

A frustrated Jim Jenson paced back and forth in front of his fourth-grade class. "Every one of these children has the potential ability to read and to read well," he thought. Jim had tried everything he could think of to get his class excited about reading. The techniques he used had all worked well in the suburban school where he had once taught. But his current students were hard to reach and hard to motivate: The pep talks about working hard today to prepare for a successful future, the threats to call parents when students slacked off, and the reading contests designed to stimulate interest didn't work. Jim's current school was in an economically disadvantaged, inner-city community, where most of the students came from single-parent homes. Most parents were too busy working to spend time reading to their children, and the children were

performing extremely poorly in reading.

At the beginning of the school year Jim had tried using an incentive program, awarding students gold stars for every reading attempt. But the students didn't seem to care about getting the stars: They threw the stars on the floor and showed no increase in reading time. Then Jim explained the power reading skills would have in the students' lives in an attempt to convince them it was worth the effort to apply themselves. He talked about students who had discovered their life interests from reading (like the female astronaut whose interest in flying started with a book she received as a gift at age 7). But still his students remained unmotivated and basically uninterested. Their lives lacked positive reading role models and they could not relate to the examples of role models he described—mostly middle-class students who attended

poetry workshops and went frequently to bookstores.

Finally, Jim decided to show his students that they could change their negative beliefs and attitudes about their reading ability by changing how they thought about reading—for example, by thinking about reading as a skill they could conquer. He used positive reinforcement and kept telling the students over and over that they had the power to read well if they could only see how their own negative beliefs were derailing their progress. These pep talks made the students feel that Jim cared about them and wanted to help, but the students still shied away from books.

Jim knows that reading ability is at the core of all academic performance, and he is determined to get through to his students. But nothing he tries seems to help. What else might he do to motivate them?

Jim's frustration is, unfortunately, all too familiar to today's teachers. For students to learn and achieve in school, they must first be motivated to pay attention, read, write, take exams, and, in general, apply themselves to the process of learning. Unmotivated students pose the greatest challenge for many teachers. A teacher may have prepared a terrific in-class lesson and take-home assignment, but if her students are not motivated to listen to her present the lesson, she cannot reach them successfully.

Thirty years ago, almost all classrooms were orderly places in which students listened to teachers. Even if the students had motivational problems, at least the teachers could speak to them and be heard. Today's teachers, by contrast, complain that often their students are so disruptive and unruly that the teachers do not even know where to start (see the Forum feature later in this chapter). At the other extreme are quiet, well-behaved students. Some of these students believe they are not capable of succeeding in school, and they, too, produce work well below their ability level.

How can a teacher motivate all of these students to believe that they are, in fact, competent? In this chapter we discuss how expert teachers motivate students of different ages and types to help them become successful learners.



Why Understanding Motivation Is Important to Teachers

Motivation is an internal state that arouses, directs, and maintains behavior. You can think of motivation as internal psychic energy or as a mental force that helps a person achieve a goal. Motivation is important in many contexts: in school, at home, and in the

world at large (Eccles & Wigfield, 2002). The key reason that motivation is important to teachers is the well-documented relationship between motivation to learn and academic achievement (Alderman, 2007; for a counterargument, see Gagne & St-Pere, 2002). Students who are motivated tend to achieve more in school; they stay in school longer, learn more, and perform better on tests. Thus, as Jim Jenson recognized, teachers must foster motivation for learning before they can expect students to profit from instruction or from school in general (Daniels, Kalkman, & McCombs, 2001; Dembo, 2000; Dembo & Eaton, 2000; Dembo & Seli, 2004; McCombs, 1996, 1998). But student motivation for school is a complex and dynamic phenomenon, marked by distinct academic and social goals (Covington, 2000; Dowson & McInerney, 2003).

To understand student motivation, remember that motivation is related to context. When students refuse to do something the teacher desires, many reasons might underlie their reluctance to participate. For instance, the students may not actually lack motivation, but rather have motivation of the wrong type (as far as the teacher is concerned). Even very young students behave differently for different motives under different circumstances. For example, one study found that a three-year-old child is highly motivated to protect a parent or loved one (Ceci, Leichtman, Nightingale, & Putnick, 1993). Close behind this motivating value is the desire to avoid pain or embarrassment. Gaining material rewards is somewhat less motivating for early elementary school students. Even less motivating, usually, is the desire to sustain a game with an adult, though that tactic may motivate older children. Middle school students display more complex patterns of motivation—they are able to describe both academic and social motivational goals (Dowson & McInerney, 2003). High school students (as most of us know) are motivated largely by their peers—right down to the level of which clothes they wear, which music they listen to, which body parts they pierce, and which slang they use.

■ INCENTIVES CAN MOTIVATE BEHAVIOR IN DIFFERENT WAYS An incentive is an object or event that encourages or discourages behavior. Not all incentives are equally motivating for all students. Specifically, a student may not respond to an incentive the teacher thinks is motivating if that incentive is not important to the student. For example, Jim Jenson found that his students were not motivated by receiving gold stars—a reward that works with some fourth graders. The right incentive for a person is one that is meaningful to her or him. Some students strive to earn praise; others work much harder for tangible rewards such as money, toys, or privileges.

Another important point about incentives is that sometimes incentives motivate behavior to meet undesirable goals. For example, the quest for peer group acceptance can motivate students to throw spitballs and write graffiti on desks. Some students are highly motivated—but their motivation is directed toward goals that are not compatible with success in school or in society at large. Assuming the values that lead to success in our culture are important to teachers and parents, a challenge for the expert teacher is redirecting student motivation toward goals that will lead to success, both in school and in the outside world.

Expert teachers know that motivation always exists in a context, and each child's situation is unique. These teachers also know that different groups may need to be treated differently to best develop their motivation. For example, research by Bronfenbrenner (1985) showed that girls and boys may need different types of assistance if they are to develop motivation. When interviewed as successful adults and asked about valuable mentors from their formative years, boys more often cited people who challenged and pushed them as essential to their development of motivation. Girls, by contrast, cited nurturant and supportive people, who encouraged them without being overly assertive, as being most important to their development of motivation. When girls and boys are assigned different types of mentors, girls tend to blossom with somewhat more supportive mentors, whereas boys tend to do better with more challenging mentors. We discussed the origin of these gender differences in student development more fully in Chapter 6; the key point here is that expert teachers must bear in mind gender and other group differences when they choose the best type of motivating mentorship.

■ MOTIVATIONAL NEEDS CHANGE OVER TIME Expert teachers recognize that students' motivational issues and needs change over the years they spend in school. Research has examined the decline in motivation to learn that often accompanies students' entry into

THINKING PRACTICALLY

Which current classroom contexts do you find most motivating? Least motivating? What can you do to increase your motivation when you are in a context you do not find motivating?

SUGGESTION: Perhaps you most enjoy classroom discussions, in which students question one another and the teacher, but you are bored by lectures, in which the teacher basically just talks for a half hour or more. To increase your motivation during lectures, you might jot down the questions that come into your mind during the lecture (pretending to yourself that it is a discussion). Later, you can have a discussion with classmates, friends, or the teacher about these points.

THINKING CREATIVELY

How might you determine which classroom context is most motivating for a particular student?

SUGGESTION: You can try several different teaching approaches over a two-week span—for example, straight lecture, discussion, demonstration, group activity—and watch the student closely to see which type of instruction is most motivating for him or her.

THINKING CREATIVELY

Name two unusual ways a teacher could motivate middle school students to do a book report project on ancient Egypt.

SUGGESTION: A teacher might ask the students to write a brief play based on the lives of people in ancient Egypt as a part of the book report project. Alternatively, the teacher might ask students to write essays about how ancient Egyptians spent their spare time compared to how the students spend their own free time.

middle school (E. M. Anderman, 1998; L. H. Anderman, 1999; Anderman, Maehr, & Midgley, 1999; Eccles, Lord, & Buchanan, 1996; Eccles, Lord, & Midgley, 1991; Henderson & Dweck, 1990; Midgley, Feldlaufer, & Eccles, 1989a, 1989b; Zanobini & Usai, 2002). When students enter middle school, their levels of school interest, self-confidence, and grades decline. They begin to show test anxiety and to miss school more often. But why does this decline in motivation occur at this point in students' careers, and what can teachers at the middle school level do about it (Anderman et al., 1999)?

Teachers' beliefs can influence motivation to learn (Goddard, Hoy, & Hoy, 2004). In studying students' transition into middle school, researchers find that middle school teachers are more likely than sixth-grade (grade school) teachers to emphasize classroom control and discipline, and to believe that students are untrustworthy (Anderman et al., 1999). Middle school teachers generally feel less able to influence student learning; they often are less supportive, friendly, and fair to students than grade school teachers. The researchers believe that the observed trends are exactly the opposite of what students entering adolescence and puberty need.

Expert teachers are aware of these general trends, and they recognize that these ways of thinking are erroneous. Armed with this knowledge, expert teachers take positive steps to provide adolescent students with the environment they need as they enter middle school. That is, these teachers seek to provide their students with ample support and make an effort to treat students fairly at all times. Expert teachers make clear to middle school students that they are trustworthy and capable of learning and performing well, even though their transition into adolescence sometimes derails them from these goals. In essence, effective teachers help adolescents meet the challenges of puberty.

Everyone knows talented young people who have failed to achieve their potential because of lack of motivation. Everyone also knows people who seemed about average in ability, but who have been motivated to push themselves as far as possible and have infected those around them with their almost contagious enthusiasm. Highly motivated people can accomplish remarkable feats; in contrast, poorly motivated people—regardless of how brilliant they may be—tend to go nowhere. But what is known from the standpoint of psychological science about this elusive quality that so often spells the difference between success and failure? Where does motivation come from; what, exactly, causes it; and how can a teacher create it? These are our next topics of discussion.

