CHAPTER

6

Behavioral Views of Learning

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Teachers' Casebook

What Would You Do?

You were hired in January to take over the class of a teacher who moved away. This is a great district and a terrific school. If you do well, you might be in line for a full-time opening next fall. As you are introduced around the school, you get a number of sympathetic looks and many—too many—offers of help: "Let me know if I can do anything for you."

As you walk toward the class, you begin to understand why so many teachers volunteered their help. You hear the screaming when you are still halfway down the hall, "Give it back, it's MINE!" "No way—come and get it!" "I hate you." A crashing sound follows as a table full of books hits the floor. The first day is a nightmare. Evidently the previous teacher had no management system—no order. Several students walk around the room while you are talking to the class, interrupt you when you are working with a group, torment the class goldfish, and open their lunches (or those of other students) for a self-determined, mid-morning snack. Others listen, but ask a million questions off the topic. Simply taking roll and introducing the first activity takes an hour. You end the first day exhausted and discouraged, losing your voice and your patience.

Critical Thinking

How would you approach the situation? Which problem behaviors would you tackle first? Would giving rewards or administering punishments be useful in this situation? Why or why not?

Collaboration

With two other members of your class, role play an orientation meeting between this new teacher and the mentor teacher assigned to help. How should the mentor prepare the new teacher for the assignment? What plans could be made to handle the situation?

We begin this chapter with a general definition of learning that takes into account the opposing views of different theoretical groups. We will highlight one group, the behavioral theorists, in this chapter; another major group, the cognitive theorists, in Chapters 7 and 8; and then look at current social cognitive views and constructivism in Chapter 9.

Our discussion in this chapter will focus on three behavioral learning processes: contiguity, classical conditioning, and operant conditioning, with the greatest emphasis on the last process. After examining the implications of applied behavior analysis for teaching, we look at two recent directions in behavioral approaches to learning—self-management and cognitive behavior modification.

By the time you have completed this chapter, you should be able to answer these questions:

- What is learning?
- What are the similarities and differences among contiguity, classical conditioning, and operant conditioning?
- What are examples of four different kinds of consequences that can follow any behavior, and what effect each is likely to have on future behavior?
- How could you use applied behavior analysis (group consequences, token economies, contingency contracts) to solve common academic or behavior problems?
- What is cognitive behavior modification, and how does it apply to teaching?

Different Weight by Alexandra Rozenman. © Alexandra Rozenman. Reproduced with kind permission of the artist.
Understanding Learning

When we hear the word learning, most of us think of studying and school. We think about subjects or skills we intend to master, such as algebra, Spanish, chemistry, or karate. But learning is not limited to school. We learn every day of our lives. Babies learn to kick their legs to make the mobile above their cribs move; teenagers learn the lyrics to all their favorite songs; middle-aged people like me learn to change their diet and exercise patterns; and every few years we all learn to find a new style of dress attractive when the old styles (the styles we once loved) go out of fashion. This last example shows that learning is not always intentional. We don’t try to like new styles and dislike old ones; it just seems to happen that way. We don’t intend to become nervous when we hear the sound of a dentist’s drill or when we step onto a stage, yet many of us do. So what is this powerful phenomenon called learning?

Learning: A Definition

In the broadest sense, learning occurs when experience causes a relatively permanent change in an individual’s knowledge or behavior. The change may be deliberate or unintentional, for better or for worse, correct or incorrect, and conscious or unconscious (Hill, 2002). To qualify as learning, this change must be brought about by experience—by the interaction of a person with his or her environment. Changes simply caused by maturation, such as growing taller or turning gray, do not qualify as learning. Temporary changes resulting from illness, fatigue, or hunger are also excluded from a general definition of learning. A person who has gone without food for two days does not learn to be hungry, and a person who is ill does not learn to run more slowly. Of course, learning plays a part in how we respond to hunger or illness.

Our definition specifies that the changes resulting from learning are in the individual’s knowledge or behavior. While most psychologists would agree with this statement, some tend to emphasize the change in knowledge, others the change in behavior. Cognitive psychologists, who focus on changes in knowledge, believe learning is an internal mental activity that cannot be observed directly. As you will see in the next chapter, cognitive psychologists studying learning are interested in unobservable mental activities such as thinking, remembering, and solving problems (Schwartz, Wasserman, & Robbins, 2002).

The psychologists discussed in this chapter, on the other hand, favor behavioral learning theories. The behavioral view generally assumes that the outcome of learning is change in behavior and emphasizes the effects of external events on the individual. Some early behaviorists such as J. B. Watson took the radical position that because thinking, intentions, and other internal mental events could not be seen or studied rigorously and scientifically, these “mentalisms,” as he called them, should not even be included in an explanation of learning. Before we look in depth at behavioral explanations of learning, let’s step into an actual classroom and note the possible results of learning.

Learning Is Not Always What It Seems

After weeks of working with her cooperating teacher in an 8th-grade social studies class, Elizabeth was ready to take over on her own. As she moved from behind the desk to the front of the room, she saw another adult approach the classroom door. It was Mr. Ross, her supervisor from college. Elizabeth’s neck and facial muscles suddenly became very tense and her hands trembled.

“I’ve stopped by to observe your teaching,” Mr. Ross said. “This will be my first of six visits. I couldn’t reach you last night to tell you.”

Elizabeth tried to hide her reaction, but her hands trembled as she gathered the notes for the lesson.

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"Let's start today with a kind of game. I will say some words, then I want you to tell me the first words you can think of. Don't bother to raise your hands. Just say the words out loud, and I will write them on the board. Don't all speak at once, though. Wait until someone else has finished to say your word. Okay, here is the first word: Slavery."

"Civil War." "Lincoln." "Freedom." "Emancipation Proclamation." The answers came very quickly, and Elizabeth was relieved to see that the students understood the game.

"All right, very good," she said. "Now try another one: South."

"South Carolina." "South Dakota." "South Street Seaport." "No, the Confederacy, you dummy." "Gone with the Wind." "Clark Gable." With this last answer, a ripple of laughter moved across the room.

"Clark Gable!" Elizabeth sighed dreamily. "Gone with the Wind was on television last week." Then she laughed too. Soon all the students were laughing. "Okay, settle down," Elizabeth said. "Here is another word: North."

"Bluebellies." The students continued to laugh. "Yellowbellies." "Belly-dancers." More laughter and a few appropriate gestures.

"Just a minute," Elizabeth pleaded. "These ideas are getting a little off base!"

"Off base! Baseball," shouted the boy who had first mentioned Clark Gable. He stood up and started throwing balls of paper to a friend in the back of the room, simulating the style of Roger Clemens.

"The Atlanta Braves." "No, the Mets." "Shea Stadium." "Hot dogs." "Popcorn." "Movies." "DVDs." "Gone with the Wind." "Clark Gable." The responses now came too fast for Elizabeth to stop them. For some reason, the Clark Gable line got an even bigger laugh the second time around, and Elizabeth suddenly realized she had lost the class.

"Okay, because you know so much about the Civil War, close your books and take out a pen," Elizabeth said, obviously angry. She passed out the worksheet that she had planned as a cooperative, open-book project. "You have 20 minutes to finish this test!"

"You didn't tell us we were having a test!" "This isn't fair!" "We haven't even covered this stuff yet!" "I didn't do anything wrong!" There were moans and disgusted looks, even from the most mellow students. "I'm reporting you to the principal; it's a violation of students' rights!"

This last comment hit hard. The class had just finished discussing human rights as preparation for this unit on the Civil War. As she listened to the protests, Elizabeth
felt terrible. How was she going to grade these “tests”? The first section of the worksheet involved facts about events during the Civil War, and the second section asked students to create a news-style program interviewing ordinary people touched by the war.

“All right, all right, it won’t be a test. But you do have to complete this worksheet for a grade. I was going to let you work together, but your behavior this morning tells me that you are not ready for group work. If you can complete the first section of the sheet working quietly and seriously, you may work together on the second section.”

Elizabeth knew that her students would like to work together on writing the script for the news interview program.

Elizabeth was afraid to look back at her supervisor. What was he writing on his observation form?

It appears, on the surface at least, that very little learning of any sort was taking place in Elizabeth’s classroom. In fact, Elizabeth had some good ideas, but she also made some mistakes in her application of learning principles. We will return to this episode later in the chapter to analyze various aspects of what took place. To get us started, three events can be singled out, each possibly related to a different learning process.

First, Elizabeth’s hands trembled when her college supervisor entered the room. Second, the students were able to associate the words Carolina and Dakota with the word South. Third, one student continued to disrupt the class with inappropriate responses. The three learning processes represented are classical conditioning, contiguity, and operant conditioning. In the following pages we will examine these three kinds of learning, starting with contiguity.

Check Yourself: Define learning.

## Early Explanations of Learning: Contiguity and Classical Conditioning

One of the earliest explanations of learning came from Aristotle (384–322 B.C.). He said that we remember things together (1) when they are similar, (2) when they contrast, and (3) when they are contiguous. This last principle is the most important, because it is included in all explanations of learning by association. The principle of contiguity states that whenever two or more sensations occur together often enough, they will become associated. Later, when only one of these sensations (a stimulus) occurs, the other will be remembered too (a response) (Rachlin, 1991; Wasserman & Miller, 1997).

Some results of contiguous learning were evident in Elizabeth’s class. When she said “South,” students associated the words “Carolina” and “Dakota.” They had heard these words together many times. Other learning processes may also be involved when students learn these phrases, but contiguity is a factor. Contiguity also plays a major role in another learning process best known as classical conditioning.

### Pavlov’s Dilemma and Discovery: Classical Conditioning

STOP THINK WRITE

Close your eyes and focus on a vivid image of the following:

- The smell of French fries cooking.
- A time you were really embarrassed in school.
- The sound of a dentist’s drill.
- The taste of chocolate fudge.

What did you notice as you formed these images?
If you are like me, imagining the sound of the dentist’s drill tightens your neck muscles. I can actually salivate when I imagine salty fries or smooth rich chocolate (especially because it is 11:57 PM and I am hungry). The first embarrassing school incident I remembered was falling flat as I did a cartwheel in front of the whole high school. A small cringe still accompanies the memory. Classical conditioning focuses on the learning of involuntary emotional or physiological responses such as fear, increased muscle tension, salivation, or sweating. These sometimes are called respondents because they are automatic responses to stimuli. Through the process of classical conditioning, humans and animals can be trained to react involuntarily to a stimulus that previously had no effect—or a very different effect—on them. The stimulus comes to elicit, or bring forth, the response automatically.

Classical conditioning was discovered by Ivan Pavlov, a Russian physiologist, in the 1920s. In his laboratory, Pavlov was plagued by a series of setbacks in his experiments on the digestive system of dogs. He was trying to determine how long it took a dog to secrete digestive juices after it had been fed, but the intervals of time kept changing. At first, the dogs salivated in the expected manner while they were being fed. Then the dogs began to salivate as soon as they saw the food. Finally, they salivated as soon as they saw the scientist enter the room. The white coats of the experimenters and the sound of their footsteps all elicited salivation. Pavlov decided to make a detour from his original experiments and examine these unexpected interferences in his work.

In one of his first experiments, Pavlov began by sounding a tuning fork and recording a dog’s response. As expected, there was no salivation. At this point, the sound of the tuning fork was a neutral stimulus because it brought forth no salivation. Then Pavlov fed the dog. The response was salivation. The food was an unconditioned stimulus (US) because no prior training or “conditioning” was needed to establish the natural connection between food and salivation. The salivation was an unconditioned response (UR), again because it occurred automatically—no conditioning required.

Using these three elements—the food, the salivation, and the tuning fork—Pavlov demonstrated that a dog could be conditioned to salivate after hearing the tuning fork. He did this by contiguous pairing of the sound with food. At the beginning of the experiment, he sounded the fork and then quickly fed the dog. After Pavlov repeated this several times, the dog began to salivate after hearing the sound but before receiving the food. Now the sound had become a conditioned stimulus (CS) that could bring forth salivation by itself. The response of salivating after the tone was now a conditioned response (CR).

Generalization, Discrimination, and Extinction

Pavlov’s work also identified three other processes in classical conditioning: generalization, discrimination, and extinction (Hill, 2002). After the dogs learned to salivate in response to hearing one particular sound, they would also salivate after hearing similar tones that were slightly higher or lower. This process is called generalization because the conditioned response of salivating generalized or occurred in the presence of similar stimuli. Pavlov could also teach the dogs discrimination—to respond to one tone but not to others that are similar—by making sure that food always followed only one tone, not any others. Extinction occurs when a conditioned stimulus (a particular tone) is presented repeatedly but is not followed by the unconditioned stimulus (food). The conditioned response (salivating) gradually fades away and finally is “extinguished”—it disappears altogether.

