable actions that will show not only you but others, and most important the students themselves, that they can indeed "add," "compose," "compare," "relate," or perform any other meaningful mental behavior aimed at in your lesson.

**1. What do I expect my students to know and be able to do at the end of this lesson? How does this contribute to course objectives and to students' needs to become capable individuals?**

In considering any plan to improve classroom behavior, remember that we tend to use the term *classroom behavior* in too limited a way, equating *behavior* with "being good" (i.e., sitting still and being quiet). Watch for indications of interest and engagement as students work individually or in groups. For example, as your students work in spirited project groups, you might briefly interrupt their work to ask questions: "Are you on task? Have you said at least one nice thing about someone else's idea?" The questions help students check their own behavior.

Before the school year begins, you should develop a discipline plan that supports appropriate behavior and seeks to extinguish negative behaviors, and then update that plan in light of student behavior. For example, before your noisy sixth period begins, you might rehearse: "I will recognize only those who make an appropriate bid for the floor. *No matter what.* I will ignore attention-seeking behaviors. I will use praise to reinforce on-task behavior."

**2. What knowledge, skills, needs, and interests do my students have that must be taken into account in my lesson?**

Particular reinforcers vary in their effectiveness for individuals and groups. Determine what kinds of reinforcers are effective for particular students. For example, you might hand out a survey early in the year that asks open-ended questions such as "If you had time to do any practical fun activity in the classroom, what would you do?" and "When you do a good job in school, what response from teachers makes you the happiest?" and "What message from your teacher to your parents would make you feel most proud?" You can then use the survey responses to determine useful consequences for various behaviors for this class and particular individuals.

Reinforcers are most effective when they immediately follow the behavior. Provide immediate feedback so that students know the results of their actions and learn to link behavior to its consequences.

**3. What do I know about the content, child development, learning, motivation, and effective teaching strategies that I can use to accomplish my objectives?**

Break down complex skills and performances into smaller bits so that students learn gradually by logical steps. For example, you might give students an opportunity to discriminate and to generalize among examples and settings by suggesting the relevant characteristics and information to look for. In teaching second-graders about mammals, you might provide 40 large pictures of animals, pointing out characteristics of mammals. The students could then sort the pictures into mammals and nonmammals, and you might praise them for their accuracy. In teaching high school students about justice, you might

## How Has Social Learning Theory Contributed to Our Understanding of Human Learning?

Social learning theory is based on recognition of the importance of observational learning and self-regulated learning. Bandura noted that learning through modeling—directly or vicariously—involves four phases: paying attention, retaining the modeled behavior, reproducing the behavior, and being motivated to repeat the behavior. Bandura proposed that students should be taught to have expectations for their own performances and to reinforce themselves. Meichenbaum proposed steps for self-regulated learning that represent a form of cognitive behavior modification.

Behavioral learning theories are central to the application of educational psychology in classroom management, discipline, motivation, instructional models, and other areas. Behavioral learning theories are limited in scope, however, in that they describe only observable behavior that can be directly measured.

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9 Professional Commitment and Responsibility

have them sort a set of examples of various forms of civil disobedience into "justifiable" and "not justifiable" categories.

You can increase the likelihood of students' generalizing (transferring) their learning to new situations by using real-life applications and many examples from different contexts. For instance, after studying a variety of graphs with your students, you might prepare a bulletin board and invite students to fill it with examples of graphs from newspapers, advertisements, and other print sources.

### 4. What instructional materials, technology, assistance, and other resources are available to help accomplish my objectives?

Bandura and Meichenbaum developed ideas built on modeling, observational learning, and self-directedness. Some activities that elaborate on these concepts of observational and self-regulated learning include the following suggestions.

Consider teaching cognitive behavior modification and self-regulation directly. For example, you might plan an art activity for your students designed to create an "illuminated" initial for their name. You model the tasks, describing out loud how you outline the letter, select your favorite color for the letter, and select symbols and designs to decorate it, based on your personal interests. You might guide the students through these steps, directing them with a series of statements as they perform each task.

> "Make a big outline of your initial and choose your favorite color to fill it in."
>
> "Now choose some designs that represent your own interests—sports, hobbies, et cetera—and decorate the letter."
>
> "Next make the initial of your last name and talk yourself through it in a whisper as we just did together."
>
> "Finally, put both your initials together, reminding yourself as you work of these steps but not saying anything out loud, just in your mind."

You might sum up the activity by pointing out that this is a process students can use to direct themselves through any task they wish to manage themselves: Think of the steps, say them to themselves in a whisper as they plan the tasks, and then do the steps, talking to themselves silently. You might say, "Talking to yourself can be a great way to get things done!" In other subject areas for this class, you might make use of similar modeling examples.

### 5. How will I plan to assess students' progress toward my objectives?

In all subject areas and in all grades, you will develop a number of specific assignments with measurable expected outcomes. You might make a policy of involving students in determining the criteria for grading such tasks, informing them with each assignment of your previously decided criteria for performance.