THE FLEXIBLE EXPERT TEACHING AND LEARNING ABOUT MOTIVATION

IN EACH CHAPTER OF THE TEXT, WE INTRODUCE YOU TO A FEW SPECIFIC STRATEGIES—ANALYTICAL, CREATIVE, AND PRACTICAL—USED BY BOTH EXPERT TEACHERS AND EXPERT STUDENTS.

THE ANALYTICAL TEACHER: Kami sees that the value of the rewards she's giving to get her high school students to do homework is decreasing, so she switches to showing her students why doing homework is important in developing real-world skills relevant to their future careers.

THE CREATIVE TEACHER: Kami has her students write a play in which each character expresses one of the students' negative beliefs about their ability in school, and other characters prove these beliefs wrong.

THE PRACTICAL TEACHER: Kami recognizes the facial expressions that mean her students are feeling insecure about their abilities, so she gives a pep talk to them, reminding students of their past successes and the future successes the students will enjoy if they apply themselves.

THE ANALYTICAL STUDENT: Jason is able to detail the differences among the four basic theories of motivation and to state the strengths and weaknesses of each.

THE CREATIVE STUDENT: Jason draws colorful signs with motivational slogans (such as "The hardest part is beginning" and "Do something now") and hangs them in the room where he studies.

THE PRACTICAL STUDENT: Jason can tell when his friends on the chess team are having trouble motivating themselves, and he knows just what to say to get them excited about competing again.



Intrinsic and Extrinsic Motivation

Do you have friends who have tried on their own—unsuccessfully—to lose weight, and who have then joined a weight-loss program in which they participate in group meetings and are weighed in once a week? Many people unable to lose weight alone find themselves getting slimmer by the week when they join such weight-loss programs. Unfortunately, when they stop attending regular meetings, they tend gradually to regain the weight. This phenomenon illustrates the difference between extrinsic and intrinsic motivation—and also explains why so many weight-loss programs do such a brisk business.

A dieter with **intrinsic motivation** gets the push to exercise and control food intake from within. Intrinsic motivation means that an individual has developed an internal desire to do something—in this case, to meet the challenge of getting and staying in shape. A dieter who succeeds while attending group meetings is relying on **extrinsic motivation**, or motivation that comes from outside the individual. Extrinsic motivating factors may, for example, include gaining the approval of others, meeting publicly stated goals, and performing behaviors valued by the group. Most dieters find it far easier to lose weight through a formal weight-loss program that provides some extrinsic motivation than through solitary dieting. Those who manage to keep weight off over time, however, tend to rely on intrinsic motivation. In general, classic research in psychology shows that people are motivated to be active, to observe and explore their surroundings, to manipulate aspects of and objects in their environments, and to gain mastery over their environments (White, 1959).

RESEARCH ON INTRINSIC AND EXTRINSIC MOTIVATION

Researchers distinguish between intrinsic and extrinsic motivation in their studies of what motivates students most effectively (Covington, 2000; Covington & Mueller, 2001). Intrinsic motivation is the push students give themselves; extrinsic motivation is the push students get from pursuing external rewards or incentives (Pintrich, 2000, 2003; Pintrich & Schunk, 1996). It is essential to remember that these two types of motivation are not mutually exclusive—they can occur simultaneously as well as individually (Covington & Mueller, 2001; Lepper, Corpus, & Iyengar, 2005). It is possible, and even desirable, to encourage students using both intrinsic and extrinsic motivators.

Extrinsic motivation works particularly well for young students. Teachers of grade school students recognize this fact when they create systems of rewards, such as gold stars, points, or tokens, to get students excited about learning. As students grow older, they must develop intrinsic motivation, which often has been found to decline as students progress through school, particularly in subjects such as mathematics (Gottfried, Fleming, & Gottfried, 2001). If students do not develop motivation from within, they will never experience or develop the joy of learning. Also, low intrinsic motivation early in a student's schooling signals a particularly risky situation.

Many sources of motivation exist. The issue of where a student gains motivation—intrinsically, extrinsically, or through some combination of the two—is a critical one for teachers to understand. Knowing which motivators work is often difficult, as Jim Jenson learned with his fourth graders. Expert teachers recognize that motivating students requires the use of both extrinsic and intrinsic motivators. Through experience, teachers also learn precisely which factors are most important, and hence most motivating, for each student. For example, if a high school student tells her teacher that she would much rather be exercising than writing an essay, the teacher might suggest that the student treat herself to a special workout if she writes for two hours (an extrinsic motivator). The teacher might also suggest that the student choose a topic she is interested in and cares about—such as exercise or sports—and that she remind herself of how good it will feel to have accomplished the goal of writing the essay (intrinsic motivation). Through their experience working with students and from trying different approaches with each student, expert teachers learn that for some students grades motivate best, whereas for others the joy of self-discovery motivates best. Recogniz-

THINKING ANALYTICALLY

Under which circumstances are you more likely to be motivated by intrinsic factors? Under which circumstances do extrinsic motivators work best for you?

SUGGESTION: Intrinsic factors motivate best when the activity is something you enjoy and have succeeded at in the past. Extrinsic factors work best when you dislike the activity, have failed at it in the past, and need an external push to get through the task.

Most younger students are motivated by praise and gold stickers, whereas many older students thrive on self-motivation.



ing this diversity of motivating factors, these teachers may try several different approaches to motivate each student.

Research on extrinsic and intrinsic motivation (e.g., Deci, 1975; Deci, Koestner, & Ryan, 1999; Deci & Ryan, 1985a, 1985b, 1987, 2000a, 2000b, 2001, 2006; Lepper, 1988; Lepper & Henderlong, 2000; Lepper, Keavney, & Drake, 1996; Lepper, Sethi, Daldin, & Drake, 1997; Vansteenkiste, Lens, & Deci, 2006) has evaluated which form of motivation is best in the long run for encouraging student learning. A key insight is that extrinsic and intrinsic motivation are not opposite extremes on the same continuum (Covington, 2000; Pintrich & Schunk, 1996), but rather vary independently of each other. For example, one student may have a high need for teacher praise and a high desire to learn for its own sake, and thus be high both in extrinsic and intrinsic motivation. Another student might be low in both needs, or high in one and low in the other. Expert teachers account for these differences when they help students build every type of motivation, yet place special emphasis on fostering intrinsic motivation because this type of motivation is increasingly important as students progress through the grades.

Students can also be highly motivated in one subject or context, but poorly motivated in another—something we all have experienced when assigned to write a report on one of our least favorite subjects. An effective teacher uses motivators from a subject or context students like to motivate them in a subject they dislike. For example, if Beth loves team projects in social studies and hates solitary studying in math class, her teacher might suggest she do a team project in math class. Her teacher might even ask Beth to try solitary work in social studies to show her that working alone can be a positive experience.

Research has shown that for elementary school and college students alike, a reward given for good performance can decrease students' feelings of autonomy, but increase their feelings of competence (Houliort, Koestner, Joussemet, Nantel-Vivier, & Lokes, 2002). Expected rewards can also cause children to draw somewhat less creative pictures (Joussemet & Koestner, 1999). Perhaps children are less willing to take creative risks if the risks might result in losing out on the reward. Teachers need to remember these types of findings and consider the pluses and the minuses associated with using external rewards.

CONSTRUCTING YOUR OWN LEARNING

To better understand what motivates you and why, create a matrix, such as the one shown here, labeled with "high" and "low" intrinsic motivation along the top and "high" and "low" extrinsic motivation down the side. In each cell of the matrix, list as many activities as you can that you are able to characterize according to the amount and type of motivation you have for each activity. For example, a part-time job might rank high in extrinsic motivation because you do it for the money, and low in intrinsic motivation because you do not really enjoy it for its own sake. Cleaning your apartment might rank high in intrinsic

motivation because you enjoy doing the cleaning, and high in extrinsic motivation, too, because your roommate praises and rewards you for doing the cleaning. See whether you can fill in each cell in the matrix with a few different behaviors. What does the final matrix reveal about the sources of your motivation? Try filling out a similar matrix to understand your motivation for different aspects of teaching. If you are currently working in a practicum, consider creating a motivation matrix based on what you know about one or more of your students. What do these matrices tell you about yourself as a teacher? How do they affect your plans for motivating the students you teach?

	Intrinsic Motivation	
Extrinsic Motivation	High	Low
High		
Low		

MOTIVATION AND THE DEVELOPMENT OF EXCEPTIONAL ABILITIES

Intrinsic motivation can empower people to accomplish remarkable tasks. Consider the remarkable memory expert Rajan, who memorized the value of pi to the ten-thousandth decimal place. Rajan worked to develop his astounding memory ability without any external reinforcement; he received no external rewards. His self-professed desire was to be "the most outstanding mnemonist in the world." Regardless of whether Rajan strikes us as a success story, he is certainly an example of exceptional motivation. This type of internal push is very important in becoming successful: The world contains many successful individuals who developed a strong internal push early on in life and pursued their goals relentlessly.