If you think that Pavlovian conditioning is of historical interest only, consider this excerpt from a story I read this morning in USA Today describing an advertising campaign for products aimed at “Gen Y,” those people born between 1977 and 1994:

Classical conditioning Association of automatic responses with new stimuli.
Respondents Responses (generally automatic or involuntary) elicited by specific stimuli.
Neutral stimulus Stimulus not connected to a response.
Unconditioned stimulus (US) Stimulus that automatically produces an emotional or physiological response.
Unconditioned response (UR) Naturally occurring emotional or physiological response.
Conditioned stimulus (CS) Stimulus that evokes an emotional or physiological response after conditioning.
Conditioned response (CR) Learned response to a previously neutral stimulus.
Generalization Responding in the same way to similar stimuli.
Discrimination Responding differently to similar, but not identical stimuli.
Extinction Gradual disappearance of a learned response.
Mountain Dew executives have their own term for this [advertising strategy]: the Pavlovian connection. By handing out samples of the brand at surfing, skateboarding and snowboard tournaments, "There's a Pavlovian connection between the brand and the exhilarating experience," says Dave Burwich, a top marketing executive at Pepsi, which makes Mountain Dew. (Horowitz, April 22, 2002, p. B2)

Maybe they could hand out math homework too!

It is possible that many of our emotional reactions to various situations are learned in part through classical conditioning. For example, Elizabeth's trembling hands when she saw her college supervisor might be traced to previous unpleasant experiences. Perhaps she had been embarrassed during past evaluations of her performance, and now just the thought of being observed elicits a pounding heart and sweaty palms. Pavlov's findings and those of other researchers who have studied classical conditioning have implications for teachers as well as marketing managers. Remember that emotions and attitudes as well as facts and ideas are learned in classrooms. This emotional learning can sometimes interfere with academic learning. Procedures based on classical conditioning also can be used to help people learn more adaptive emotional responses, as the Guidelines suggest.

**Check Yourself** How does a neutral stimulus become a conditioned stimulus?

**Discriminate between generalization and discrimination.**

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**CONNECT & EXTEND**

**TO PRAXIS™**
**BASICS OF OPERANT CONDITIONING (L. A1)**

Be able to explain learning from the behavioral perspective. Incorporate concepts of reward and punishment into your explanation. Have a firm grasp of the effects of reinforcement schedules on learning.

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**GUIDELINES**

**APPLYING CLASSICAL CONDITIONING**

**Associate positive, pleasant events with learning tasks.**

**Examples**

1. Emphasize group competition and cooperation over individual competition. Many students have negative emotional responses to individual competition that may generalize to other learning.
2. Make division drills fun by having students decide how to divide refreshments equally, then letting them eat the results.
3. Make voluntary reading appealing by creating a comfortable reading corner with pillows, colorful displays of books, and reading props such as puppets (see Morrow & Weinstein, 1986, for more ideas).

**Help students to risk anxiety-producing situations voluntarily and successfully.**

**Examples**

1. Assign a shy student the responsibility of teaching two other students how to distribute materials for map study.

2. Devise small steps toward a larger goal. For example, give ungraded practice tests daily, and then weekly, to students who tend to "freeze" in test situations.

3. If a student is afraid of speaking in front of the class, let the student read a report to a small group while seated, then read it while standing, then give the report from notes instead of reading it verbatim. Next, move in stages toward having the student give a report to the whole class.

Help students recognize differences and similarities among situations so they can discriminate and generalize appropriately.

**Examples**

1. Explain that it is appropriate to avoid strangers who offer gifts or rides but safe to accept favors from adults when parents are present.

2. Assure students who are anxious about taking college entrance exams that this test is like all the other achievement tests they have taken.
consequences. These deliberate actions are called operants. The learning process involved in operant behavior is called operant conditioning because we learn to behave in certain ways as we operate on the environment.

**The Work of Thorndike and Skinner**

Edward Thorndike and B. F. Skinner both played major roles in developing knowledge of operant conditioning. Thorndike’s (1913) early work involved cats that he placed in puzzle boxes. To escape from the box and reach food outside, the cats had to pull out a bolt or perform some other task; they had to act on their environment. During the frenzied movements that followed the closing of the box, the cats eventually made the correct movement to escape, usually by accident. After repeating the process several times, the cats learned to make the correct response almost immediately. Thorndike decided, on the basis of these experiments, that one important law of learning was the law of effect: Any act that produces a satisfying effect in a given situation will tend to be repeated in that situation. Because pulling out a bolt produced satisfaction (access to food), cats repeated that movement when they found themselves in the box again.

Thorndike thus established the basis for operant conditioning, but the person generally thought to be responsible for developing the concept is B. F. Skinner (1953). Skinner began with the belief that the principles of classical conditioning account for only a small portion of learned behaviors. Many human behaviors are operants, not respondents. Classical conditioning describes only how existing behaviors might be paired with new stimuli; it does not explain how new operant behaviors are acquired.

Behavior, like response or action, is simply a word for what a person does in a particular situation. Conceptually, we may think of a behavior as sandwiched between two sets of environmental influences: those that precede it (its antecedents) and those that follow it (its consequences) (Skinner, 1950). This relationship can be shown very simply as antecedent–behavior–consequence, or A–B–C. As behavior is ongoing, a given consequence becomes an antecedent for the next ABC sequence. Research in operant conditioning shows that operant behavior can be altered by changes in the antecedents, the consequences, or both. Early work focused on consequences, often using rats or pigeons as subjects.

**Types of Consequences**

STOP
THINK
WRITE

Think back over teachers you have had who used rewards or punishments. Try to remember different types of rewards:

Concrete rewards (stickers, food, prizes, certificates)
Activity rewards (free time, puzzles, free reading)
"Exemption" rewards (no homework, no weekly test)
Social rewards (praise, recognition)

What about punishments?

Loss of privileges (sit where you want, work with friends)
Fines (lost points, grades, money)
Extra work (homework, laps, push-ups)

Operant Conditioning: Trying New Responses

Operants Voluntary (and generally goal-directed) behaviors emitted by a person or an animal.

Operant conditioning Learning in which voluntary behavior is strengthened or weakened by consequences or antecedents.

Antecedents Events that precede an action.

Consequences Events that follow an action.
According to the behavioral view, consequences determine to a great extent whether a person will repeat the behavior that led to the consequences. The type and timing of consequences can strengthen or weaken behaviors. We will look first at consequences that strengthen behavior.

**Reinforcement.** Although reinforcement is commonly understood to mean "reward," this term has a particular meaning in psychology. A reinforcer is any consequence that strengthens the behavior it follows. So, by definition, reinforced behaviors increase in frequency or duration. Whenever you see a behavior persisting or increasing over time, you can assume the consequences of that behavior are reinforcers for the individual involved. The reinforcement process can be diagrammed as follows:

\[
\begin{array}{ccc}
\text{Behavior} & \rightarrow & \text{Reinforcer} & \rightarrow & \text{Consequence} & \rightarrow & \text{Effect} \\
& & & & \text{Strengthened or repeated behavior}
\end{array}
\]

We can be fairly certain that food will be a reinforcer for a hungry animal, but what about people? It is not clear why an event acts as a reinforcer for an individual, but there are many theories about why reinforcement works. For example, some psychologists suggest that reinforcers satisfy needs, while other psychologists believe that reinforcers reduce tension or stimulate a part of the brain (Rachlin, 1991). Whether the consequences of any action are reinforcing probably depends on the individual's perception of the event and the meaning it holds for her or him. For example, students who repeatedly get themselves sent to the principal's office for misbehaving may be indicating that something about this consequence is reinforcing for them, even if it doesn't seem desirable to you. By the way, Skinner did not speculate about why reinforcers increase behavior. He believed that it was useless to talk about "imaginary constructs" such as meaning, habits, needs, or tensions. Skinner simply described the tendency for a given operant to increase after certain consequences (Hill, 2002; Skinner, 1953, 1989).

There are two types of reinforcement. The first, called positive reinforcement, occurs when the behavior produces a new stimulus. Examples include picking on the red key producing food for a pigeon, wearing a new outfit producing many compliments, or falling out of your chair producing cheers and laughter from classmates.

Notice that positive reinforcement can occur even when the behavior is being reinforced (falling out of a chair) is not "positive" from the teacher's point of view. In fact, positive reinforcement of inappropriate behaviors occurs unintentionally in many classrooms. Teachers help maintain problem behaviors by inadvertently reinforcing them. For example, Elizabeth may have unintentionally reinforced problem behavior in her class by laughing the first time the boy answered, "Clark Gable." The problem behavior may have persisted for other reasons, but the consequence of Elizabeth's laughter could have played a role.

When the consequence that strengthens a behavior is the appearance (addition) of a new stimulus, the situation is defined as positive reinforcement. In contrast, when the consequence that strengthens a behavior is the disappearance (subtraction) of a stimulus, the process is called negative reinforcement. If a particular action leads to avoiding or escaping an aversive situation, the action is likely to be repeated in a similar situation. A common example is the car seatbelt buzzer. As soon as you attach your seatbelt, the irritating buzzer stops. You are likely to repeat this action in the future because the behavior made an aversive stimulus disappear. Consider students who continually "get sick" right before a test and are sent to the nurse's office. The behavior allows the students to escape aversive situations—tests—so getting "sick" is being maintained, in part, through negative reinforcement. It is negative because the stimulus (the test) disappears; it is reinforcement because the behavior that caused the stimulus to disappear (getting "sick") increases or repeats. It is also possible that classical conditioning plays a role. The students may have been conditioned to experience unpleasant physiological reactions to tests.

The "negative" in negative reinforcement does not imply that the behavior being reinforced is necessarily negative. The meaning is closer to that of "negative" numbers—
something is subtracted. Associate positive and negative reinforcement with adding or subtracting something following a behavior that strengthens the behavior.

**Punishment.** Negative reinforcement is often confused with punishment. The process of reinforcement (positive or negative) always involves strengthening behavior. **Punishment** on the other hand, involves decreasing or suppressing behavior. A behavior followed by a punisher is less likely to be repeated in similar situations in the future. Again, it is the effect that defines a consequence as punishment, and different people have different perceptions of what is punishing. One student may find suspension from school punishing, while another student wouldn't mind at all. The process of punishment is diagrammed as follows:

**CONSEQUENCE**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Punisher</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Weakened or decreased behavior</td>
</tr>
</tbody>
</table>

Like reinforcement, punishment may take one of two forms. The first type has been called Type I punishment, but this name isn’t very informative, so I use the term **presentation punishment.** It occurs when the appearance of a stimulus following the behavior suppresses or decreases the behavior. When teachers assign demerits, extra work, running laps, and so on, they are using presentation punishment. I call the other type of punishment (Type II punishment) **removal punishment** because it involves removing a stimulus. When teachers or parents take away privileges after a young person has behaved inappropriately, they are applying removal punishment. With both types, the effect is to decrease the behavior that led to the punishment. Figure 6.1 summarizes the processes of reinforcement and punishment.

### Figure 6.1 Kinds of Reinforcement and Punishment

**Presentation Punishment** (Type I Punishment) Example: after school detention

**Removal Punishment** (Type II Punishment) Example: no TV for a week

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**Punishment** Process that weakens or suppresses behavior.

**Presentation punishment** Decreasing the chances that a behavior will occur again by presenting an aversive stimulus following the behavior; also called Type I punishment.

**Removal punishment** Decreasing the chances that a behavior will occur again by removing a pleasant stimulus following the behavior; also called Type II punishment.
### Reinforcement Schedules

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Definition</th>
<th>Example</th>
<th>Response Pattern</th>
<th>Reaction When Reinforcement Stops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>Reinforcement after every response</td>
<td>Turning on the television</td>
<td>Rapid learning of response</td>
<td>Very little persistence; rapid disappear-ance of response</td>
</tr>
<tr>
<td>Fixed-interval</td>
<td>Reinforcement after a set period of time</td>
<td>Weekly quiz</td>
<td>Response rate increases as time for reinforcement approaches, then drops after reinforcement</td>
<td>Little persistence; rapid drop in response rate when time for reinforcement passes and no reinforcer appears</td>
</tr>
<tr>
<td>Variable-interval</td>
<td>Reinforcement after varying lengths of time</td>
<td>Pop quizzes</td>
<td>Slow, steady rate of responding; very little pause after reinforcement</td>
<td>Greater persistence; slow decline in response rate</td>
</tr>
<tr>
<td>Fixed-ratio</td>
<td>Reinforcement after a set number of responses</td>
<td>Piece work, Bake sale</td>
<td>Rapid response rate; pause after reinforcement</td>
<td>Little persistence; rapid drop in response rate when expected number of responses are given and no reinforcer appears</td>
</tr>
<tr>
<td>Variable-ratio</td>
<td>Reinforcement after a varying number of responses</td>
<td>Slot machines</td>
<td>Very high response rate; little pause after reinforcement</td>
<td>Greatest persistence; response rate stays high and gradually drops off</td>
</tr>
</tbody>
</table>

**Reinforcement Schedules**

When people are learning a new behavior, they will learn it faster if they are reinforced for every correct response. This is a **continuous reinforcement schedule**. Then, when the new behavior has been mastered, they will maintain it best if they are reinforced intermittently rather than every time. An **intermittent reinforcement schedule** helps students to maintain skills without expecting constant reinforcement.