As an intentional teacher, you should recognize that behavioral learning theories are one set of tools that can help you support positive changes in student behavior and learning. You should develop your observational skills and modify your actions in light of your perceptions of students' reactions to instruction. You should rely on constant observation of your class, developing the "withitness" that is a characteristic of effective teachers.

### 6. How will I respond if individual children or the class as a whole are not on track toward success? What is my back-up plan?

Gather information on the effects of your instruction by watching students' responses, and change strategies if changes are needed. For example, you might do quick visual sweeps of your class to make note of nonverbal hints from students that they are interested or bored, getting it or lost. Check in with students who are struggling and give them additional explanations, or assign them a peer tutor.

## Key Terms

Review the following key terms from the chapter.

antecedent stimuli 130
aversive stimulus 124
behavioral learning theories 116
classical conditioning 117
cognitive behavior modification 134
cognitive learning theories 116
conditioned stimulus 117
consequences 119
cues 130
discrimination 131
extinction 127
extinction burst 127
extrinsic reinforcers 122
fixed-interval (FI) schedule 129
fixed-ratio (FR) schedule 128
generalization 131
intrinsic reinforcers 122
learning 116
maintenance 130
modeling 132
negative reinforcer 120
neutral stimuli 117
observational learning 132
operant conditioning 118
positive reinforcer 120
Premack Principle 121
presentation punishment 124
primary reinforcer 120
punishment 124
reinforcer 119
removal punishment 124
response cost 124
schedule of reinforcement 128
secondary reinforcer 120
self-regulation 134
shaping 126
Skinner box 118
social learning theories 116
stimuli (stimulus) 117
time out 124
unconditioned response 117
unconditioned stimulus 117
variable-interval (VI) schedule 129
variable-ratio (VR) schedule 128
vicarious learning 133

## Self-Assessment: Practicing for Licensure

**Directions:** The chapter-opening vignette addresses indicators that are often assessed in state licensure exams. Re-read the chapter-opening vignette, and then respond to the following questions.

1. Julia Esteban, first-grade teacher at Tanner Elementary School, calls on her students when they do not raise their hands, a practice that goes against an established rule in the class. Which of the following types of conditioning can Ms. Esteban use to teach her students about appropriate hand-raising behaviors?
   a. Classical conditioning
   b. Operant conditioning
   c. Modeled conditioning
   d. Assisted conditioning

2. Which of the following explanations best summarizes Julia Esteban's problem with her students' failure to raise their hands prior to speaking?
   a. Ms. Esteban is using negative reinforcement rather than positive reinforcement.
   b. Ms. Esteban has failed to apply the Premack Principle when her students break the hand-raising rule.
   c. Ms. Esteban allows her students to make decisions about classroom rules, a practice that research studies have shown to be unsuccessful.
   d. Ms. Esteban should note that pleasurable consequences (rewarding appropriate behaviors) increase a behavior whereas unpleasant consequences weaken the frequency of a behavior.

3. According to research on behavioral learning theories, which strategy might Ms. Esteban use to get her students to raise their hands prior to speaking?
   a. Reward those students who follow the rule.
   b. Punish those students who do not follow the rule.
   c. Ignore those students who follow the rule.

d. Wait before administering any type of consequence for rule-breakers.

4. Imagine that Ms. Esteban's students have a difficult time breaking their habit of speaking out of turn. Which of the following techniques might she use to reinforce close approximations of the behaviors she wants her students to exhibit?
   a. Extinction
   b. Maintenance
   c. Shaping
   d. Discrimination

5. Which type of reinforcement schedule is Ms. Esteban using if she reinforces her students' appropriate behavior after so many behaviors, but the students do not know when the reinforcement will be applied?
   a. Continuous
   b. Fixed-ratio schedule
   c. Fixed-interval schedule
   d. Variable-ratio schedule

6. Explain how classical conditioning and operant conditioning are alike and different. Give at least one example of each.

7. Describe Albert Bandura's social learning theory. Bandura's analysis of observational learning involves four phases—describe each phase.

## PEARSON myeducationlab

Go to the Topic **Behaviorist Perspectives** in the MyEducationLab (www.myeducationlab.com) for your course, where you can:

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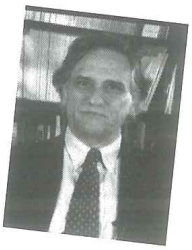
- Apply and practice your understanding of the core teaching skills identified in the chapter with the Building Teaching Skills and Dispositions learning units.
- Access video clips of CCSSO National Teachers of the Year award winners responding to the question "Why Do I Teach?" in the Teacher Talk section.
- Check your comprehension of the content covered in the chapter by going to the Study Plan in the Book Resources for your text. Here you will be able to take a chapter quiz; receive feedback on your answers; and then access Review, Practice, and Enrichment activities to enhance your understanding of chapter content.
- Watch author Bob Slavin present a Personal Reflections podcast on *Modifying Behavior* in the Book Resources for your text. Then, respond to the questions that follow.



***Modifying Behavior***

YOUR REFLECTIONS Why do you think the charting strategy was so effective for Vanessa? Describe a time when you used a behavior modification strategy to change something about yourself. Was it successful? How would behavior modification strategies for elementary children differ from strategies used with middle school or high school students?