Exceptional abilities such as those demonstrated by Rajan have diverse origins. Michael Howe (1999a, 1999b, 2001; Howe, Davidson, & Sloboda, 1998) studied the origins of exceptional abilities and concluded that intrinsic motivation is often important in developing exceptional talents. One group Howe studied was autistic savants—students labeled as having functional retardation but who show exceptional levels of performance on certain tasks. Some of these students had the ability to memorize perpetual calendars: They could answer accurately when asked, "On what day of the week will August 15, 2018, fall?" Howe found that these children led basically bleak family lives because of their autism. One day, some crucial event happened in the lives of each of the children who later became savants. The event rewarded the children for memorizing something. For example, if a relative visited and the child remembered the date of the relative's previous visit, the family may have praised the child and showered him with attention. Building on this initial external and minor reinforcement, the child developed an obsessive desire to memorize calendars, or to pursue whatever the particular fixation was. From this point on, the strong and now internal push propelled the child to work obsessively on learning the material.

Howe (1992) also drew attention to children in an orphanage in eighteenth-century Venice. These children were completely immersed in the study of music from an early age. The orphanage in which they were raised had a reputation for developing young musicians, and all children who lived there felt a responsibility to do their best to measure up to the expectations of the adult mentors; excellence at music was part of the culture of the group of people in the orphanage. There is no reason to assume these children had, on average, any more or less musical talent than any other group of children. Nevertheless, by age eight, not only had half the children played in a symphony orchestra, but they were also described as creating extraordinary music. The case of these children, who were taught music by the

THINKING ANALYTICALLY

What might have happened if the children in the Venetian orphanage had been adolescents when they began the total immersion in the study of music?

SUGGESTION: Although both time and place are different from those in other studies we cite, adolescents might resist adults' attempts to completely immerse them in the study of music; they might already have well-developed interests in another area. Also, some evidence suggests that very young children are better able to develop musical ability than are older children.

Italian composer Antonio Vivaldi, reveals again the importance of motivation and hard work in developing talents. Expert teachers understand the importance of motivation in helping children maximize their potential.

The value of exceptional motivation was also made clear in a study of expert racetrack handicappers, who predict the winners in a horse race (Ceci & Liker, 1986). This study showed that expert, highly successful handicappers did not differ from nonexperts in intelligence, social class, or years of schooling. Rather, the difference derived from their motivation to understand the outcomes of horse races: Once a race had been run, most handicappers turned the page of their race guide and began focusing on the next race. In contrast, the experts—the most successful handicappers—watched replays again and again, and continually analyzed and reanalyzed the race, in an attempt to understand why the horses performed as they did. These experts were extremely motivated. They worked toward the external rewards represented by financial windfalls, but also, in large part, for internal reasons (their love of horse racing).

THE IMPORTANCE OF STUDENT INTEREST

What about the role of students' interest in their motivation to learn? We all know that when we are really interested in topic, perhaps because it is personally meaningful or because we find it inherently fascinating, then we are deeply motivated to learn more about it. We have all met a child in the "dinosaur phase," who can recite the Latin names of numerous dinosaur species and describe their habitats and behavior in great detail. The thirst for knowledge about dinosaurs propels these children to read and study extensively about them. Their interest becomes the catalyst for the acquisition of an impressive array of knowledge.

Interest can affect engagement and learning both in the classroom and beyond. For this reason, the ability to develop and then maintain student interest is a key skill teachers need to possess. Teachers must understand how interest can affect learning, and they must know strategies for generating student interest, maintaining it, and even increasing it.

To date, much of the research on the importance of student interest has focused on reading (Naceur & Schiefele, 2005; Schiefele, 1991, 1992, 1996, 1999; Schiefele & Krapp, 1996). These studies argue that a significant relationship exists between interest and learning from text material. A series of studies by Schraw and his colleagues (Schraw, 1997, 2000; Schraw, Bruning, & Svoboda, 1995; Schraw & Dennison, 1994; Schraw, Flowerday, & Lehman, 2001; Schraw & Lehman, 2001) has explored in particular the type of interest termed *situational interest*, including ways to increase its level in the classroom. Situational interest here is defined as temporary interest that arises spontaneously due to environmental factors, such as task instructions or an engaging text. The researchers who have explored this topic recommend three ways to increase student interest in reading: (1) offer meaningful choices to students, (2) select well-organized texts that promote interest, and (3) provide background knowledge needed to fully understand a topic. McCrudden, Schraw, and Hartley (2006) also argue for the importance of giving students general instructions before they do assigned reading that explain the relevance of what they are about to read. Such instructions have been shown to help students form better mental representations of what they read.

Hidi (1990; Hidi & Renninger, 2006) believes that interest may be central to determining how individuals select and persist in processing certain types of information in preference to others. As a result of their explorations of various types of interest, Hidi and Baird (1986) argue that knowledge-based interest is certainly important in this respect—but that value-based interest is also important. Iran-Nejad and Cecil (1992) state that interest is both a cause and a consequence of learning—in other words, interest causes learning, and learning creates greater interest. Mitchell (1993) also discusses personal versus situational interest, arguing that both types of interest are important. And Renninger (1992, 2000) argues that individual interest increases as both the person's knowledge about and the accompanying value of the subject increase.

The literature on the importance of student interest is extensive, but one point is abundantly clear: Teachers should work to promote student interest whenever possible. The following tips for increasing situational interest in the classroom may help you achieve this goal in your own classroom (adapted from Schraw, Flowerday, & Lehman, 2001).

1. *Offer meaningful choices to students.* Choice is hypothesized to promote a greater sense of self-determination because it satisfies students' need for autonomy (Deci et al., 1991). Empirical studies of choice support this view. Teachers also suggest that choice increases students' interest in a text. For example, teachers interviewed by Flowerday and Schraw (2000) recommended offering a wide variety of choices to all students on a regular basis. Less knowledgeable or less self-regulated students should be helped to make choices. Teachers should provide feedback about the effectiveness of choices as well.
2. *Use well-organized texts.* Well-organized texts are both coherent and informationally complete. These two aspects are strongly related to interest in and learning made possible by texts. As texts become less user friendly, or as students become less knowledgeable about text content, teachers should make a greater effort to provide useful background knowledge about the text, given that knowledge and coherence appear to make separate contributions (McKeown et al., 1992).
3. *Select texts that are vivid.* Texts are vivid because they contain rich imagery, suspense, provocative information that surprises the reader, and engaging themes. Research suggests that text vividness has a positive impact on interest and learning, provided the vivid information is germane to the learning task. Texts that include irrelevant or highly seductive information may actually interfere with learning by diverting readers' attention from important text segments (Harp & Maslich, 2005; Harp & Mayer, 1998).
4. *Use texts that students know about.* Prior knowledge is related positively to interest and deeper learning. Teachers should follow one of two strategies to promote interest. First, they may use texts whose content is familiar, although not *too* well known, to the majority of students. Familiarity with a text helps students generate thematic inferences within the text as well as between the text and prior knowledge. Second, teachers may provide prereading background information to help students better comprehend what they are asked to learn. This can be done directly by the teacher or through small-group discussions among students.
5. *Encourage students to be active learners.* Students who actively make meaning learn more information at a deeper level (Loxterman et al., 1994). A number of researchers have suggested that interest increases active learning, and vice versa (Dewey, 1913; Mitchell, 1993). One way that students become more actively engaged in the learning process is by using specific learning strategies such as predicting and summarizing (Pressley, 1992). Another way is by using general study strategies in which students identify what they already know, want to know, and have learned (Ogle, 1986). Currently, it is unclear whether specific or general strategies are more effective at promoting interest and deeper learning; however, it is likely that both types of strategies do so.
6. *Provide relevance cues for students.* Understanding what is relevant to the learning task before attempting to complete that task increases interest and learning (Narvaez et al., 1999). To help set the context for learning, teachers should highlight relevant themes and information for students before they begin to read or study. This step is especially important for low-interest students (Means et al., 1997). Consider several strategies for highlighting the relevance of information. For example, encourage students to set personal reading goals before reading, help students understand what is most important or salient to the reading task, ask students to focus on causal claims, and ask students to explain the text to other students.

EXTRINSIC REWARDS MAY UNDERMINE MOTIVATION

Our society has created many extrinsic rewards to ensure that people accomplish what is in society's best interests. Much of our educational system is based on grades, diplomas, and other external manifestations of what a person has accomplished. These extrinsic rewards are examples of how society acknowledges the value of completing an educational program. But how much weight do individuals give to extrinsic rewards? In fact, people do their most creative work when they are intrinsically motivated (Amabile, 1996; Collins & Amabile, 1999).

THINKING CREATIVELY

How might a teacher encourage a student to develop intrinsic motivation for playing a musical instrument?

SUGGESTION: By telling the student he has natural talent (if at all true); by encouraging the love of music by sharing CDs and books about great musicians; and by pointing out and modeling the internal rewards that come from practice (ability to focus, belief in oneself, feelings of accomplishment).

If we look at the most creative writers, artists, scientists, or people in any other field, they are usually people who have done their work for the enjoyment of it. It is not that these individuals do not care about extrinsic rewards, such as money and fame. Rather, they are task focused—they work because they enjoy it. These individuals see money, fame, and other extrinsic rewards as merely pleasant by-products.

■ **EXTRINSIC MOTIVATORS CAN DIMINISH INTRINSIC MOTIVATION** Spence and Helmreich (1983) studied the motivation and achievement of thousands of college students, scientists, pilots, businesspeople, and athletes. They concluded that intrinsic motivation produces high achievement, and that extrinsic motivation often does not. These researchers identified three facets of people's intrinsic motivation: (1) quest for mastery, (2) drive to work, and (3) competitiveness. These researchers found that, despite having similar abilities, people oriented toward mastery and hard work typically achieve more than people not so oriented. However, those people who were the most competitive, and thereby showed a more extrinsic orientation, achieved less. People driven by a desire for meaningful learning, mastery of skills, and work—who are sometimes described as **mastery oriented**—achieved more if they were not also highly competitive.