There are two basic types of intermittent reinforcement schedules. One—called an **interval schedule**—is based on the amount of time that passes between reinforcers. The other—a **ratio schedule**—is based on the number of responses learners give between reinforcers. Interval and ratio schedules may be either **fixed** (predictable) or **variable** (unpredictable). Table 6.1 summarizes the five possible reinforcement schedules (the continuous schedule and the four kinds of intermittent schedules).

What are the effects of different schedules? Speed of performance depends on control. If reinforcement is based on the number of responses you give, then you have more control over the reinforcement. The faster you accumulate the correct number of responses, the faster the reinforcement will come. A teacher who says, “As soon as you complete these ten problems correctly, you may go to the student lounge,” can expect higher rates of performance than a teacher who says, “Work on these ten problems for the next 20 minutes. Then I will check your papers and those with ten correct may go to the lounge.”

Persistence in performance depends on unpredictability. Continuous reinforcement and both kinds of fixed reinforcement (ratio and interval) are quite predictable. We come to expect reinforcement at certain points and are generally quick to give up when the reinforcement does not meet our expectations. To encourage persistence of response, variable schedules are most appropriate. In fact, if the schedule is gradually changed until it becomes very “lean”—meaning that reinforcement occurs only after many responses or a long time interval—then people can learn to work for extended periods without any reinforcement at all. Just watch gamblers playing slot machines to see how powerful a lean reinforcement schedule can be.

Reinforcement schedules influence how persistently we will respond when reinforcement is withheld. What happens when reinforcement is completely withdrawn?
**Antecedents and Behavior Change**

In operant conditioning, antecedents—the events preceding behaviors—provide information about which behaviors will lead to positive consequences and which will lead to negative ones. Skinner's pigeons learned to peck for food when a light was on, but not to bother when the light was off, because no food followed pecking when the light was off. In other words, they learned to use the antecedent light as a cue to discriminate the likely consequence of pecking. The pigeons' pecking was under **stimulus control**, controlled by the discriminative stimulus of the light. You can see that this idea is related to discrimination in classical conditioning, but here we are talking about voluntary behaviors such as pecking, not reflexes such as salivating.

We all learn to discriminate—to read situations. When should you ask to borrow your roommate’s car, after a major disagreement or after you both have had a great time at a party? The antecedent cue of a school principal standing in the hall helps students discriminate the probable consequences of running or attempting to break into a locker. We often respond to such antecedent cues without fully realizing that they are influencing our behavior. But teachers can use cues deliberately in the classroom.

** Cueing. ** By definition, **cueing** is the act of providing an antecedent stimulus just before a particular behavior is to take place. Cueing is particularly useful in setting the stage for behaviors that must occur at a specific time but are easily forgotten. In working with young people, teachers often find themselves correcting behaviors after the fact. For example, they may ask students, “When are you going to start remembering to . . . ?” Such reminders often lead to irritation. The mistake is already made, and the young person is left with only two choices, to promise to try harder or to say, “Why don’t you leave me alone?” Neither response is very satisfying. Presenting a nonjudgmental cue can help prevent these negative confrontations. When a student performs the appropriate behavior after a cue, the teacher can reinforce the student’s accomplishment instead of punishing the student’s failure.

**Prompting.** Sometimes students need help in learning to respond to a cue in an appropriate way so the cue becomes a discriminative stimulus. One approach is to

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**Connect & Extend**

**TO YOUR TEACHING**
Examples of stimulus control: I found myself (more than once) about to turn into my old office parking lot, even after my department had been moved to a new building across town. The old cues kept me heading automatically to the old office. Another example is the supposedly true story of a getaway car driver in a bank robbery who sped through town, only to be caught by the police when she dutifully stopped at a red light. The stimulus of the red light had come to have automatic control.

**TO YOUR TEACHING PORTFOLIO**
Suggest the cues or prompts you would use to elicit the following behaviors: (1) the class looks at you to hear your directions; (2) the students open their books to the assigned page when the bell rings; (3) the students give you their full attention when you are making an important point; and (4) a student walks instead of running to the door when the dismissal bell rings.

**Stimulus control** Capacity for the presence or absence of antecedents to cause behaviors.

**Cueing** Providing a stimulus that "sets up" a desired behavior.
By using this checklist, students are reminded how to be effective tutors. As they become more proficient, the checklist may be less necessary.

1. Have the lesson ready.
2. Talk clearly.
4. Tell the student when the answer is right.
5. Correct mistakes. STOP! Give the right answer. Have the student do it.
6. Praise good work!
7. Make the lesson fun.
8. Do not give TOO MUCH help.
9. Fill out the daily sheet.
10. Can you add a suggestion?


Figure 6.2 Written Prompts: A Peer-Tutoring Checklist

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Antecedents (I, A1)

Understand how antecedents can affect learning. Be particularly familiar with the effective uses of prompting and cueing.

Prompt A reminder that follows a cue to make sure the person reacts to the cue.

Applied Behavior Analysis The application of behavioral learning principles to understand and change behavior.

Behavior Modification Systematic application of antecedents and consequences to change behavior.

Connect & Extend

Principle for Using a Cue and a Prompt to Teach a New Behavior

Provide an additional cue, called a prompt, following the first cue. There are two principles for using a cue and a prompt to teach a new behavior (Becker, Engelmann, & Thomas, 1975). First, make sure the environmental stimulus that you want to become a cue occurs immediately before the prompt you are using, so students will learn to respond to the cue and not rely only on the prompt. Second, fade the prompt as soon as possible so students do not become dependent on it.

An example of cueing and prompting is providing students with a checklist or reminder sheet. Figure 6.2 is a checklist for the steps in peer tutoring. Working in pairs is the cue; the checklist is the prompt. As students learn the procedures, the teacher may stop using the checklist, but may remind the students of the steps. When no written or oral prompts are necessary, the students have learned to respond appropriately to the environmental cue of working in pairs—they have learned how to behave in tutoring situations. However, the teacher should continue to monitor the process, recognize good work, and correct mistakes. Before a tutoring session, the teacher might ask students to close their eyes and “see” the checklist, focusing on each step. As students work, the teacher could listen to their interactions and continue to coach students as they improve their tutoring skills.

Check Yourself

What defines a consequence as a reinforcer? As a punisher?

Negative reinforcement is often confused with punishment. How are they different?

How can you encourage persistence in a behavior?

What is the difference between a prompt and a cue?
Applied Behavior Analysis

Applied behavior analysis is the application of behavioral learning principles to change behavior. The method is sometimes called behavior modification, but this term has negative connotations for many people and is often misunderstood (Alberto & Troutman, 2003; Kaplan, 1991; Kazdin, 2001).

Ideally, applied behavior analysis requires clear specification of the behavior to be changed, careful measurement of the behavior, analysis of the antecedents and reinforcers that might be maintaining inappropriate or undesirable behavior, interventions based on behavioral principles to change the behavior, and careful measurement of changes. In research on applied behavior analysis, an ABAB (described in Chapter 1) design is common. That is, researchers take a baseline measurement of the behavior (A), then apply the intervention (B); then stop the intervention to see if the behavior goes back to the baseline level (A), and then reintroduce the intervention (B).

In classrooms, teachers usually cannot follow all the ABAB steps, but they can do the following:

1. Clearly specify the behavior to be changed and note the current level. For example, if a student is "careless," does this mean 2, 3, 4, or more computation errors for every 10 problems?
2. Plan a specific intervention using antecedents, consequences, or both. For example, offer the student one extra minute of computer time for every problem completed with no errors.
3. Keep track of the results, and modify the plan if necessary.

Let's consider some specific methods for accomplishing step 2—the intervention.

Methods for Encouraging Behaviors

As we discussed earlier, to encourage behavior is to reinforce it. There are several specific ways to encourage existing behaviors or teach new ones. These include praise, the Premack principle, shaping, and positive practice.

Reinforcing with Teacher Attention. Based on early work such as that of Madsen, Becker, and Thomas (1968) demonstrating that teachers can improve student behavior by ignoring rule-breakers and praising students who are following the rules, many psychologists advised teachers to "accentuate the positive"—liberally praise students for good behavior while ignoring mistakes and misbehavior. This praise-and-ignore approach can be helpful, but we should not expect it to solve all classroom management problems. Several studies have shown that disruptive behaviors persist when teachers use positive consequences (mostly praise) as their only classroom management strategy (McGoye & DuPaul, 2000; Pfiffner & O'Leary, 1987; Sullivan & O’Leary, 1990).

There is a second consideration in using praise. The positive results found in research occur when teachers carefully and systematically praise their students. Unfortunately, praise is not always given appropriately and effectively. Merely "handing out compliments"
**Using Praise Appropriately**

Be clear and systematic in giving praise.

**Examples**
1. Make sure praise is tied directly to appropriate behavior.
2. Make sure the student understands the specific action or accomplishment that is being praised. Say, "You returned this poster on time and in good condition," not, "You were very responsible."

Recognize genuine accomplishments.

**Examples**
1. Reward the attainment of specified goals, not just participation.
2. Do not reward uninvolved students just for being quiet and not disrupting the class.
3. Tie praise to students' improving competence or to the value of their accomplishment. Say, "I noticed that you double-checked all your problems. Your score reflects your careful work."

Set standards for praise based on individual abilities and limitations.

**Examples**
1. Praise progress or accomplishment in relation to the individual student's past efforts.
2. Focus the student's attention on his or her own progress, not on comparisons with others.

Attribute the student's success to effort and ability so the student will gain confidence that success is possible again.

**Examples**
1. Don't imply that the success may be based on luck, extra help, or easy material.
2. Ask students to describe the problems they encountered and how they solved them.

Make praise really reinforcing.

**Examples**
1. Don't attempt to influence the rest of the class by singling out some students for praise. This tactic frequently backfires, because students know what's really going on. In addition, you risk embarrassing the student you have chosen to praise.
2. Don't give undeserved praise to students simply to balance failures. It is seldom consoling and calls attention to the student's inability to earn genuine recognition.

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will not improve behavior. To be effective, praise must (1) be contingent on the behavior to be reinforced, (2) specify clearly the behavior being reinforced, and (3) be believable (O'Leary & O'Leary, 1977). In other words, the praise should be sincere recognition of a well-defined behavior so students understand what they did to warrant the recognition. Teachers who have not received special training often violate these conditions (Brophy, 1981). Ideas for using praise effectively, based on Brophy's extensive review of the subject, are presented in the Guidelines above.

Some psychologists have suggested that teachers' use of praise tends to focus students on learning to win approval rather than on learning for its own sake. Perhaps the best advice is to be aware of the potential dangers of the overuse or misuse of praise and to navigate accordingly.

**Selecting Reinforcers: The Premack Principle.** In most classrooms, there are many readily available reinforcers other than teacher attention, such as the chance to talk to other students or feed the class animals. However, teachers tend to offer these opportunities in a rather haphazard way. Just as with praise, by making privileges and rewards directly contingent on learning and positive behavior, the teacher may greatly increase both learning and desired behavior.

A helpful guide for choosing the most effective reinforcers is the **Premack principle**, named for David Premack (1965). According to the Premack principle, a high-frequency behavior (a preferred activity) can be an effective reinforcer for a low-frequency behavior (a less-preferred activity). This is sometimes referred to as "Grandma's rule": First do what I want you to do, then you may do what you want to do. Elizabeth used this principle in her class when she told them they could work together on their Civil War news program after they quietly completed the first section of the worksheet on their own.
If students didn’t have to study, what would they do? The answers to this question may suggest many possible reinforcers. For most students, talking, moving around the room, sitting near a friend, being exempt from assignments or tests, reading magazines, using the computer, or playing games are preferred activities. The best way to determine appropriate reinforcers for your students may be to watch what they do in their free time.

For the Premack principle to be effective, the low-frequency (less preferred) behavior must happen first. In the following dialogue, notice how the teacher loses a perfect opportunity to use the Premack principle:

**Students:** Oh, no! Do we have to work on grammar again today? The other classes got to discuss the film we saw in the auditorium this morning.

**Teacher:** But the other classes finished the lesson on sentences yesterday. We’re almost finished too, if we don’t finish the lesson, I’m afraid you’ll forget the rules we reviewed yesterday.

**Students:** Why don’t we finish the sentences at the end of the period and talk about the film now?

**Teacher:** Okay, if you promise to complete the sentences later.

Discussing the film could have served as a reinforcer for completing the lesson. As it is, the class may well spend the entire period discussing the film. Just as the discussion becomes fascinating, the teacher will have to end it and insist that the class return to the grammar lesson.

Some teachers use questionnaires such as the one in Table 6.2 to identify effective reinforcers for their students. Remember, what works for one student may not be right for another. And students can get “too much of a good thing”; reinforcers can lose their potency if they are overused. See the Stories of Learning/Tributes to Teaching feature on page 212 to read how one educator remembers the positive practices of her teacher over a half-century ago.

**Shaping.** What happens when students continually fail to gain reinforcement because they simply cannot perform a skill in the first place? Consider these examples:

- A 4th-grade student looks at the results of the latest mathematics test. “No credit on almost half of the problems again because I made one dumb mistake in each problem. I hate math!”

- A 10th-grade student tries each day to find some excuse for avoiding the softball game in gym class. The student cannot catch a ball and now refuses to try.

<table>
<thead>
<tr>
<th>Table 6.2</th>
<th>What Do You Like? Reinforcement Ideas from Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>Grade</strong></td>
</tr>
<tr>
<td>Please answer all the questions as completely as you can.</td>
<td></td>
</tr>
<tr>
<td>1. The school subjects I like best are:</td>
<td></td>
</tr>
<tr>
<td>2. Three things I like most to do in school are:</td>
<td></td>
</tr>
<tr>
<td>3. If I had 30 minutes’ free time at school each day to do what I really liked, it would be:</td>
<td></td>
</tr>
<tr>
<td>4. My two favorite snacks are:</td>
<td></td>
</tr>
<tr>
<td>5. At recess I like most to (three things):</td>
<td></td>
</tr>
<tr>
<td>6. If I had $1 to spend on anything, I would buy:</td>
<td></td>
</tr>
<tr>
<td>7. Three jobs I would enjoy in the class are:</td>
<td></td>
</tr>
<tr>
<td>1. The two people I most like to work with in school are:</td>
<td></td>
</tr>
<tr>
<td>1. At home I really enjoy (three things):</td>
<td></td>
</tr>
</tbody>
</table>

Stories of Learning
Tributes to Teaching

My third-grade teacher taught a really comprehensive program. She was a good model. . . She brought in home economics, she read stories, she did all kinds of things that made you know that you could do anything in the world.
I can remember being in New York City from her reading a book, and I got the idea back then: "One of these days, I'm going to go to New York City."
She talked about the high-rise apartments and the elevators, and I could just feel myself going up the elevator and coming down, and I'd never seen an elevator before, growing up in rural Mississippi.
She was the kind who always gave you incentives for doing something. She would talk two people from the class, either weekly or monthly, to go to her house for a meal. She had all kinds of ways you could earn that privilege—maybe by coming to school every day, by doing your work every day, or by being a good citizen; all kinds of things. It was possible for everybody to earn that nice gift. You didn't have to be an A student, you could always do other things. I am sure that she had it set up so that every student got a chance to go to her house during the school year. The way she had it fixed, everybody was a winner; nobody would lose.
When we went to her house, we would help her to prepare the meal. She would teach us how to set the table because we didn't have the silver at home to do it. She taught us that you put the fork on the left and the knife and the spoon on the right.
—Virgie Binford, Educational Consultant, Richmond Virginia

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TO PRAXIS™
ENCOURAGING/DISCOURAGING BEHAVIORS (L. B1)
Understand the appropriate uses of techniques to encourage or discourage various classroom behaviors. Know the limitations and problems associated with these types of interventions.

In both situations the students are receiving no reinforcement for their work because the end product of their efforts is not good enough. A safe prediction is that the students will soon learn to dislike the class, the subject, and perhaps the teacher and school in general. One way to prevent this problem is the strategy of shaping, also called successive approximations. Shaping involves reinforcing progress instead of waiting for perfection.
In order to use shaping, the teacher must break down the final complex behavior the student is expected to master into a number of small steps. One approach identifying the small steps is task analysis, originally developed by R. B. Miller (1962) to help the armed services train personnel. Miller's system begins with a definition of the final performance requirement, what the trainee (or student) must be able to do at the end of the program or unit. Then the steps that will lead to the final goal are specified. The procedure simply breaks skills and processes down into subskills and subprocesses.
Consider an example of task analysis in which students must write a position paper based on library research. If the teacher assigned the position paper without analyzing the task in this way, what could happen? Some of the students might not know how to do computer searching. They might search through one or two encyclopedias, then write a summary of the issues based only on the encyclopedia articles. Another group of students might know how to use computers, tables of contents, and indexes, but have difficulty reaching conclusions. They might hand in lengthy papers listing summaries of different ideas. Another group of students might be able to draw conclusions, but their written presentations might be so confusing and grammatically incorrect that the teacher could not understand what they were trying to say. Each of the groups would have failed in fulfilling the assignment, but for different reasons.
A task analysis gives a picture of the logical sequence of steps leading toward the final goal. An awareness of this sequence can help teachers make sure that students have the necessary skills before they move to the next step. In addition, when students have difficulty, the teacher can pinpoint problem areas.
Make sure you recognize positive behavior in ways that students value.

**Examples**

1. When presenting class rules, set up positive consequences for following rules as well as negative consequences for breaking rules.
2. Recognize honest admissions of mistakes by giving a second chance: “Because you admitted that you copied your paper from a book, I’m giving you a chance to rewrite it.”
3. Offer desired rewards for academic efforts, such as extra recess time, exemptions from homework or tests, or extra credit on major projects.

When students are tackling new material or trying new skills, give plenty of reinforcement.

**Examples**

1. Find and comment on something right in every student’s first life drawing.
2. Reinforce students for encouraging each other “French pronunciation is difficult and awkward at first. Let’s help each other by eliminating all giggles when someone is brave enough to attempt a new word.”

After new behaviors are established, give reinforcement on an unpredictable schedule to encourage persistence.

**Examples**

1. Offer surprise rewards for good participation in class.
2. Start classes with a short, written extra-credit question. Students don’t have to answer, but a good answer will add points to their total for the semester.

3. Make sure the good students get compliments for their work from time to time. Don’t take them for granted.

Use cueing to help establish new behaviors.

**Examples**

1. Put up humorous signs in the classroom to remind students of rules.
2. At the beginning of the year, as students enter class, call their attention to a list on the board of the materials they should have with them when they come to class.

Make sure all students, even those who often cause problems, receive some praise, privileges, or other rewards when they do something well.

**Examples**

1. Review your class list occasionally to make sure all students are receiving some reinforcement.
2. Set standards for reinforcement so that all students will have a chance to be rewarded.

Establish a variety of reinforcers.

**Examples**

1. Let students suggest their own reinforcers or choose from a "menu" of reinforcers with "weekly specials."
2. Talk to other teachers or parents about ideas for reinforcers.

Use the Premack principle to identify effective reinforcers.

**Examples**

1. Watch what students do with their free time.
2. Notice which students like to work together. The chance to work with friends is often a good reinforcer.

Krumboltz and Krumboltz (1972) have described the following three methods of shaping: (1) reinforce each subskill, (2) reinforce improvements in accuracy, and (3) reinforce longer and longer periods of performance or participation. Many behaviors can be improved through shaping, especially skills that involve persistence, endurance, increased accuracy, greater speed, or extensive practice to master. Because shaping is a time-consuming process, however, it should not be used if success can be attained through simpler methods such as cueing.

**Positive Practice.** A strategy for helping students replace one behavior with another is positive practice. This approach is especially appropriate for dealing with academic errors. When students make a mistake, they must correct it as soon as possible and practice the correct response (Gibbs & Luyben, 1985; Kardin, 1984). The same principle can be applied when students break classroom rules. Instead of being punished, the student might be required to practice the correct alternative action.

The Guidelines above summarize approaches encouraging positive behavior.

### Coping with Undesirable Behavior

No matter how successful you are at accentuating the positive, there are times when you must cope with undesirable behavior, either because other methods fail or because the
behavior itself is dangerous and calls for direct action. For this purpose, negative rein-
forcement, satiation, reprimands, and punishment all offer possible solutions.

**Negative Reinforcement.** Recall the basic principle of negative reinforcement: If an
action stops or avoids something unpleasant, then the action is likely to occur
again in similar situations. Negative reinforcement was operating in Elizabeth's class-
room. When she gave in to the moans and complaints of her class and canceled the
rest, her behavior was being negatively reinforced. She escaped the unpleasant student
comments by changing her assignment, but students may have learned to complain
more in the future through negative reinforcement.

Negative reinforcement may also be used to enhance learning. To do this, you
place students in mildly unpleasant situations so they can "escape" when their be-
havior improves. Consider these examples:

*Teacher to a 3rd-grade class:* "When the supplies are put back in the cabinet and
each of you is sitting quietly, we will go outside. Until then, we will miss our recess."

*High school teacher to a student who seldom finishes in-class assignments:* "As soon
as you complete the assignment, you may join the class in the auditorium. But
until you finish, you must work in the study hall."

Actually, a true behaviorist might object to calling these examples of negative rein-
forcement because too much student thinking and understanding is required to make
them work. Teachers cannot treat students like lab animals, delivering a mild
shock to their feet until they give a right answer, then turning off the shock briefly.
But teachers can make sure that unpleasant situations improve when student behavior
improves.

You may wonder why the examples above are not considered punishment. Surely
staying in during recess or not accompanying the class to a special program is pun-
ishing. But the focus in each case is on strengthening specific behaviors (putting away
supplies or finishing in-class assignments). The teacher strengthens (reinforces) the
behaviors by removing something aversive as soon as the desired behaviors occur. Be-
cause the consequence involves removing or "subtracting" a stimulus, the reinforce-
ment is negative.

Negative reinforcement also gives students a chance to exercise control. Missing
recess and staying behind in study hall are unpleasant situations, but in each case the
students retain control. As soon as they perform the appropriate behavior, the un-
pleasant situation ends. In contrast, punishment occurs after the fact, and a student
cannot so easily control or terminate it.

There are several rules for negative reinforcement. Describe the desired change in
a positive way. Don't bluff. Make sure you can enforce your unpleasant situation. Fol-
low through despite complaints. Insist on action, not promises. If the unpleasant situ-
at ion terminates when students promise to be better next time, you have reinforced
making promises, not making changes (Krumboltz & Krumboltz, 1972; O'Leary, 1995).

**Satiation.** Another way to stop problem behavior is to insist that students continue
the behavior until they are tired of doing it. This procedure, called satiation, should
be applied with care. Forcing students to continue some behaviors may be physically
or emotionally harmful or even dangerous.

An example of an appropriate use of satiation is related by Krumboltz and
Krumboltz (1972). In the middle of a 9th-grade algebra class, the teacher suddenly
noticed four students making all sorts of unusual motions. In response to persistent
teacher questioning, the students finally admitted they were bouncing imaginary
balls. The teacher pretended to greet this idea with enthusiasm and suggested the
whole class do it. At first, there was a great deal of laughing and joking. After a minute
this stopped, and one student even quit. The teacher, however, insisted that all the stu-
dents continue. After 5 minutes and a number of exhausted sighs, the teacher allowed
the students to stop. No one bounced an imaginary ball in that class again.
Teachers also may allow students to continue some action until they stop by themselves, if the behavior is not interfering with the rest of the class. A teacher can do this by simply ignoring the behavior. Remember that responding to an ignorable behavior may actually reinforce it.

In using satiation, a teacher must take care not to give in before the students do. It is also important that the repeated behavior be the one you are trying to end. If the algebra teacher above had insisted that the students write, "I will never bounce imaginary balls in class again" 500 times, the students would have become satiated with writing rather than with bouncing balls.

Reprimands. In the Junction Journal, my daughter's elementary-school newspaper, I read the following lines in a story called "Why I Like School," written by a 4th grader: "I also like my teacher. She helps me understand and learn. She is nice to everyone. . . . I like it when she gets mad at somebody, but she doesn't yell at them in front of the class, but speaks to them privately."

A study by Dan O'Leary and his associates examined the effectiveness of soft, private reprimands versus loud, public reprimands in decreasing disruptive behavior (O'Leary, Kaufman, Kass, & Drabman, 1970). Reprimanding a problem student quietly so that only the student can hear seems to be much more effective. When the teacher in the study spoke to offenders loudly enough for the entire class to hear, the disruptions increased or continued at a constant level. Some students enjoy public recognition for misbehavior. If reprimands are not used too often, and if the classroom is generally a positive, warm environment, then students usually respond quickly (Kaplan, 1991; Van Houten & Doleys, 1983).

Response Cost. The concept of response cost is familiar to anyone who has ever paid a fine. For certain infractions of the rules, people must lose some reinforcer (money, time, privileges). In a class, the concept of response cost may be applied in a number of ways. The first time a student breaks a class rule, the teacher gives a warning. The second time, the teacher makes a mark beside the student's name in the grade book. The student loses 2 minutes of recess for each mark accumulated. For older students, a certain number of marks might mean losing the privilege of working in a group or going on a class trip.

Social Isolation. One of the most controversial behavioral methods for decreasing undesirable behavior is the strategy of social isolation, often called time out from reinforcement. The process involves removing a highly disruptive student from the classroom for 5 to 10 minutes. The student is placed in an empty, uninteresting room alone. It seems likely that the factor that actually decreases behavior is the punishment of brief isolation from other people (O'Leary & O'Leary, 1976). A trip to the principal's office or confinement to a chair in the corner of the regular classroom does not have the same effect as sitting alone in an empty room.