Not all extrinsic rewards have a negative effect on intrinsic motivation, however. Three factors determine whether an extrinsic motivator will undermine intrinsic motivation. (In other words, when the following three conditions are met, extrinsic motivators will undermine intrinsic motivation.) First, the individual must expect to receive the reward upon completing the task. Second, the reward must be something important to the individual. Third, the reward usually must be tangible (a grade, money, a prize). Intangible rewards, such as praise or a smile, seem not to undermine intrinsic motivation (Deci, 1996).

■ **PERCEIVED TEACHERS' MOTIVATIONS ARE IMPORTANT TO STUDENTS** How students perceive their teachers' motivation is also important to student learning. In one study of this issue, researchers compared two groups of college students (Wild, Enzle, & Hawkins, 1992). In one class, the teacher was portrayed as being extrinsically motivated by a \$25 payment. In a second class, the teacher was portrayed as being an intrinsically motivated volunteer. The teacher was the same throughout and not informed of what the students had been told. The students were taught the piano one at a time. Students who thought the teacher was a volunteer perceived the teacher as showing greater enjoyment, enthusiasm, and innovation than did students in the paid condition. Students in the volunteer condition also enjoyed the lesson more, reported a more positive mood, and were more interested in further learning. During an interval of playing on the piano in which students were free to play whatever they wished, subjects with the supposedly volunteer teacher were more exploratory and tried more new ways of playing than those with the paid teacher.

Do parents recognize that they should be promoting intrinsic motivation in their children? Barrett and Boggiano (1988) showed that the average parent or college student prefers using controlling strategies with children, and prefers using rewards and other methods for promoting extrinsic motivation, compared to alternatives that create intrinsic motivation. The average individual also thought that teachers prefer extrinsically motivated students to intrinsically motivated students, and believed that extrinsically motivated students derive more benefit from feedback.

Teachers themselves often prefer extrinsic motivation to influence their students. In particular, teachers who believe that individuals are best controlled by external forces prefer using extrinsic motivators with students. For example, one study found that teachers with an external locus of control preferred to use external motivation in teaching (Trice & Wood-Shuman, 1984). **Locus of control** refers to the location of the source of control for an individual, usually described as internal or external. Thus teachers who see themselves as being controlled by outside forces apply this same perspective when interacting with students.

Of course, it is also true that developing students' intrinsic motivation may be more time-consuming and not provide as immediate results. Teachers (and parents) who are overworked must sometimes do whatever they can to ensure students' compliance, so they often choose extrinsic motivators. Nevertheless, the extra time invested in developing intrinsic motivation

does pay dividends down the road, through its emphasis on personal cognitive control of thoughts, feelings, and behaviors, and the joys of learning and mastery.

IMPLICATIONS FOR TEACHING

- **Consider students' age when choosing motivators.** Extrinsic motivators, such as grades and pats on the back, tend to work best with younger students. Intrinsic motivators, including doing something for the enjoyment of it, tend to work best with older students. But do not overly limit your choices—at any age, students are individuals who do not necessarily fit general patterns.
- **Choose from a variety of techniques to motivate students.** Extrinsic motivators can cause rapid changes in behavior, but these changes are often short-lived. Intrinsic motivators, by comparison, usually cause more gradual but longer-term changes in behavior. To obtain both short- and long-term positive results, a combination of motivators is useful. The best way to know and do what works to motivate students is to try several motivating approaches.
- **Don't underestimate the substantial value of intrinsic motivation.** Students with substantial intrinsic motivation can accomplish remarkable things.
- **Plan classes that stimulate students' curiosity.** Besides modeling intrinsic motivation (for example, by describing your own enthusiasm for learning when the subject is one that you really love), build students' interest in learning by encouraging their sense of competence. Offering students some freedom to devise their own solutions to problems and to have a positive effect on their environment will give them a taste for challenges and instill a desire to overcome those obstacles.
- **Show your own love and enthusiasm for learning, and try novel methods that reflect your curiosity and interests.** If your interest is piqued by rain forests or the modern short story, your students are more likely to take notice and follow your example.

forum

MOTIVATION LEVEL OF TODAY'S STUDENTS

Are today's students less motivated than students in previous generations? Or are today's students actually highly motivated, albeit to achieve goals that are not related to school?

FIRST VIEW: Some educators believe that students today are simply less motivated and less disciplined than their parents were at their age. Proponents of this view note that students watch as much as seven hours of television per day. Their lives are filled with passive activities and forms of entertainment that have kept them from learning the value of hard work. Parents today provide for most of their children's material needs without even requiring disciplined participation by children in family chores and without expecting their children to do meaningful work. These are signs of our times: Parents are overworked, and children are unsupervised and undisciplined by their parents. When they are in school, these students present teachers with major challenges, if only because the students do not arrive at school with the necessary backgrounds and values for teachers to capitalize on.

SECOND VIEW: Other educators believe that students show great discipline and motivation to engage in activities they find meaningful—but that this effort is not expended on school-related tasks. This view sees students as plenty motivated, but for achieving nonacademic goals. For example, some students spend hours playing video games; thus they have persistence, but lack the discipline to apply themselves to schoolwork. Parents

may contribute to the focusing of their children's motivation on nonoptimal goals. According to this view, teachers can do little to change the targets deemed appropriate motivating factors by students: Students are already predisposed by the time they enter school to focus on the goals the students believe are important, and these goals are not the teacher's goals. With no common ground to stand on with their students, teachers can find themselves frustrated. Parents often respond to this problem by stating that it is the task of the schools to motivate their children to care about scholastic performance.

THIRD VIEW: A SYNTHESIS: Students lack school motivation, but they are motivated; the challenge is to redirect their motivation toward goals that will bring more ultimate rewards in life. According to this view, teachers face the challenge of determining what motivates their students outside of school, and then channeling that energy and drive into more appropriate school activities. The teacher's task, then, is to harness students' natural motivation and redirect it.

To do so, teachers can ask students to describe their hobbies and how they like to spend their time, and then use this information to structure classwork and homework assignments to take advantage of their natural interest areas. For example, for a student who loves sports, a history project might focus on sports during different periods in history: who played, what games, when, and why. Teachers can also give assignments that demand hands-on participation in community events. Students can be given extra responsibility to encourage them to grow—perhaps publishing their own writing in the form of a newsletter. Members of the community whom the students would find motivating—such as athletes, businesspeople, and actors—can be used as role models; students can even write to these individuals.

All of these strategies will help students mobilize their motivation and redirect it toward activities that represent meaningful scholastic work. In addition, teachers can explain to parents that their children are directing their energies toward nonoptimal goals, and ask the parents to help enforce a focus on more appropriate goals, chosen to be as unobjectionable as possible to students.



Four Ways to Understand Motivation

Having considered how intrinsic and extrinsic motivation influence behavior, we are ready to review the major theories of motivation, which are based on the major theories of learning. Recall from Chapters 7 and 8 the description of behavioral and cognitive theories of learning. These approaches to learning also help explain motivation. Four theories of motivation follow from the learning theories.

BEHAVIORAL THEORIES AND EXTRINSIC MOTIVATION

Behaviorists think that rewards and punishments drive learning. Similarly, they see motivation as the result of rewards and punishments that mold behavior toward seeking rewards and avoiding punishments. According to this view, students become motivated to do things that are reinforced. Recall from Chapter 7 that a reinforcer is a stimulus that increases the probability the behavior associated with it will happen again. The reinforcer typically occurs immediately or very soon after the behavior in question. If it does not occur soon thereafter, learning does not take place, or is weakened.

■ POSITIVE VERSUS NEGATIVE REINFORCEMENT To review, reinforcers are of two kinds: positive and negative. A positive reinforcer is a reward following a behavior that strengthens the behavior and leads to increased likelihood of future occurrence of the behavior. Examples of positive reinforcers include a teacher's approval, indicated by a smile

or a favorable comment; an A on a test; or an award certificate recognizing excellent performance. The behavior that is increased is studying and achieving in school. A negative reinforcer is the removal of an unpleasant stimulus, which also increases the likelihood that the behavior will occur again. For example, an extremely hot room or an uncomfortably noisy concert serves as a negative reinforcer. The behavior that is increased is leaving the hot or noisy room. Removing an unpleasant stimulus is referred to as negative reinforcement when it increases the probability of a response. Many readers may remember being nagged by their mothers about their messy rooms—another negative reinforcer. The mother stops nagging when the child cleans the room, so room-cleaning is the behavior that is increased.

■ PUNISHMENT: SUPPRESSING BEHAVIOR In contrast to positive and negative reinforcement, punishment is a process that diminishes or suppresses behavior. Punishment can consist either of doing something that is unpleasant to a student who is not behaving appropriately, or of denying privileges and not doing what the student wants if the student is not behaving appropriately. In other words, punishment is a stimulus that decreases the probability of a response, either through the application of an unpleasant stimulus or through the removal of a pleasant one.

Punishment and negative reinforcement are sometimes confused with each other. The difference between the two is that punishment decreases the probability of a response, whereas negative reinforcement increases it. Examples of punishment include receiving a failing grade, being yelled at, being hit, or being humiliated. (The behavior that is decreased is forgetting to study, which results in more studying, in the case of the failing grade used as a punisher.) Punishment tends to be less effective for achieving behavioral change than reinforcement.