Some Cautions. Punishment in and of itself does not lead to any positive behavior. Thus, whenever you consider the use of punishment, you should make it part of a two-pronged attack. The first goal is to carry out the punishment and suppress the undesirable behavior. The second goal is to make clear what the student should be doing instead and to provide reinforcement for those desirable actions. Thus, while the problem behaviors are being suppressed, positive alternative responses are being strengthened. The Guidelines on page 216 give ideas for using punishment for positive purposes.

Check Yourself

What are the steps in applied behavior analysis?

How can the Premack principle help you identify reinforcers?

When is shaping an appropriate approach?

What are some cautions in using punishment?

CONNECT & EXTEND

TO YOUR TEACHING PORTFOLIO

Soft reprimands: During reading in Miss McCormick's 1st-grade class, she noticed that Kenny wasn't concentrating on his book. She was working with a group at the time and could have called out, "Kenny, you'd better get back to work. You're not concentrating." But she decided this would embarrass him as well as disturb the concentration of others. Instead, Miss McCormick walked over to him, asked him a couple of questions about the story, and asked him to let her know how the story ended. She achieved her goal without causing embarrassment, and she provided Kenny with an impetus and motive to concentrate on his story again.
GUIDELINES

Using Punishment

Try to structure the situation so you can use negative reinforcement rather than punishment.

Examples
1. Allow students to escape unpleasant situations (completing additional workbook assignments, weekly tests of math facts) when they reach a level of competence.
2. Insist on actions, not promises. Don’t let students convince you to change the terms of the agreement.

Be consistent in your application of punishment.

Examples
1. Avoid in inadvertently reinforcing the behavior you are trying to punish. Keep confrontations private, so that students don’t become heroes for standing up to the teacher in a public showdown.
2. Let students know in advance the consequences of breaking the rules by posting major class rules for younger students or outlining rules and consequences in a course syllabus for older students.
3. Tell students they will receive only one warning before punishment is given. Give the warning in a calm way; then follow through.
4. Make punishment as unavoidable and immediate as is reasonably possible.

Focus on the students’ actions, not on the students’ personal qualities.

Examples
1. Reprimand in a calm but firm voice.
2. Avoid vindictive or sarcastic words or tones of voice. You might hear your own angry words later when students imitate your sarcasm.
3. Stress the need to end the problem behavior instead of expressing any dislike you might feel for the student.

Adapt the punishment to the infraction.

Examples
1. Ignore minor misbehaviors that do not disrupt the class, or stop these misbehaviors with a disapproving glance or a move toward the student.
2. Don’t use homework as a punishment for misbehaviors such as talking in class.
3. When a student misbehaves to gain peer acceptance, removal from the group of friends can be effective, because this is really time out from a reinforcing situation.
4. If the problem behaviors continue, analyze the situation and try a new approach. Your punishment may not be very punishing, or you may be inadvertently reinforcing the misbehavior.

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TEACHING AND MANAGEMENT
(1, A: II; A3: I.C4)
Identify major approaches to teaching and classroom management that are based on behavioral principles. Understand the advantages and disadvantages of each.

Behavioral Approaches to Teaching and Management

The behavioral approach to learning has made several important contributions to instruction, including systems for specifying learning objectives (we will look at this topic in Chapter 12 when we discuss planning), mastery learning techniques, and class management systems such as group consequences, token economies, and contingency contracts. These approaches are useful when the goal is to learn explicit information or change behaviors and when the material is sequential and factual.

First let’s consider one element that is part of every behavioral learning program—specific practice of correct behaviors. Contrary to popular wisdom, practice does not make perfect. Instead, practice makes permanent the behaviors practiced, so practicing accurate behaviors is important. Describing Tiger Woods in a Newsweek article, Devin Gordon (2001) said,

Tiger’s habit of pounding golf ball after golf ball long into the twilight—often during tournament play—has already become part of his legend. During his so-called slump earlier this year, Woods claimed he was simply working on shots he would need for the Masters in April. People rolled their eyes. Until he won the Masters. (p. 45)

Last week (I am writing this paragraph in April, 2002), he won the Masters again. No doubt he had continued specific practice of the shots he would need.

As an example of a behavioral teaching approach, consider mastery learning.
Mastery Learning

Mastery learning is based on the assumption that given enough time and the proper instruction, most students can master any learning objective (Bloom, 1968; Guskey & Gates, 1986). To use the mastery approach, a teacher must break a course down into small units of study. Each unit might involve mastering several specific objectives. "Mastery" usually means a score of 80% to 90% on a test or other assessment. The teacher informs the students of the objectives and the criteria for meeting each one. Students who do not reach the minimum level of mastery or who reach this minimum but want to improve their performance (thus raising their grade) can recycle through the unit. When they are ready, they take another form of the unit test.

The challenge in mastery learning is providing the appropriate help for students who don't attain mastery. There are many possibilities. Students can work with peer tutors or aides inside or outside class or they can get extra help from their team members in cooperative groups. If no extra time or staff is available, mastery learning can be adapted to a regular class time frame. For example, after explaining the mastery approach, the teacher teaches the lessons, then gives an ungraded assessment to determine students' levels of understanding. Those who have reached the mastery level are given enrichment activities such as independent or group work, computer simulations, research projects, or creative problems to solve. Those who need more help work with the teacher on corrective instruction (Block & Anderson, 1975). The Keller Plan, also called the Personalized System of Instruction (PSI), is a form of mastery learning used most often in college (Sherman, Rusklin, & Semb, 1982).

Many of the systematic applications of behavioral principles focus on classroom management. For two examples that successfully applied behavioral principles to improve behaviors of students with special needs, see Reaching Every Student: Students with Learning and Behavior Problems on page 218.

Group Consequences

A teacher can base reinforcement for the class on the cumulative behavior of all members of the class, usually by adding each student's points to a class or a team total. The good behavior game is an example of this approach. A class is divided into two teams. Specific rules for good behavior are cooperatively developed. Each time a student breaks one of the rules, that student's team is given a mark. The team with the fewest marks at the end of the period receives a special reward or privilege (longer recess, first to lunch, and so on). If both teams earn fewer than a preestablished number of marks, both teams receive the reward. Most studies indicate that even though the game produces only small improvements in academic achievement, it can produce definite improvements in the behaviors listed in the good behavior rules.

You can also use group consequences without dividing the class into teams; that is, you can base reinforcement on the behavior of the whole class. Wilson and Hopkins (1978) conducted a study using group consequences to reduce noise levels. Radio music served effectively as the reinforcer for students in a family and consumer science class. Whenever noise in the class was below a predetermined level, students could listen to the radio; when the noise exceeded the level, the radio was turned off. Given the success of this simple method, such a procedure might be considered in any class where music does not interfere with the task at hand.

However, caution is needed using group approaches. The whole group should not suffer for the misbehavior or mistakes
Students with severe behavior problems are some of the most difficult challenges for teachers. Two studies show how behavioral principles can be useful in helping these students.

Lea Theodore and her colleagues (2001) worked with the teacher of five adolescent males who were diagnosed as having severe emotional disorders. A short list of clear rules was established (e.g., no obscene words, comply with teacher's requests within 5 seconds, no verbal putdowns). The rules were written on index cards taped to each student's desk. The teacher had a checklist on his desk with each student's name to note any rule breaking. This checklist was easily observable, so students could monitor their own and each others' performance. At the end of the 45-minute period, a student chose a "criterion" from a jar. The possible criteria were: performance of the whole group, student with the highest score, student with the lowest score, the average of all students, or a random single student. If the student or students selected to be the criterion had 5 checks or fewer for rule breaking, then the whole class got a reward, also chosen randomly from a jar. The possible rewards were things like a soda, a bag of chips, candy bars, or a late-to-class pass. An ABAB design was used—baseline, two-week intervention, two-week withdrawal of intervention, and two-week return to group consequences. All students showed clear improvement in following the rules when the reward system was in place, as you can see in the chart for one of the students below. Students liked the approach and the teacher found it easy to implement.

In the second study, Kara McGee and George DuPaul (2000) worked with teachers in three preschool classrooms to address problem behaviors of four students diagnosed as having Attention-Deficit/Hyperactive Disorder. The teachers tried both a token reinforcement program (students earned small and large buttons on a chart for following class rules), and a response cost system (students began with 5 small buttons and one large button per activity each day and lost buttons for not following rules). Both procedures were effective in lowering rule breaking, but the teachers found the response cost system easier to implement.


of one individual if the group has no real influence over that person (Eppichin, Townsend, & Stoddard, 1994; Jensen, Sloane, & Young, 1988). I saw an entire class break into cheers when the teacher announced that one boy was transferring to another school. The chant "No more points! No more points!" filled the room. The "points" referred to the teacher's system of giving one point to the whole class each time anyone broke a rule. Every point meant 5 minutes of recess lost. The boy who was transferring had been responsible for many losses. He was not very popular to begin with, and the point system, though quite effective in maintaining order, had led to rejection and even greater unpopularity.

Peer pressure in the form of support and encouragement, however, can be a positive influence, as you saw in the Reaching Every Student feature above. Group consequences are recommended for situations in which students care about the approval of their peers (Theodore, Bray, Kehic, & Jenson, 2001). If the misbehavior of several students seems to be encouraged by the attention and laughter of other students, then group consequences could be helpful. Teachers might show students how to give support and constructive feedback to classmates. If a few students seem to enjoy sabotaging the system, those students may need separate arrangements.
Token Reinforcement Programs

Have you ever participated in a program where you earned points or credits that you could exchange for a reward? Are you a member of a frequent flyer club or do you get points on your credit card? Do you collect Subway Club stamps (my husband has hundreds right now)? Do you get one free movie for every 10 rentals? Does being a part of such a program affect your buying habits? How? Go to http://www.bookitprogram.com/ and see a reading incentive club for pizza eaters.

Often it is difficult to provide positive consequences for all the students who deserve them. A **token reinforcement system** can help solve this problem by allowing all students to earn tokens for both academic work and positive classroom behavior. The tokens may be points, checks, colored punch cards, chips, play money, or anything else that is easily identified as the student's property. Periodically the students exchange the tokens they have earned for some desired reward (Kazdin, 2001; Alberto & Troutman, 2003).

Depending on the age of the student, the rewards could be small toys, school supplies, free time, special class jobs, or other privileges. When a "token economy," as this kind of system is called, is first established, the tokens should be given out on a fairly continuous schedule, with chances to exchange the tokens for rewards often available. Once the system is working well, however, tokens should be distributed on an intermittent schedule and saved for longer periods of time before they are exchanged for rewards.

Another variation is to allow students to earn tokens in the classroom and then exchange them for rewards at home. These plans are very successful when parents are willing to cooperate. Usually a note or report form is sent home daily or twice a week. The note indicates the number of points earned in the preceding time period. The points may be exchanged for minutes of television viewing, access to special toys, or private time with parents. Points can also be saved up for larger rewards such as trips. Do not use this procedure, however, if you suspect the child might be severely punished for poor reports.

Token reinforcement systems are complicated and time-consuming. Generally, they should be used in only three situations: to motivate students who are completely uninterested in their work and have not responded to other approaches; to encourage students who have consistently failed to make academic progress; and to deal with a class that is out of control. Some groups of students seem to benefit from token economies more than others. Students with mental retardation, children who have failed often, students with few academic skills, and students with behavior problems all seem to respond to the concrete, direct nature of token reinforcement.

Before you try a token system, you should be sure that your teaching methods and materials are right for the students. Sometimes class disruptions or lack of motivation indicate that teaching practices need to be changed. Maybe the class rules are unclear or are enforced inconsistently. Maybe the text is too easy or too hard. Maybe the pace is wrong. If these problems exist, a token system may improve the situation temporarily, but the students will still have trouble learning the academic material (Jenson, Sloane, & Young, 1988).

Contingency Contract Programs

In a **contingency contract** program, the teacher draws up an individual contract with each student, describing exactly what the student must do to earn a particular privilege or reward. In some programs, students participate in deciding on the behaviors to be reinforced and the rewards that can be gained. The negotiating process itself can be an educational experience, as students learn to set reasonable goals and abide by the terms of a contract. And, if students participate in setting the goals, they often are more committed to reaching them (Locke & Latham, 1990; Pintrich & Schunk, 2002).
The teacher and student agree on the due dates for each assignment, marking them in blue on the chart. Each time an assignment is turned in, the date of completion is marked in black on the chart. As long as the actual completion line is above the planned completion line, the student earns free time or other contracted rewards.

**Assignments completed—hurrah!**
- Book report
- Chapt. 12 Soc. Stud., Math problem set 9
- Math reading-notes 9
- Chapt. 11 Soc. Stud.
- Lab. report Science
- Math problem set 8
- Math reading-notes 8
- Oral present—fit
- Written outline—fit
- Read
- Math problem set 7
- Math reading-notes 7
- Chapt. 10 Soc. Stud.
- Read last act play
- Lab. report Science
- Chapt. 9 Science
- Chapt. 9 Soc. Stud.
- Math problem set 6
- Math reading-notes 6
- Read Act II play
- Chapt. 8 Soc. Stud.
- Lab. report Science
- Chapt. 5 Science
- Read Act I play
- Select play to read
- Math problem set 5
- Math reading-notes 5
- Shop project done

**Figure 6.3 A Contingency Contract for Completing Assignments**

An example of a contract for completing assignments that is appropriate for intermediate and upper-grade students is presented in Figure 6.3. This chart serves as a contract, assignment sheet, and progress record. Information about progress can support student motivation (Schunk, 2000). Something like this might even help you keep track of assignments and due dates in your college classes.

The few pages devoted here to token reinforcement and contingency contracts can offer only an introduction to these programs. If you want to set up a large-scale reward program in your classroom, you should probably seek professional advice. Often the school psychologist, counselor, or principal can help.

**Check Yourself** What is mastery learning?

Describe the managerial strategies of group consequences, token programs, and contracts.

---

220 Chapter 6 Behavioral Views of Learning
Recent Approaches: Self-Regulation and Cognitive Behavior Modification

What Would You Say? The Physical Therapy Unit where you are interviewing is a state-of-the-art facility. You feel as though the interview for a patient-educator position is going well. Your next question is: "One of our biggest problems here, and in most rehabilitation centers for that matter, is getting our clients to stick to an exercise program. What ideas do you have for helping these clients maintain their prescribed regimens?"

A recent application of behavioral views of learning emphasizes self-management—helping students gain control of their own learning. As you will see throughout this book, the role of students in their own learning is a major concern of psychologists and educators today. This concern is not restricted to any one group or theory. Different areas of research and theory all converge on one important idea, that responsibility and the ability to learn rests within the student. No one can learn for someone else (Mace, Belfiore, & Hutchison, 2001; Manning & Payne, 1996; Winne, 1995; Zimmerman, 1990).

Behavioral psychologists became interested in self-management because they found students taught with classic behavioral methods seldom generalized their learning to new situations. For example, in my dissertation research I found that inattentive students could learn to pay excellent attention to lessons in a small group, but when they returned to the regular classroom, they did not take their new skill back with them (Woolfolk & Woolfolk, 1974). Many behavioral psychologists decided that generalization would be encouraged if students became partners in the behavior change procedures. About this same time, Donald Meichenbaum (1977) was having success teaching impulsive students to "talk themselves through" tasks, so there was evidence that students could benefit from what Meichenbaum termed "cognitive behavior modification" (Manning, 1991).

Self-Management

If one goal of education is to produce people who are capable of educating themselves, then students must learn to manage their own lives, set their own goals, and provide their own reinforcement. In adult life, rewards are sometimes vague and goals often take a long time to reach. Think about how many small steps are required to complete an education and find your first job. Life is filled with tasks that call for this sort of self-management (Kanfer & Gaelick, 1986).

Students may be involved in any or all of the steps in implementing a basic behavior change program. They may help set goals, observe their own work, keep records of it, and evaluate their own performance. Finally, they can select and deliver reinforcement. Such involvement can help students master all the steps so they can perform these tasks in the future (Kaplan, 1991).

Goal Setting. It appears that the goal-setting phase is very important in self-management (Pintrich & Schunk, 2002; Reeve, 1996). In fact, some research suggests that setting specific goals and making them public may be the critical elements of self-management programs. For example, S. C. Hayes and his colleagues identified college students who had serious problems with studying and taught them how to set specific study goals. Students who set goals and announced them to the experimenters performed significantly better on tests covering the material they were studying than students who set goals privately and never revealed them to anyone (Hayes, Rosenfarb, Wulfert, Muni, Korn, & Zettl, 1985).

Higher standards tend to lead to higher performance (McLaughlin & Gnagey, 1981). Unfortunately, student-set goals have a tendency to reflect lower and lower expectations. Teachers can help students maintain high standards by monitoring the goals set and reinforcing high standards. In one study, a teacher helped 1st-grade...
students raise the number of math problems they set for themselves to work on each
day by praising them whenever they increased their objective by 10%. The students
maintained their new, higher work standards, and the improvements even general-
ized to other subjects (Price & O'Leary, 1974).

**Monitoring and Evaluating Progress.** Students may also participate in the
monitoring and evaluation phases of a behavior change program (Mace, Belfiore,
& Hutchison, 2001). Some examples of behaviors that are appropriate for self-
monitoring are the number of assignments completed, time spent practicing a skill,
number of books read, number of problems correct, and time taken to run a mile.
Tasks that must be accomplished without teacher supervision, such as homework or
private study, are also good candidates for self-monitoring. Students keep a chart,
diary, or checklist recording the frequency or duration of the behaviors in question.

A progress record card can help older students break down assignments into
small steps, determine the best sequence for completing the steps, and keep track of
daily progress by setting goals for each day. The record card itself serves as a prompt
that can be faded out (Jenson, Sloane, & Young, 1988). Completing homework is a
problem for students in almost any grade. Here is a checklist, taken from Belfiore,
& Hornyak (1998) to help students manage their homework:

1. Did I turn in yesterday's homework?
2. Did I write all homework assignments in my notebook?
3. Is all the homework in the homework folder?
4. Are all my materials to complete my homework with me?
5. Begin Homework
6. Are all homework papers completed?
7. Did someone check homework to make sure it was completed?
8. After checking, did I put all homework back in folder?
9. Did I give this paper to teacher? (p. 190)

Self-evaluation is somewhat more difficult than simple self-recording because it
involves making a judgment about quality. Students can evaluate their behavior with
reasonable accuracy, especially if they learn standards for judging a good performance
or product. For example, Sweeney, Salva, Cooper, and Talbert-Johnson (1993) taught
secondary students how to evaluate their handwriting for size, slant, shape, and spac-
ing. One key to accurate self-evaluation seems to be periodically checking students'
assessments and giving reinforcement for accurate judgments. Older students may
learn accurate self-evaluation more readily than younger students. Again, bonus
points can be awarded when the teachers' and students' evaluations match (Kaplan,
1991). I have worked with one teacher who found that his 8th-grade science class
could learn to give themselves fair and accurate grades when he used such a system.

Self-correction can accompany self-evaluation. Students first evaluate, then alter
and improve their work, and finally compare the improvements to the standards
again (Mace, Belfiore, & Hutchison, 2001).

**Self-Reinforcement.** The last step in self-management is self-reinforcement.
There is some disagreement, however, as to whether this step is actually necessary.
Some psychologists believe that setting goals and monitoring progress alone are suf-
cient and that self-reinforcement adds nothing to the effects (Hayes et al., 1985).
Others believe that rewarding yourself for a job well done can lead to higher levels of
performance than simply setting goals and keeping track of progress (Bandura,
1986). If you are willing to be tough and really deny yourself something you want
until your goals are reached, then perhaps the promise of the reward can provide
extra incentive for work. With that in mind, you may want to think of some way to
reinforce yourself when you finish reading this chapter. A similar approach helped me
write the chapter in the first place.
## Family and Community Partnerships

### Student Self-Management

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<table>
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<tbody>
<tr>
<td><strong>Introduce the system to parents and students in a positive way.</strong></td>
<td><strong>Provide models of good work where judgments are more difficult, such as in creative writing.</strong></td>
</tr>
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<td><strong>Examples</strong></td>
<td><strong>Examples</strong></td>
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<tr>
<td>1. Invite family participation and stress possible benefits to all family members.</td>
<td>2. Provide models of good work where judgments are more difficult, such as in creative writing.</td>
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<tr>
<td>2. Consider starting the program just with volunteers.</td>
<td>3. Give families a record form or checklist to keep track of progress.</td>
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<tr>
<td>3. Describe how you use self-management programs yourself.</td>
<td><strong>Encourage families to check the accuracy of student records from time to time, and help their children to develop forms of self-reinforcement.</strong></td>
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<tr>
<td><strong>Help families and students establish reachable goals.</strong></td>
<td><strong>Examples</strong></td>
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<td><strong>Examples</strong></td>
<td>1. Have many checkups when students are first learning, and fewer later.</td>
</tr>
<tr>
<td>1. Have examples of possible self-management goals for students such as starting homework early in the evening, or keeping track of books read.</td>
<td>2. Have siblings check one another’s records.</td>
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<tr>
<td>2. Show families how to set goals and keep track of progress. Encourage everyone in the family to work on a goal.</td>
<td>3. Where appropriate, test the skills that students are supposed to be developing at home and reward students whose self-evaluations match their test performances.</td>
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<tr>
<td><strong>Give families ways to record and evaluate their child’s progress (or their own).</strong></td>
<td>4. Have students brainstorm ideas with their families for rewarding themselves for jobs well done.</td>
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<td><strong>Examples</strong></td>
<td><strong>Examples</strong></td>
</tr>
<tr>
<td>1. Divide the work into easily measured steps.</td>
<td>2. Provide models of good work where judgments are more difficult, such as in creative writing.</td>
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At times, families can be enlisted to help their children develop self-management abilities. Working together, teachers and parents can focus on a few goals and, at the same time, support the growing independence of the students. The **Family and Community Partnerships Guidelines** give some ideas.

Sometimes, teaching students self-management can solve a problem for teachers and provide fringe benefits as well. For example, the coaches of a competitive swim team with members aged 9 to 16 were having difficulty persuading swimmers to maintain high work rates. Then the coaches drew up four charts indicating the training program to be followed by each member and posted the charts near the pool. The swimmers were given the responsibility of recording their numbers of laps and completion of each training unit. Because the recording was public, swimmers could see their own progress and that of others, give and receive congratulations, and keep accurate track of the work units completed. Work output increased by 27%. The coaches also liked the system because swimmers could begin to work immediately without waiting for instructions (McKenzie & Rushall, 1974).

### Cognitive Behavior Modification and Self-Instruction

Self-management generally means getting students involved in the basic steps of a behavior change program. **Cognitive behavior modification** adds an emphasis on thinking and self-talk. For this reason, many psychologists consider cognitive behavior modification more a cognitive than a behavioral approach. I present it here because it serves as a bridge to Chapters 7 and 8 on cognitive learning.

As noted in Chapter 2, there is a stage in cognitive development when young children seem to guide themselves through a task using private speech. They talk to themselves, often repeating the words of a parent or teacher. In cognitive behavior modification, students are taught directly how to use **self-instruction**. Meichenbaum (1977) outlined the steps:

**Cognitive behavior modification**

Procedures based on both behavioral and cognitive learning principles for changing your own behavior by using self-talk and self-instruction.

**Self-instruction**

Talking oneself through the steps of a task.

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Recent Approaches: Self-Regulation and Cognitive Behavior Modification
1. An adult model performs a task while talking to him- or herself 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 him- or herself aloud (overt, self-guidance).
4. The child whispers the instructions to him- or herself as he/she goes through the task (faded, overt self-guidance).
5. The child performs the task while guiding his/her performance via private speech (covert self-instruction). (p. 32)

Brenda Manning and Beverly Payne (1996) list four skills that can increase student learning: listening, planning, working, and checking. How might cognitive self-instruction help students develop these skills? One possibility is to use personal booklets or class posters that prompt students to “talk to themselves” about these skills. For example, one 5th-grade class designed a set of prompts for each of the four skills and posted the prompts around the classroom. The prompts for listening included “Does this make sense?” “Am I getting this?” “I need to ask a question now before I forget.” “Pay attention!” “Can I do what he's saying to do?” Planning prompts were, “Do I have everything together?” “Do I have my friends tuned out for right now?” “Let me get organized first.” “What order will I do this in?” “I know this stuff!” Posters for these and the other two skills, working and checking, are shown in Figure 6.4. Part of the power

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**Figure 6.4** Posters to Remind Students to “Talk Themselves Through” Listening, Planning, Working, and Checking in School
of this process is in getting students involved in thinking about and creating their own guides and prompts. Having the discussion and posting the ideas makes students more self-aware and in control of their own learning.

Actually, cognitive behavior modification as it is practiced by Meichenbaum and others has many more components than just teaching students to use self-instruction. Meichenbaum's methods also include dialogue and interaction between teacher and student, modeling, guided discovery, motivational strategies, feedback, careful matching of the task with the student's developmental level, and other principles of good teaching. The student is even involved in designing the program (Harris, 1990; Harris & Pressley, 1991). Given all this, it is no surprise that students do seem to generalize the skills developed with cognitive behavior modification to new learning situations (Harris, Graham, & Pressley, 1992).

Check Yourself What are the steps in self-management?

Enhancing Your Expertise with Technology

Self-Regulation

Jim found it exhausting, but very satisfying, to serve as Cherie's mentor during her first year as a teacher. They met each morning for about 15 minutes, frequently talked at lunchtime, and always met after the last class to analyze the day. Often, the conversations focused on an unexpected event such as a distressing comment made by a student about a situation at home. Cherie, however, usually had an agenda: How do you prepare for parent-teacher conferences? Who offers high-quality science workshops? In many ways, Cherie was teaching herself about the profession, and Jim was her resource manual.