Thus, as we discussed in Chapter 7, both positive and negative reinforcers increase behavior, and punishment decreases behavior. A student who wins high marks in spelling early in the term and receives praise from her teacher and her parents may continue to study spelling for months afterward in response to these rewards. She may even participate in the school spelling bee in an effort to gain further recognition for her skill. The student has been positively reinforced, or rewarded, for her spelling ability. However, if the same student does not do particularly well in social studies early in the term, and consequently receives no praise or other rewards, she may not study social studies because she has not experienced an incentive or reinforcement to continue. If the same student is ridiculed by her peers for earning high marks in spelling—and is, in effect, punished for working hard—she may work less diligently to prepare for the next spelling test and hence may not perform as well.

■ EXTRINSIC MOTIVATION CAN HAVE NEGATIVE CONSEQUENCES You can see that behavioral approaches to understanding motivation are closely linked to extrinsic motivation, because external rewards are used to produce specific behaviors. Jim Jenson used incentives based on behavioral principles when he offered his students gold stars for progress in reading.

What are the negative aspects of the behavioral theory of motivation, and of the use of rewards, incentives, and punishments to shape behavior in the classroom? First, ask yourself this question: How do *you* feel when teachers or mentors attempt to mold your behavior by using incentives, rewards, and punishments? Many younger students seem to respond well to a system of rewards and punishments, but as they grow up, they sometimes resent such systems and the external pressures they impose. One problem with using external rewards to motivate students to learn is that the students may never develop as much intrinsic motivation as they ideally need. In fact, researchers have found that offering rewards to children for doing tasks the children find naturally motivating actually decreases the children's desire to perform the tasks (Deci, Koestner, & Ryan, 1999; Deci & Ryan, 1987, 2000a, 2000b, 2001, 2006; Vansteenkiste, Lens, & Deci, 2006). Mark Lepper (Lepper & Chabay, 1985) has shown that giving students extrinsic rewards for working on problems they find interesting has the effect of decreasing the students' interest level—exactly the opposite of what the teacher intends. Expert teachers make their use of rewards more effective by offering rewards for effort and for meaningful progress on tasks, rather than simply for handing work in.

THINKING ANALYTICALLY

Many parents pay their children for getting good grades in school. What are the pros and cons of paying children for grades?

SUGGESTION: Pros: Money is a powerful motivator in the short run, showing that parents care about children's success, and that academic success produces a tangible reward. Cons: Such payments undermine intrinsic motivation—children do not learn to value success for its own sake. Over time, this practice encourages children to perceive that their parents are "buying" their success rather than showing sincere interest; it produces feelings of being used.

In a review of the literature covering the effects of praise on children's intrinsic motivation, Henderlong and Lepper (2002) note that any glib definition of praise as verbal reinforcement is misguided. They point out that praise as an external reinforcer can either undermine, enhance, or have no effect on children's intrinsic motivation—the outcome depends entirely upon how the praise is perceived. When teachers praise students, they should be trying to help their students make judgments such as “My teacher really means this and is trying to encourage me,” “My teacher knows I studied hard and did not let a headcold stop me,” “My teacher wants me to do well for *myself*, not just in terms of how I compare with other students,” and “My teacher's encouragement makes me want to try hard because I know I can accomplish the goals she sets.” These types of beliefs help develop intrinsic motivation.

External rewards can also focus students on receiving the rewards rather than on learning and growing through the learning experience. Our society supports the heavy emphasis that students place on grades as they develop. Expert teachers must confront this fact by reminding students of the joys of learning through the teachers' example and by noting the unseen rewards down the line that come from developing intrinsic motivation (Mischel, Shoda, & Rodriguez, 1989). Teachers may also find rewards difficult to use as motivating forces simply because of availability issues: There are not always enough rewards to go around. It is tough to keep students motivated all year in every subject through the use of rewards without running out of effective rewards.

Another problem with using external rewards to motivate students is that the system becomes less effective as students grow up. More mature students may sometimes perceive attempts to reward them as attempts to bribe them. What works for a 7-year-old, for example, may be seen as manipulative by a 14-year-old. In addition, offering privileges or time without homework means that older students may not do the work they need to succeed in school.

Although bonus systems motivate many adults to work harder so as to meet deadlines, adults expect to perform work in exchange for financial compensation, whereas students are not usually compensated financially for doing schoolwork. Put simply, students are expected to do their schoolwork without being given constant extrinsic rewards. Thus something more appropriate to the schooling domain than a rewards-based approach is needed. That something can be an appeal to the thoughts, pride, and feelings of self-efficacy and competence of a developing student.

COGNITIVE THEORIES AND INTRINSIC MOTIVATION

Cognitive theories of learning stress what goes on inside the student's head. This perspective is very different from the emphasis on the external environment that is so important in behavioral views. Like cognitive views of learning, cognitive views of motivation focus on what students think, how they think, and how their thoughts create or reduce motivation to act (Schunk, 1991a, 1991b, 1996a, 1996b; Schunk & Zimmerman, 2007). Thus cognitive theories of motivation emphasize the importance of intrinsic—as opposed to extrinsic—motivation. Jim Jenson took a cognitive perspective on motivation when he explained to his students the many benefits that reading would confer in their lives. Studies conducted by researchers with a cognitive emphasis have examined students' planning ability and how to improve it; the role of students' expectations of themselves, others, and their environment; the importance of goals (and how to craft effective goals); and ways in which students explain their successes and failures.

Part of what makes us human is our capacity for goal-directed, adaptive behavior. Cognitive theorists explain motivation by pointing to our human need to understand, strive, excel, succeed, advance, and continue to challenge ourselves. Some students sit for hours and work on a tough problem without even noticing the passage of time. Why do some people have such strong motivation? Why do some people enjoy doing puzzles and making up limericks? Why do some people push forward when it would be easier just to relax and enjoy life? Cognitive theorists examine these kinds of questions by exploring how students' thoughts influence their behavior.

TABLE 10.1 Using Expectancy X Value Theory to Enhance Student Motivation

Motivating the Student Who Expects to Succeed	Motivating the Student Who Expects to Fail
- When goal is valued: High motivation and effort; the student is successful. - When goal is not valued: Normally high motivation must be harnessed—the teacher must choose new goal that is more valued and the student will succeed; the teacher should recognize and praise normally high motivation.	- When goal is valued: The student fails to try despite wanting the goal—the teacher must encourage and reward effort and incremental progress, stressing the value of the goal to the student. - When goal is not valued: The student does not care—the teacher must first select a new, more valued goal, and must then encourage incremental effort and progress toward this new goal.

Recall from Chapter 8 that social learning theory combines behavioral and cognitive approaches. Similarly, the social learning approach to understanding motivation mixes the behavioral and cognitive approaches just described. From the social learning perspective, motivation results both from what goes on inside a person's head (the person's thoughts, plans, and belief in her or his abilities), and what goes on in the external environment (the likelihood of reaching a goal, and the payoff if that goal is reached). Thus social learning approaches to motivation combine extrinsic and intrinsic motivational factors.

The scientific name for this combination of internal thoughts and how the environment is perceived is **expectancy X value theory**. According to this theory, people work hard and are motivated when they believe they have a reasonable chance of succeeding, and when the goal is personally meaningful to them (see Table 10.1). Jim Jenson used this approach when he praised and encouraged his students about their reading progress and tried to convince them that reading would bring them meaningful rewards.

HUMANISTIC THEORIES

The humanistic approach to understanding motivation is a reaction to the behaviorist and cognitive approaches that preceded it. Humanists believe that motivation results from more than just external rewards and internal conceptualizations of one's ability and performance. As the term *humanistic* suggests, humanistic views emphasize a *higher-order incentive* to achieve and excel that comes from within the person. According to this view, people have an innate, complex way of reasoning, and the things that motivate them are often equally complex. For a humanist, everything that affects the person—including thoughts, feelings, and aspects of the environment—can create or affect motivation. Humanists have used varied terms to express different aspects of the inner drive to excel. For example, Abraham Maslow (1970) believed that humans have an inborn need for **self-actualization**, or making the most of oneself. Carl Rogers (Rogers & Freiberg, 1994) termed the inner source of motivation the *actualizing tendency*; Edward Deci (1994; Deci & Ryan, 2000a, 2000b, 2001, 2006) has described a similar force as the need for **self-determination**.

How does the humanistic approach work in the classroom? The humanistic approach emphasizes the “whole student”—in other words, the emotional and social aspects of a student's life in addition to the intellectual aspects that are the focus of most instruction. This approach assumes students are naturally motivated to learn, provided that the educational experience is meaningful and that students view themselves as capable of learning. A key aspect of this approach is the frequent emphasis on helping students develop self-esteem. The humanistic approach also stresses the importance of teachers acting in a supportive and caring manner, and relying more on explaining why things must be done a certain way instead of on doling out discipline. Jim Jenson used a humanistic approach when he worked on enhancing his students' self-esteem.

THINKING ANALYTICALLY

Would a nontraditional school be better for every student (for example, a school in which no grades are given, or no formal, timed classes are held, or in which all work is project and group based)? Why or why not?

SUGGESTION: No. Students have widely varying needs: Some flourish in the structured, disciplined atmosphere of a traditional school environment; others succeed best in a less structured setting.

TABLE 10.2 The Four Theories of Motivation: Incentives to Enhance Motivation

Behavioral

Extrinsic reinforcers in the form of rewards or punishments:

- High grades/low grades; praise/criticism; free time/detention; awards/demerits.

Cognitive

Intrinsic reinforcers based on beliefs, attributions, and expectations:

- Understanding the purposes of schoolwork and homework; believing in one's ability to succeed; attributing success to hard work; expecting to do well as a function of effort invested.

Social Learning

A mix of extrinsic and intrinsic reinforcers based on expectations and the personal value of goals:

- Understanding how to set workable, effective goals that can be attained; understanding the likelihood of reaching a goal and the payoff once the goal is reached; knowing how to choose goals with payoffs that are personally meaningful.

Humanistic

Intrinsic reinforcers based on the human needs to achieve, excel, and self-actualize:

- A meaningful educational environment in which students are encouraged to see themselves as capable; development of self-esteem; teachers acting warm and supportive; explaining why things must be done a certain way—no rules for the sake of rules.

One study looked at eighth graders in a nontraditional (nongraded self-selection) school considered to be "a humanistic student-centered environment" (Matthews, 1991). This school attempted to influence the positive feelings and motives of students. Students worked in a relaxed atmosphere with small classes; their input influenced decision making and the general functioning of the school. Students in this humanistic school had higher intrinsic motivation than students in a more structured environment.

A summary of the four different theories of motivation for teachers appears in Table 10.2.

IMPLICATIONS FOR TEACHING

- **Try behavioral motivators—rewards and punishments—when you need motivational techniques that work quickly.** Behavioral motivators are often helpful in day-to-day life in the classroom. However, remember that behavioral motivations—although they influence students' behavior—do so without creating a deeper understanding on the part of students.
- **Focus on cognitive motivators for the long-term changes in the way students think.** Cognitive motivators, including beliefs in the values of work and in one's own abilities, can be more difficult for teachers to develop in students. In the long run, however, they tend to create more substantial and long-lasting changes.
- **Combine behavioral and cognitive motivators to give students the benefits of each.** Effective teachers have at their disposal numerous types of tools that work in multiple ways and at different rates. These teachers routinely use different types of approaches to motivate students.
- **Stress the meaningful lifetime rewards and positive feelings of self-actualization that result from hard work in the present.** As students show increased motivation and readiness to learn, model the valuable results of hard work by describing your own successes and the efforts that led up to them. Plan lessons based on well-known and respected people whose life stories show the ultimate value and rewards of hard work.

The Role of Arousal Level

Any attempt to explain what motivates students must consider the students' level of attentiveness to learning in general. Let us now turn to a discussion of the role of student arousal in creating and maintaining motivation.

Arousal is an individual's level of alertness, wakefulness, and activation (Anderson, 1990). It is a state of physical and psychological readiness for action provoked by the activity of the brain and the rest of the central nervous system. Most people are familiar with the sensations of arousal—sitting in the dentist's waiting room, walking out on the high diving board, waiting to go on stage, and those last few minutes before an important standardized test. All of these situations tend to create a state of arousal. More moderate arousal happens before an enjoyable activity, such as seeing an old friend after an absence, entering a movie theater to see an anticipated sequel to a favorite movie, or ordering a favorite dessert. Too much arousal is often associated with **anxiety**, a sense of nervousness, worry, and self-doubt.

If you think about your own arousal tendencies, you will realize that each individual responds differently to different situations as a function of unique experiences, capabilities, and goals. For example, someone who does not particularly care about going to college may not experience much arousal in the moments before an entrance examination, whereas someone who is determined to get into a competitive college may be literally overwhelmed with anxiety.

AROUSAL LEVEL AND PERFORMANCE

In the early part of the twentieth century, Yerkes and Dodson (1908) showed that very low arousal and very high arousal are both associated with poor performance. Put simply, a moderate level of arousal is associated with the best performance. People generally also feel their best when their level of arousal is moderate (Berlyne, 1960). Too much stress can impair people's ability to learn and remember, although the precise nature of the mechanisms involved is complex (Shors, 2004).

Expert teachers habitually use a moderate level of arousal to their students' advantage. They capture their students' interest and provoke them with intriguing questions and problems to solve. But expert teachers do not create a high anxiety situation for their students by overly stressing performance on tests, for example. That is, instead of saying, "Your whole grade depends on how well you perform in the next hour!"; an expert teacher might say, "You

Study habits vary, especially among older students. On the left, a junior high school student reads in the living room, while on the right, another student studies while she talks on the phone.



EXPERT TEACHER INTERVIEW

FOCUS ON: ACROSS-THE-CURRICULUM MOTIVATION

PEGGY GARWOOD: OAK GROVE SCHOOL, GREEN OAKS, ILLINOIS—GRADE 8, ALGEBRA



Peggy Garwood has been teaching eighth-grade algebra for more than 25 years. She strongly believes

that it's important to teach across the curriculum by linking math projects with art, social studies, and other subjects. In this interview, she describes one particularly successful undertaking—a fund-raising quilting project that requires students not only to use their math and algebra skills, but also to acquire business and social understanding.

What is the quilting project?

Students in the eighth-grade math classes used their geometry skills to design several quilts. The quilts were then raffled off. Students sold the raffle tickets, and the money that was raised went to benefit a local soup kitchen. The quilt project has grown enormously over the five years that we've been doing it. The first year 38 students made one quilt, which was raffled for \$2700. This year, 117 students designed three quilts. The raffle raised \$7000.

How does this project teach students math and geometry?

Creating the quilts incorporates math and geometry skills. I begin the project by spending one class period explaining the art of quilting. I discuss its history and specific methods, while I show examples of quilts and point out math applications. In the same week, I teach concepts of geometric construction using a straight edge, compass, and protractor. Then each student is asked to design a seven-inch square quilt block using these techniques. Sometimes I give students guidelines they need to follow. For example, this year each design had to be symmetric to a line or a point. As the students are making their quilt designs, they have to be precise so that all the quilt blocks will fit together.

Raffling the quilts also helps build math skills. The students are in great competition with each other when they sell the raffle tickets—the class that sells the most tickets gets a bag of candy. They are competitive even for

that little bag of candy. This level of competition provides a highly motivational opportunity for students to learn the concept of unit pricing. Class sizes range from 12 to 23 students. This year, a larger class raised the most money from the raffle tickets. When I asked the other classes, "Should I take their jar of money and say they win?" the students replied, "No, it's not fair. They have more students in their class." I guided them as they figured out a fair criterion, based on the amount of money raised per student.

How do projects like the quilt motivate students?

These projects are motivating to students because of the broad range of subjects and interests that are addressed. Every student can find something to enjoy. Having something to look forward to makes coming to class more fun. Every year, there are students who say they have heard about the projects I do, and that they can hardly wait until they can be in my class.

THINKING PRACTICALLY

Which techniques can students use to keep from becoming overly aroused before important tests?

SUGGESTION: They can focus on past successes, get enough rest the night before the test, eat a nutritious breakfast and lunch on the day of the test, practice deep breathing, and remember there will be other opportunities if this test does not go well.

have one hour to show what you have learned about mitosis and meiosis. I am interested in seeing how you think about the problems we discussed in class." Effective teachers also provide opportunities for doing extra work to help compensate for poor test grades, which sometimes result from nervousness rather than a lack of knowledge.

In an attempt to preserve discipline in the classroom, beginning teachers sometimes create too high a state of arousal and anxiety, thus hindering learning. The converse, creating too little arousal, results in a classroom in which students find themselves doodling, daydreaming, or even drifting off to sleep. Probably all of us can remember teachers who made the mistake of creating too much arousal or too little arousal in their students. In general, effective teachers strike an effective balance by using a variety of methods to assess students.

CREATING OPTIMAL AROUSAL LEVELS

The optimal level of arousal for performance varies with the task as well as with the individual. For simple tasks, moderately high arousal is better, whereas for difficult tasks, moderately low arousal is better (Broadhurst, 1957). If students need to complete those fairly repetitive and mindless tasks that are sometimes necessary in the classroom, a higher level of arousal may be needed to create enough motivation. When students need to complete complex tasks, however, lower levels of arousal will help them avoid the anxiety that may be associated with poor performance (see Table 10.3 on page 366).

How does this project encourage students' social and moral development?

Giving the money to the soup kitchen helps students develop socially and personally. Staff members at the soup kitchen have pointed out to students that, because of the support from the quilt project, the kitchen is able to take care of many of its needs. The students are proud that every penny of each raffle ticket goes to the kitchen. A sewing center donates the material; the school pays for printing the raffle tickets and a few supplies. One year, the school board offered to buy the quilt, but selling tickets not only offers the potential of making more money for the soup kitchen, it gives students additional opportunities to do a service for the community.

Students also get a personal opportunity to serve. When the students visited the kitchen, they met one man who had been going there for 16 years. Many students at my school are wealthy; they were stunned by this

man's story. Some of the money we raised for the soup kitchen helped him. The kids were proud of this and were motivated to help even more. They noticed that forks and spoons were needed and brought them to the soup kitchen. My students have become better citizens in the community.

How do students of varying abilities approach this project?

All students have to participate in this project. And each student approaches it differently. One or two students designed their quilt blocks on the computer. One student with cerebral palsy found the drawing difficult, but she designed a quilt block herself with only a little help on the physical work of drawing. One boy had information processing difficulties. He made five designs and none of them worked, but he persisted. When he

finally caught on, he was very proud of his work.

What advice would you give to new teachers?

When I was a beginning teacher, everything was done strictly out of the book. Now, every quarter, I have projects that relate to other subjects. I help students relate math to science, art, and poetry. Our projects have included creating a geometry collage, constructing a dual dodecahedron, and using origami to construct a polyhedron. During almost every project, I

see a student who didn't really like math become much more excited about it because he or she is interested in the connection between math and another subject.

Look for ways to relate your topic to students' everyday lives and to other subjects. Don't just stick to the book.

Students themselves also differ in terms of their optimal arousal level. Some students work well under deadlines and flourish when a lot is expected of them. Other students work best when there are few demanding standards; then they feel no anxiety and are able to focus on learning instead of on getting high grades. For the average student, however, a moderate level of arousal is generally best.