Cherie is an example of a self-regulated learner. She identified gaps in her knowledge, set goals, and located resources for her learning. She organized her time to effectively achieve her goals. She, along with her mentor, evaluated her progress toward the goals. In this chapter and the next four, we examine several theoretical perspectives that strongly influence classroom practices. These perspectives often differ starkly in their assumptions about learning and the roles of students and teachers. However, all these perspectives find some common ground affirming the importance of self-regulated learning—and an expert teacher is by necessity a highly self-regulated learner.

A key attribute of a self-regulated learner is the effective use of resources. The AskERIC Web site (http://ericir.syr.edu) is one of the most comprehensive, up-to-date, and authoritative educational resources that you will find anywhere in any medium. The AskERIC home page provides you with a hint of the vast breadth of disciplines that comprise the field of education. You will see sections devoted to counseling, educational technology, educational management, librarianship, and many more.

There are three features that beginning teachers will find immediately useful. The first is the link to a collection of lesson plans that not only includes plans for a variety of subject areas, but also provides guidelines for writing plans that complement the guidelines you will find in this textbook. Second, the Ask an ERIC Expert link puts you in contact with one of ERIC's information specialists, who will respond to you within two days and provide resources that you can use to research your question. Third, the Question Archive is composed of a set of questions that have been previously answered by ERIC specialists. Many of these questions are the type that novice teachers would typically ask.

As you explore AskERIC, be sure to navigate to its collection of ERIC Digests (http://www.ed.gov/databases/ERIC_Digests/index/). Each digest (there are more than 2500 of them) is a brief report on a current topic of interest to the educational community. Among the many topics addressed in a recent set of digests were gifted education, children with exceptional needs, home schooling, problem-based learning, and child development. Perhaps the best way to discover the full potential of this resource-rich site is to sign up for the AskERIC Update Newsletter. You will receive an emailed newsletter on the first day of the month that advises you of additions and revisions to AskERIC.

Problems and Issues

The preceding sections provide an overview of several strategies for changing classroom behavior. However, you should be aware that these strategies are tools that may
be used responsibly or irresponsibly. What, then, are some issues you should keep in mind?

**Criticisms of Behavioral Methods**

*What Would You Say?* During your job interview, the principal asks, “A teacher last year got in trouble for bribing his students with homework exemptions to get them to behave in class. What do you think about using rewards and punishments in teaching?” What do you say?

While you think about your answer to this question, look at the Point/Counterpoint on “Should Students Be Rewarded for Learning?” to see two different perspectives. Properly used, the strategies in this chapter can be effective tools to help students learn academically and grow in self-sufficiency. Effective tools, however, do not automatically produce excellent work. The indiscriminate use of even the best tools can lead to difficulties. Critics of behavioral methods point to two basic problems that may arise.

Some psychologists fear that rewarding students for all learning will cause them to lose interest in learning for its own sake (Deci, 1975; Deci & Ryan, 1985; Kohn, 1993, 1996; Lepper & Greene, 1978; Lepper, Keaveny, & Drake, 1996; Ryan & Deci, 1996). Studies have suggested that using reward programs with students who are already interested in the subject matter may, in fact, cause students to be less interested in the subject when the reward program ends, as you can see in the Point/Counterpoint. In addition, there is some evidence that praising students for being intelligent when they succeed can undermine their motivation if they do not perform as well the next time. After they fail, students who had been praised for being smart may be less persistent and enjoy the task less compared to students who had been praised earlier for working hard (Mueller & Dweck, 1998).

Just as you must take into account the effects of a reward system on the individual, you must also consider the impact on other students. Using a reward program or giving one student increased attention may have a detrimental effect on the other students in the classroom. Is it possible that other students will learn to be “bad” in order to be included in the reward program? Most of the evidence on this question suggests that using individual adaptations such as reward programs does not have any adverse effects on students who are not participating if the teacher believes in the program and explains the reasons for using it to the nonparticipating students. After interviewing 98 students in grades 1 through 6, Cindy Fulk and Paula Smith (1995) concluded that “Teachers may be more concerned about equal treatment of students than students are” (p. 416). If the conduct of some students does seem to deteriorate when their peers are involved in special programs, many of the same procedures discussed in this chapter should help them return to previous levels of appropriate behavior (Chance, 1992, 1995).

**Ethical Issues**

The ethical questions related to the use of the strategies described in this chapter are similar to those raised by any process that seeks to influence people. What are the goals? How do these goals fit with those of the school as a whole? What effect will a strategy have on the individuals involved? Is too much control being given to the teacher, or to a majority?

**Goals.** The strategies described in this chapter could be applied exclusively to teaching students to sit still, raise their hands before speaking, and remain silent at all other times (Wittet & Winkler, 1972). This certainly would be an unethical use of the techniques. It is true that a teacher may need to establish some organization and order, but stopping with improvements in conduct will not ensure academic learning. On


**Point/Counterpoint**

**Should Students Be Rewarded for Learning?**

For nearly a century, educators have been debating whether students should be rewarded for their academic accomplishments. In the early 1990s, Paul Chance and Alfie Kohn exchanged opinions in several issues of *Phi Delta Kappan* (March 1991; November 1992; June 1993). Then, Judy Cameron and W. David Pierce (1996) published an article on reinforcement in the *Review of Educational Research* that precipitated extensive criticisms and rebuttals in the same journal from Mark Lepper, Mark Karrney, Michael Drake, Alfie Kohn, Richard Ryan, and Edward Deci. Many of the same people exchanged opinions in the November 1999 issue of *Psychological Bulletin*. What are the arguments?

### Point

**Students are punished by rewards.**

Alfie Kohn (1993) argues that "Applied behaviorism, which amounts to saying, 'do this and you'll get that,' is essentially a technique for controlling people. In the classroom it is a way of doing things to children rather than working with them" (p. 784). He contends that rewards are ineffective because when the praise and prizes stop, the behaviors stop too. After analyzing 128 studies of extrinsic rewards, Edward Deci, Richard Kuestner, and Richard Ryan (1999) concluded that "tangible rewards tend to have a substantial effect on intrinsic motivation, with the limiting conditions we have specified. Even when tangible rewards are offered as indicators of good performance, they typically decrease intrinsic motivation for interesting activities" (pp. 658–659).

The problem with rewards does not stop here. According to Kohn, rewarding students for learning actually makes them less interested in the material:

> All of this means that getting children to think about learning as a way to receive a sticker, a gold star, or a grade—or even worse, to get money or a toy for a grade, which amounts to an extrinsic motivator for an extrinsic motivator—is likely to turn learning from an end into a means. Learning becomes something that must be gotten through in order to receive the reward. Take the depressingly pervasive program by which children receive certificates for pizzas when they have read a certain number of books. John Nichols of the University of Illinois comments, only half in jest, that the likely consequence of this program is "a lot of fat kids who don't like to read." (p. 785)

### Counterpoint

**Learning should be rewarding.**

According to Paul Chance (1993):

> Behavioral psychologists in particular emphasize that we learn by acting on our environment. As B. F. Skinner put it, "[People] act on the world, and change it, and are changed in turn by the consequences of their actions." Skinner, unlike Kohn, understood that people learn best in a responsive environment. Teachers who praise or otherwise reward student performance provide such an environment. ... If it is immoral to let students know they have answered questions correctly, to pat students on the back for a good effort, to show joy at a student's understanding of a concept, or to recognize the achievement of a goal by providing a gold star or a certificate—if this is immoral, then count me a sinner. (p. 788)

Do rewards undermine interest? In their review of research, Cameron and Pierce (1994) concluded, "When tangible rewards (e.g., gold star, money) are offered contingent on performance on a task [not just on participation] or are delivered unexpectedly, intrinsic motivation is maintained" (p. 49). In a later review of research, Eisenberg, Pierce, and Cameron (1999) added that "Rewards procedures requiring specific high task performance convey a task's personal or social significance, increasing intrinsic motivation" (p. 677). Even psychologists such as Edward Deci and Mark Lepper who suggest that rewards might undermine intrinsic motivation agree that rewards can also be used positively. When rewards provide students with information about their growing mastery of a subject or when the rewards show appreciation for a job well done, then the rewards bolster confidence and make the task more interesting to the students, especially students who lacked ability or interest in the task initially. Nothing succeeds like success. As Chance points out, if students master reading or mathematics with the support of rewards, they will not forget what they have learned when the praise stops. Would they have learned without the rewards? Some would, but some might not. Would you continue working for a company that didn't pay you, even though you liked the work? Will freelance writer Alfie Kohn, for that matter, lose interest in writing because he gets paid fees and royalties?

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the other hand, in some situations, reinforcing academic skills may lead to improvements in conduct. Whenever possible, emphasis should be placed on academic learning. Academic improvements generalize to other situations more successfully than do changes in classroom conduct.

**Strategies.** Punishment can have negative side effects. It can serve as a model for aggressive responses, and it can encourage negative emotional reactions. Punishment is unnecessary and even unethical when positive approaches, which have fewer potential dangers, might work as well. When simpler, less-restrictive procedures fail, then more complicated procedures should be tried.

A second consideration in the selection of a strategy is the impact of the strategy on the individual student. For example, some teachers arrange for students to be rewarded at home with a gift or activities based on good work in school. But if a student has a history of being severely punished at home for bad reports from school, a home-based reinforcement program might be very harmful to that student. Reports of unsatisfactory progress at school could lead to increased abuse at home.

**Check Yourself** What are the main criticisms of behavioral approaches?
Understanding Learning
(pp. 198–200)

Define learning: Although theorists disagree about the definition of learning, most would agree that learning occurs when experience causes a change in a person’s knowledge or behavior.
Behavioral theorists emphasize the role of environmental stimuli in learning and focus on behavior—observable responses. Behavioral learning processes include contiguity learning, classical conditioning, and operant conditioning.

Learning: Process through which experience causes permanent change in knowledge or behavior.
Behavioral Learning Theories: Explanations of learning that focus on external events as the cause of changes in observable behaviors.

Early Explanations of Learning:
Contiguity and Classical Conditioning
(pp. 200–202)

How does a neutral stimulus become a conditioned stimulus? In classical conditioning, which was discovered by Pavlov, a previously neutral stimulus is repeatedly paired with a stimulus that evokes an emotional or physiological response. Later, the previously neutral stimulus alone evokes the response—that is, the neutral stimulus is conditioned to bring forth a conditioned response. The neutral stimulus has become a conditioned stimulus.

Discrimination between generalization and discrimination. Conditioned responses are subject to the processes of generalization and discrimination. After animals or people learn to respond to one particular stimulus, they may also have similar responses to other stimuli that are similar to the original one. This process is called generalization because the conditioned response has generalized or occurred in the presence of similar stimuli. Discrimination is learning to make distinctions—to respond to one stimulus but not to others that are similar.

Contiguity: Association of two events because of repeated pairing.
Stimulus: Event that activates behavior.
Response: Observable reaction to a stimulus.
Classical Conditioning: Association of automatic responses with new stimuli.
Respondents: Responses (generally automatic or involuntary) elicited by specific stimuli.
Neutral Stimulus: Stimulus not connected to a response.
Unconditioned Stimulus (US): Stimulus that automatically produces an emotional or physiological response.
Unconditioned Response (UR): Naturally occurring emotional or physiological response.
Conditioned Stimulus (CS): Stimulus that evokes an emotional or physiological response after conditioning.
Conditioned Response (CR): Learned response to a previously neutral stimulus.
Generalization: Responding in the same way to similar stimuli.
Discrimination: Responding differently to similar, but not identical stimuli.
Extinction: Gradual disappearance of a learned response.

Operant Conditioning:
Trying New Responses
(pp. 202–208)

What defines a consequence as a reinforcer? As a punisher? In Skinner’s operant conditioning people learn through the effects of their deliberate responses. For an individual, the effects of consequences following an action may serve as reinforcers or punishers. A consequence is defined as a reinforcer if it strengthens or maintains the response that brought it about, whereas a consequence is defined as a punishment if it decreases or suppresses the response that brought it about.

Negative reinforcement is often confused with punishment. How are they different? The process of reinforcement (positive or negative) always involves strengthening behavior. The teacher strengthens (reinforces) desired behaviors by removing something aversive as soon as the desired behaviors occur. Because the consequence involves removing or “subtracting” a stimulus, the reinforcement is negative. Punishment, on the other hand, involves decreasing or suppressing behavior. A behavior followed by a “punisher” is less likely to be repeated in similar situations in the future.

How can you encourage persistence in a behavior? Ratio schedules (based on the number of responses) encourage higher rates of response, and variable schedules (based on varying numbers of responses or varying time intervals) encourage persistence of responses.

What is the difference between a prompt and a cue? A cue is an antecedent stimulus just before a particular behavior is to take place. A prompt is an additional cue following the first cue. Make sure the environmental stimulus that you want to become a cue occurs immediately before the prompt you are using, so students will learn to respond to the cue and not rely only on the prompt. Then, fade the prompt as soon as possible so students do not become dependent on it.

Operants: Voluntary (and generally goal-directed) behaviors emitted by a person or an animal.
Operant Conditioning: Learning in which voluntary behavior is strengthened or weakened by consequences or antecedents.
Antecedents: Events that precede an action.
Consequences: Events that follow an action.
Reinforcement: Use of consequences to strengthen behavior.
Reinforcer: Any event that follows a behavior and increases the chances that the behavior will occur again.

Positive Reinforcement: Strengthening behavior by presenting a desired stimulus after the behavior.

Negative Reinforcement: Strengthening behavior by removing an aversive stimulus when the behavior occurs.

Aversion: Irritating or unpleasant.

Punishment: Process that weakens or suppresses behavior.

Presentation Punishment: Decreasing the chances that a behavior will occur again by presenting an aversive stimulus following the behavior; also called Type I punishment.

Removal Punishment: Decreasing the chances that a behavior will occur again by removing a pleasant stimulus following the behavior; also called Type II punishment.

Continuous Reinforcement Schedule: Presenting a reinforcer after every appropriate response.

Interruption Reinforcement Schedule: Presenting a reinforcer after some but not all responses.

Interval Schedule: Length of time between reinforcers.

Ratio Schedule: Reinforcement based on the number of responses between reinforcers.

Stimulus Control: Capacity for the presence or absence of antecedents to cause behaviors.

Cueing: Providing a stimulus that "sets up" a desired behavior.

Prompt: A reminder that follows a cue to make sure the person reacts to the cue.

Applied Behavior Analysis

(pp. 209–216)

What are the steps in applied behavior analysis? The steps are: (1) Clearly specify the behavior to be changed and note the current level. (2) Plan a specific intervention using antecedents, consequences, or both. (3) Keep track of the results, and modify the plan if necessary.

How can the Premack principle help you identify reinforcers? The Premack principle states that a high-frequency behavior (a preferred activity) can be an effective reinforcer for a low-frequency behavior (a less-preferred activity). The best way to determine appropriate reinforcers for your students may be to watch what they do in their free time. For most students, talking, moving around the room, sitting near a friend, being exempt from assignments or tests, reading magazines, or playing games are preferred activities.

When is shaping an appropriate approach? Shaping helps students develop new responses a little at a time, so shaping is useful for building complex skills, working toward difficult goals, and increasing persistence, endurance, accuracy, or speed. Because shaping is a time-consuming process, however, it should not be used if success can be attained through simpler methods such as cueing.

What are some cautions in using punishment? Punishment in and of itself does not lead to any positive behavior. Thus, whenever you consider the use of punishment, you should make it part of a two-pronged attack. First, carry out the punishment and suppress the undesirable behavior. Second, make clear what the student should be doing instead and provide reinforcement for those desirable actions. Thus, while the problem behaviors are being suppressed, positive alternative responses are being strengthened.

Behavioral Approaches to Teaching and Management

(pp. 216–220)

What is mastery learning? To use mastery learning, a teacher must break a course down into small units of study. Each unit might involve mastering several specific objectives. "Mastery" usually means a score of 80% to 90% on a test or other assessment. The teacher informs the students of the objectives and the criteria for meeting each one. Students who do not reach the minimum level of mastery or who reach this minimum but want to improve their performance can recycle through the unit. When they attain the mastery score, they move to the next unit.

Describe the managerial strategies of group consequences, token programs, and contracts. Using group consequences involves basing reinforcement for the whole class on the behavior of the whole class. In token programs, students earn tokens (points, checks, holes punched in a card, chips, etc.) for both academic work and positive classroom behavior. Periodically the students exchange the tokens they have earned for some desired reward. In a contingency contract program, the teacher draws up an individual contract with each student, describing exactly what the student must do to earn a particular privilege.
or reward. A teacher must use these programs with caution, emphasizing learning and not just "good" behavior.

**Mastery Learning:** Teaching approach in which students must learn one unit and pass a test at a specified level before moving to the next unit.

**Good Behavior Game:** Arrangement where a class is divided into teams and each team receives demerit points for breaking agreed-upon rules of good behavior.

**Group Consequences:** Rewards or punishments given to a class as a whole for adhering to or violating rules of conduct.

**Token Reinforcement System:** System in which tokens earned for academic work and positive classroom behavior can be exchanged for some desired reward.

**Contingency Contract:** A contract between the teacher and a student specifying what the student must do to earn a particular reward or privilege.

### Recent Approaches: Self-Regulation and Cognitive Behavior Modification
(pp. 221–225)

**What are the steps in self-management?** Students can apply behavior analysis on their own to manage their own behavior. Teachers can encourage the development of self-management skills by allowing students to participate in setting goals, keep track of progress, evaluating accomplishments, and selecting and giving their own reinforcers. Teachers can also use cognitive behavior modification, a behavior change program described by Meichenbaum in which students are directly taught how to use self-instruction.

**Self-Management:** Use of behavioral learning principles to change your own behavior.

**Self-Reinforcement:** Providing yourself with positive consequences, contingent on accomplishing a particular behavior.

**Cognitive Behavior Modification:** Procedures based on both behavioral and cognitive learning principles for changing your own behavior by using self-talk and self-instruction.

**Self-Instruction:** Talking oneself through the steps of a task.

### Enhancing Your Expertise with Technology: Self-Regulation
(p. 225)

AskERIC Web site (http://ericir.syr.edu)
ERIC Digests (http://www.ed.gov/databases/ERIC_Digests/index/)

### Other Useful Websites

- The Risks of Rewards
- Classroom Management
  http://scholar.coe.uwf.edu/pacee/steps/tutorial/classmanagement/main.htm#section4
- Behaviorism
  http://utm.edu/research/iep/b/behavior/btm
- Operant Learning
  http://chiron.valdosta.edu/whuitt/col/behsys/operant.html
- Theories of Learning
  http://tip.psychology.org/

### Problems and Issues
(pp. 225–228)

**What are the main criticisms of behavioral approaches?**
The misuse or abuse of behavioral learning methods is unethical. Critics of behavioral methods also point out the danger that reinforcement could decrease interest in learning by overemphasizing rewards and could have a negative impact on other students. Teachers can use behavioral learning principles appropriately and ethically.
Passing the PRAXIS™

Chapter 6 reflects many of the professional standards created by the Interstate New Teacher Assessment and Support Consortium (INTASC). These standards form the basis of the PRAXIS™ and state-created teacher licensure exams.

Whether you begin your teaching career on the first day of the school year in your own classroom or as a mid-year substitute, the earliest public indicators of your teaching competence often will be the conduct of your students and your classroom management skills. As you read and discuss this chapter, you will encounter many principles of behaviorism that you can employ to foster appropriate classroom conduct and to establish effective routines and procedures. These principles also may be used to explain some of the learning that occurs in classrooms, and it is useful in understanding the complex factors that motivate students to learn. (Do you remember how the daily calendar review in kindergarten helped you learn to recognize numerals and the names of days and months? Did any of your elementary school teachers participate in book-reading reward programs that were sponsored by corporations?) Look for PRAXIS™ to test your knowledge of behaviorism to address many common classroom situations.

TIPS FOR PRAXIS™

Understand the basic assumptions and contributions of these behaviorists:

- Pavlov
- Thorndike
- Watson
- Skinner

Determine appropriate behavioral techniques to:
- Establish efficient classroom routines and procedures
- Foster appropriate classroom conduct
- Help students monitor and regulate learning

Understand basic processes of operant conditioning and their roles in learning, including:
- Antecedents and consequences
- Types of reinforcement and reinforcement schedules
- Punishment
- Shaping

RELATED TOPICS

- Social learning and social cognitive theories (Chapter 9)
- Behavioral approaches to motivation (Chapter 10)
- Rules and procedures (Chapter 11)
- Objectives for learning (Chapter 12)
- Teacher-centered instruction (Chapter 12)

STANDARDS AND LICENSURE APPENDIX: PRAXIS™ and INTASC

Refer to the Appendix at the end of the book for detailed correlations to PRAXIS™ exam topics and INTASC Standards addressed in this text.

Insights about Job Interview Questions: What Would You Say?

1. The Physical Therapy unit where you are interviewing is a state-of-the-art facility. You feel as though the interview for a patient-educator position is going well. Your next question is: “One of our biggest problems here, and in most rehabilitation centers for that matter, is getting our clients to stick to an exercise program. What ideas do you have for helping those clients maintain their prescribed regimens?”

2. During your job interview, the principal asks, “A teacher last year got in trouble for bribing his students with homework exemptions to get them to behave in class. What do you think about using rewards and punishments in teaching?” What do you say?

Use Table 6.2 “Reinforcement Ideas from Students” to generate ideas for appropriate reinforcers for students you will teach and include these ideas in your Portfolio.


Use the CD-ROM included in the back of your textbook to launch the “Becoming a Professional” website. The website features advice on preparing for teacher certification exams, help with getting your first job and resources to help you perform your job well from the first day forward.

Your Teaching Portfolio:

Teaching Resources
- What is your stance on using extrinsic reinforcement and punishment in teaching? Be prepared to answer questions about these issues in your interviews.
What Would They Do?

Here is how some practicing teachers responded to the teaching situation presented at the beginning of this chapter about a class out of control.

Richard T. Smith
Fifth Grade Teacher, Harrison Middle School, Yarmouth, Maine

Begin "Day Two" with a class meeting, with all students sitting quietly in a circle. The teacher begins with a tennis ball in her hand. The teacher has the ball so she has the floor—she explains her expectation of her students in order to conduct a class. The ball is passed and each student is given a chance to explain what he or she needs from fellow classmates and the teacher. After everybody has spoken, they begin to make a list of classroom expectations, consequences, and privileges. You know what the kids expect and they know what to expect from you. These rules should be photocopied and taped to their desks, reminding students of behaviors, rewards, and consequences.

Anne Worth
Fourth Grade Teacher, Clardy School, Kansas City, Missouri

Have the students share their ideas about what rules are necessary at school and what a working classroom sounds and looks like. Try to call only on those who raise their hands and compliment those who do follow the rules. Before you begin this discussion, say, "I think it is important that we establish the rules we will follow together, so for the next ten minutes we will share ideas about school rules. Please raise your hand to be called on so that everyone gets a chance to share." When the list is complete, or if the list needs additions, the teacher can add some basics.

Using a behavior tool such as marbles in a jar, the teacher can set up a system instantly. Tell the class that when each of the rules is followed, a marble will be dropped in the jar. When the jar is full there will be 15 minutes of free time. Drop a marble each time something good happens in the class. Hopefully by the end of the day or the next there will be a reward and you can begin to control the class and do some teaching.

Brenda Miller
Second Grade Teacher, Yucca Elementary School, Alamogordo, New Mexico

I would introduce this class to a reward system using classroom "bucks" and a "store" of items to be open each Friday. I would ask parents for various items to be sold in the store, such as toys, pencils, notepads, markers, and toiletries. I would describe the behaviors I expected to see and reward each good behavior with a "buck."

I believe rewards would be more useful at first because most children see discipline as negative, and this class has already seen too much negativism. After my reward system was established I would enlist the help of my students to determine the classroom rules. The key to the reward system's working is to be consistent, generous, and fair. I would price my items higher in the store and give "bucks" away often in reinforcement of good behavior. On the day of store I would have two students (different each week) be the shopkeepers. This reward system teaches responsibility, math, cooperation, and communication. I use this in my second grade classroom with much success.

Kathleen Conroy
Third Grade Teacher, Rancho Canada Elementary School, Lake Forest, California

If I were hired in January to take over a class that had no management system, I would start the class as if it were day one with my own system of rules, expectations, and consequences. We would create the needed classroom expectations together so that students felt part of this process. Then we would go through how to enforce these expectations. I would put up a colored chart with our class-created rules, and another corresponding chart with the consequences if rules are broken. I would put up all the students' names and newly assigned numbers on a series of different colored cards. And explain that this system of behavior is a reward system. If all the rules are followed, then they earn different privileges by collecting stamps for being on task. These would be passed out on a daily or weekly basis.

Katie Churchill
Third Grade Teacher, Oriole Parke Elementary School, Chicago, Illinois

I believe that it is extremely important to be firm when entering a new classroom. I would enter the classroom the next morning and make the students aware that I will enforce classroom rules and expectations and that I will contact parents if any behavior problems persist. I would have my students help me choose a set of classroom rules that are reasonable so the rules will have more meaning to the students. I would make it clear that the students are in charge of their own behavior and consequences. The students will know exactly what is expected of them and what will happen if they disobey any of the rules. I would consistently follow through with the prescribed consequences. I also would keep the students busy with material that interests them.

Go to the Companion Website (www.ablongman.com/woolfolk) for additional case studies including audio and video cases, and examples of student work.