To gauge a student's arousal level, watch for signs of too-low arousal (daydreaming, nodding off, doodling, passing notes, whispering to other students, and generally just zoning out). Watch also for signs of too-high arousal (nervousness, crying or flushed face, stomachaches in younger students, acting up, talking loudly and interrupting others, and other visible signs of being upset). Moderate and optimal arousal is associated with students acting excited, interested, and ready for learning.

What creates a moderate and effective level of arousal in students? One cause we are all familiar with is a student's curiosity. Students may wonder, "How does that work? Who invented that? Where does this lead? Can I learn how to do that?" Pique their curiosity by asking students leading questions and by encouraging them to ask themselves these same questions when studying at home. Often, the right questions can raise arousal to an optimal level in which students are primed to learn and to pay attention, and are driven by the need to understand.

Some students are naturally curious, perhaps because their home environments foster a curious, questioning perspective as they are growing up. Other students may have been pun-

THINKING CREATIVELY

How can a teacher reduce test anxiety while simultaneously increasing students' desire to perform well on tests?

SUGGESTION: Give more frequent, smaller, less formal tests. On occasion, allow students to retake tests if they score poorly. Design tests that give students multiple ways to show what they know. Recognize effort as well as achievement.

THINKING PRACTICALLY

Devise a plan for increasing the motivation of an underachieving student to work hard in school—to master academic tasks, study information, do homework, and so on. Indicate which of the theories of motivation are guiding your plan.

SUGGESTION: Consider a situation in which the student comes from an unsupportive or abusive home. The teacher can work with the student, enhancing her belief in herself, while providing positive feedback and reinforcement for efforts in the right direction. Guided by the humanistic theory of motivation, the teacher might also give hints on how to master academic tasks.

create name recognition and awareness of your accomplishments. A later step might consist of serving on several influential committees so that you are seen as a person with educational and administrative ambitions.

■ **ONLY REALISTIC GOALS ENHANCE MOTIVATION** Having unrealistically high goals can be self-defeating for students. For example, some students are perfection oriented and consequently never attain their goals of doing perfect work. They feel worse than if they had never tried to do perfect work in the first place. Even when their grade is an A, they believe they have failed. Realistic and attainable goals are the answer, and expert teachers help students define and focus on realistic goals in their daily work. Based on their experiences with many students, these teachers help students define their goals in terms of what they can reasonably expect to accomplish with hard work and perseverance in the time allotted. Remember, though, that not all high standards represent harmful perfectionism—Accordino, Accordino, and Slaney (2000; see also Grzegorek, Slaney, Franze, & Rice, 2004) found that very high personal standards meant that students tended to have lower levels of depression and greater self-esteem. The key is that goals must be attainable, not impossible.

What about another type of goal—deadlines? Are deadlines effective? Researchers have studied the effects of externally imposed deadlines on students' task performance and subsequent interest in the task (Amabile, DeJong, & Lepper, 1976). Students given a deadline were less interested in the task than those not given a deadline. Thus expert teachers remember not to use deadlines all the time, with the goal of increasing students' interest in their tasks and students' intrinsic motivation.

Expert teachers know the value of the right types of goals. These teachers make tasks a slight stretch for students—neither too easy, nor too hard. Researchers since the early 1970s have known (e.g., Atkinson, 1972) that many people prefer tackling tasks on which they have about a 50–50 chance of succeeding. In other words, if you give individuals a choice of standing close to a target they are aiming at, they will prefer to stand at the point where they have a 50–50 chance of hitting the target. However, students with low achievement motivation (i.e., drive to excel) will stand very close to the target because of a fear of failure.

Another important point to bear in mind is that goals will not motivate students unless they are accompanied by clear feedback. If a child doesn't know how close she is to achieving a goal, she will not know when to work harder.

WHAT MAKES GOALS EFFECTIVE?

A study by Meece, Blumenfeld, and Hoyle (1988) examined whether students used high-effort or effort-minimizing strategies while completing science activities. The researchers found that students who emphasized **task-mastery goals**, which stress working to understand and succeed at a task, reported more active engagement in their tasks than students who did not emphasize task-mastery goals. In contrast, students motivated by gaining social recognition, pleasing the teacher, or avoiding work reported a lower level of engagement. Thus task-mastery goals helped focus the students' behaviors in a positive way.

Meece and Miller (1999, 2001) found that elementary school students' motivation goals were reasonably consistent over time from grades three through five, although all students tended to show a decline in task-mastery and performance goals over time. When teachers stressed task mastery goals, students' achievement values increased; conversely, when teachers stressed performance goals, students' achievement values decreased (Anderman, Eccles, Yoon, Roeser, Wigfield, & Blumenfeld, 2001). Students tend to prefer high-challenge tasks because they are less boring (Miller & Meece, 1999).

■ **SELF-MONITORING OF SUBGOALS ENHANCES LEARNING** Of course, students can have different types of goals: subgoals or portions of the overall task (e.g., breaking the task into ten steps), ultimate goals (e.g., the completion of the entire task), and time-oriented goals (e.g., spending three hours studying). Which types of goals are more effective?

Morgan (1985) compared three types of self-monitoring of private study to investigate the effects of these types of studying on academic performance and intrinsic motivation.

Self-monitoring refers to students keeping track of their own progress. The participants, who were college students, were assigned to one of four study conditions: (1) self-monitor subgoal condition—keeping track of their progress on each step in completing the task; (2) self-monitor time-on-study condition—keeping track of time spent studying; (3) self-monitor distal-goal condition—keeping track of whether they had achieved the overall goal; or (4) control—studying the way they normally would. Key findings were as follows:

- In end-of-year exams, students who used self-monitored subgoals, or keeping track of their progress on each step in completing the task, outperformed students who used self-monitoring of either time spent studying or distal goals, such as doing well in the entire course.
- Students who self-monitored the duration of their study time actually spent longer studying than did control students, who did nothing special, but these self-monitors did not score better on exams. Students who self-monitored distal goals did not perform as well as those who self-monitored subgoals.

Besides the beneficial effects on learning, subgoal self-monitoring increased intrinsic interest in the course. The results of this study suggest that, as a teacher, you should make clear for your students how to use self-monitoring of progress toward subgoals during studying, perhaps by talking students through your own way of studying with subgoals. Also, encourage and reward students who use this approach.

■ **LEARNING WITH THE GOAL OF TEACHING IS INTRINSICALLY MOTIVATING** How about the effect of the overall goals students are aiming for in their learning? Benware and Deci (1984) studied whether learning with an active orientation would be more intrinsically motivating than learning with a passive orientation. They defined an active orientation as learning material with the expectation of teaching it to another student, and a passive orientation as learning with the expectation of being tested. For the college students in this study, learning with the goal of teaching the material was more intrinsically motivating. In addition, students who learned with the goal of teaching what they learned had higher conceptual learning scores and perceived themselves as being more engaged. However, the rote learning scores of students with active and passive orientations were equal.

THE IMPORTANCE OF TEACHER FEEDBACK AND TEACHER EXPECTATIONS

Think of how you feel when you read your teacher's comments on your term paper. Such feedback is of central importance in developing expert learners. It is the vehicle through which students see themselves as others see them and learn to improve.

What is the effect on students' motivation of receiving versus not receiving feedback? Butler and Nisan (1986) showed that students maintained their intrinsic motivation after getting a nonthreatening, task-related evaluation. In contrast, their intrinsic motivation was undermined when the students repeatedly failed to receive feedback. Butler (2000, 2006) showed that both the timing and the form of feedback are important, although to some extent students' responses to all feedback are the result not only of the type of feedback, but also of the students' own views about ability (such as whether success comes more from being born smart or from working hard).

■ **TEACHERS' EXPECTATIONS AFFECT STUDENT MOTIVATION** Teachers' expectations of students, and the feedback based on these expectations, are extremely important in creating or dampening student enthusiasm. Expert teachers recognize the importance of their own expectations in molding their reactions to students.

The subject of how teachers' expectations affect students' motivation has been the focus of research dating back to a classic study by Rosenthal and Jacobson (1968). This study showed that student performance was influenced by teachers' expectations of students' ability levels, even when the information that teachers relied on to make their judgments was randomly generated by the researchers. In other words, teachers were told that some students were likely to blossom during the year; these students did, in fact, do better. But the students

THINKING ANALYTICALLY

Think of an assignment you must complete. Break the assignment down into a minimum of eight subgoals. Track your progress as you complete the assignment.

SUGGESTION: Perhaps you have a term paper due in your educational psychology course. Your subgoals can be as follows: (1) Brainstorm various topics, (2) choose a topic and discuss it with the teacher, (3) gather sources and resources, (4) review information and compose an outline, (5) write the first draft, (6) seek comments and feedback from others on the first draft, (7) research areas that need work and add or correct material, and (8) write the polished final draft.

THINKING PRACTICALLY

Have you ever had a teacher who had very high expectations of your ability? How did you perform in the class? How did the teacher convey these high expectations?

SUGGESTION: A supportive teacher who conveys high expectations along with suggestions for how the student can actualize them will likely be rewarded with good student performance, including yours.

named as likely to blossom were actually chosen at random. The effect of teachers' expectations on student performance was called the *Pygmalion effect*. The Pygmalion effect refers to the growth in accomplishments that can result when a teacher believes in and encourages a student. The name comes from the ancient mythological King Pygmalion, who created a statue and then brought it to life.

Although this research has been criticized (e.g., Elashoff & Snow, 1971; Snow, 1995) and the findings have not always been replicated (e.g., Goldenberg, 1992), it is generally agreed that the Pygmalion effect does happen (Harris & Rosenthal, 1985; Madon et al., 2001; R. Rosenthal, 1995, 2002; Smith, Jussim, & Eccles, 1999; Smith, Jussim, Eccles, VanNoy, Madon, & Palumbo, 1998). The Pygmalion effect-inspired research has shown that teachers generally perceive their expectations of students to have been confirmed (Brophy, 1983a, 1983b, 1985a; Brophy & Good, 1974; Crano & Mellon, 1978; Humphreys & Stubbs, 1977; Rist, 1970; Williams, 1976). Other research has shown that inaccurate teacher expectations (given to teachers by researchers) also influence teacher behavior and student performance (Harris & Rosenthal, 1985; Jussim, 1991a, 1991b; Raudenbush, 1984). The Pygmalion effect has also been demonstrated for business managers and people in the military (McNatt, 2000).

In general, the lesson from this research is that high teacher expectations create better student performance, or at least the perception of better performance. When teachers are told that certain students are very smart, these students tend to perform better—or, even if the students do not actually perform better, the teachers *think* they perform better. Positive teacher expectations and feedback can be highly motivating to a student. Expert teachers capitalize on this fact when they provide students with positive feedback whenever possible. Even if students make errors, expert teachers are able to find something to praise while at the same time showing students how to improve. Research has shown that students who receive praise for their effort and for what they succeed at doing perform better overall than students who are not praised in this way (Lepper, 1988). Realize as well that low expectations may hurt student performance.

IMPLICATIONS FOR TEACHING

- **Emphasize student goals of mastering tasks and completing meaningful learning.** Avoid or downplay goals of performing at specific levels or achieving specific scores. Focus on the essence of learning and the joy it brings, not on comparing one student with others.
- **Maintain positive expectations of all students.** Don't let preconceived notions about students' capabilities stop you from expecting their best efforts. Many students will perform better than you might have expected if they are held to a high standard.
- **Teach students to monitor and control their own rates of progress.** Self-monitoring is truly a life skill that will provide continual rewards in any endeavor.



The Role of Student Needs

Goals are only a part of what motivates students. Students' needs are also important as controllers of and contributors to motivation. Students have many and varied needs that expert teachers can use as motivators. Expert teachers understand the differing types of student needs and know how they can appeal to those needs that will effectively motivate each student. Student needs include the need for power, the need for affiliation, and the need to achieve.

- People who rank high in the **need for power** seek to control others. They try to make the world conform to their own image of what it should be. When they are

part of groups, they want to be individually recognized (Winter, 1973). They are also concerned with their visibility among the general public (McClelland & Teague, 1975). Teachers can motivate students with this need by making them leaders of projects (as long as the students are reasonably competent) and by giving them public recognition.

- People who rank high in the **need for achievement** have a strong drive to excel and succeed. The need for achievement has been studied extensively by David McClelland (1985) and his associates. People who rank high in the need for achievement, such as successful entrepreneurs and athletes, seek out moderately challenging tasks, persist at them, and are especially likely to pursue success at their occupations. Why do these people seek out tasks that are moderately challenging? Because in these tasks the people are likely both to succeed and to extend themselves. They do not pursue overly challenging tasks they have no hope of accomplishing, nor are they attracted to simple tasks that pose no challenge.
- People who rank high in the **need for affiliation** like to form close connections with other people and be members of groups. They avoid arguments (Exline, 1962) as well as competitive games (Terhune, 1968). They also tend to become anxious when they feel they are being evaluated (Byrne, 1961). Expert teachers who wish to motivate students with a need for affiliation are attentive to creating a nurturing environment that is neither competitive nor evaluative. These environments might stress creative activities that are ungraded and group activities that are ungraded in which working together is encouraged.

Which behaviors might you, as a teacher, see in the classroom that would alert you to the needs of your students? Students with a need for power try to take control of situations with their peers, teachers, and friends. They want to be leaders and to be in charge, and they tend to be forceful and to act self-confidently. Students with a need for affiliation do their best to get along with others and as part of groups. They prioritize making and keeping friends over other types of accomplishments. Students with a need for achievement are generally motivated self-starters who work tirelessly until goals are met. They get great satisfaction from achievements but also move quickly onto the next challenge to attain additional achievements.

MASLOW'S HIERARCHY OF NEEDS

The needs for power, affiliation, and achievement all fit into the theory of motivation proposed by the humanist Abraham Maslow (1970). Maslow believed human needs form a kind of hierarchy. Individuals first need to satisfy needs at lower levels of the hierarchy before they seek satisfaction of higher-level needs. Levels 1 through 4 refer to deficiency needs, and levels 5 through 7 to growth needs.

DEFICIENCY NEEDS Levels 1 through 4 of Maslow's hierarchy comprise deficiency needs.

- Maslow's first level includes basic biological needs such as for food, water, sleep, and oxygen, which are necessary for continued survival. In fact, many homeless people face the challenge of getting these needs met every day. In some schools, certain students also face these needs—students who do not have adequate nutrition, for example. Until their need for food and sleep is satisfied, such students may have a very difficult time learning in school. In particular, children living in poverty face numerous obstacles in the fulfillment of these basic needs (Prince & Howard, 2002; Prince, Pepper, & Brocato, 2006).
- Maslow's second level addresses needs for safety and security—in other words, for shelter, protection, and emotional safety. Safe schools provide such a secure environment for students, and Maslow's hierarchy demonstrates why schools must be free of violence.
- The third level is the need to belong, to feel that other people love and care about us and to be a part of a meaningful group. The importance of this need is illustrated by

the bond between parents and their children, as well as by the bond between members of peer groups at school and by the relationships that develop between expert teachers and their students.

- The fourth level is the need for self-esteem—to feel worthwhile as a person. Students gain self-esteem from successfully performing activities that are meaningful to them, and particularly from meeting challenges.

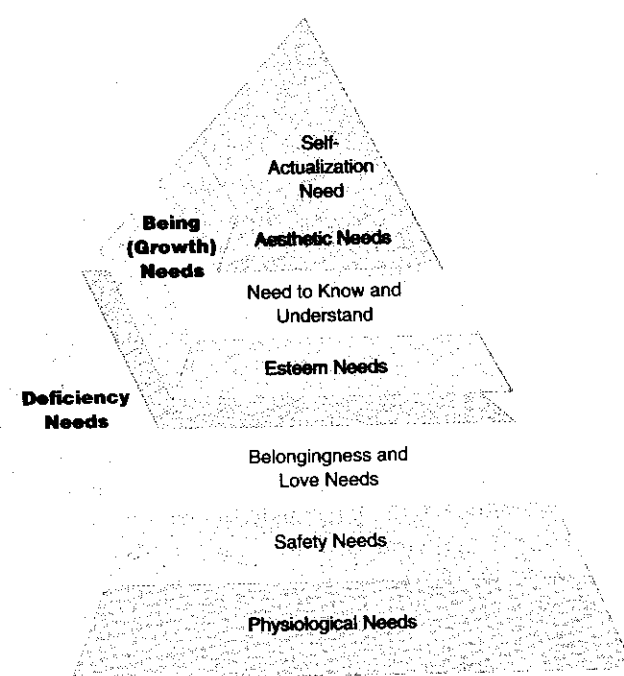
GROWTH NEEDS Levels 5 through 7 of Maslow's hierarchy consist of growth needs.

- The fifth level is the need to know and understand. This need reflects the facts that ignorance and lack of insight into the world around us can be a debilitating condition, and that people generally seek to understand their surroundings and themselves.
- The sixth level represents aesthetic needs—the need for beauty and balance in the physical, intellectual, emotional, and spiritual world we occupy.
- The highest level in Maslow's hierarchy, level 7, is the need for self-actualization, the need to fulfill our potential as human beings. We might consider athletes who compete in the Olympics as having achieved their self-actualized athletic potential, and top-notch brain surgeons, astronauts, and Nobel-Prize-winning scientists as having achieved their self-actualized intellectual potential. For other people, achieving this level might be measured in different ways—for example, by running a soup kitchen that successfully feeds and shelters homeless people in the winter. Maslow believed that few people achieve level 7.

Figure 10.1 illustrates the seven levels of Maslow's hierarchy of needs.

The level that a student occupies in Maslow's hierarchy can give her teacher a clue about the motives that will work for the student. For example, if the student is at the most basic step (need for food and water), opportunities to alleviate hunger and thirst will motivate the student. If the student has met that need and has entered Maslow's next level (the need for safety), behaviors that provide opportunities for shelter and security will motivate the

FIGURE 10.1 Maslow's Hierarchy of Needs



Source: Figure "Hierarchy of Needs" from *Motivation and Personality*, 3rd ed. by Abraham H. Maslow. Copyright © 1973 by Pearson Education. Reprinted by permission.

student. Expert teachers sense when a student is fixated at the third level, the need for love and affection, and use their ability to provide emotional warmth as a motivator for the student. Only when a student has satisfied these three basic needs (food, safety, and affection) will he or she crave respect from classmates and begin to develop a need for self-esteem. Maslow believed that few or no individuals ever truly reach self-actualization, the highest step in his motivational framework. Jim Jenson, the teacher in the chapter-opening vignette, worked in a poor, inner-city school; he had to ensure that his students had their basic needs met before he could expect them to make progress in reading.

ACHIEVEMENT MOTIVATION

The role of **achievement motivation** is clear in Maslow's growth needs. How do people with a high need for achievement motivate themselves? Researchers have found that people with a high need for achievement privately set goals for themselves (McClelland & Watson, 1973; see also Ablard & Lipschultz, 1998). Because these goals tend to be of intermediate difficulty, the people are likely to get a continuing sense of personal accomplishment. The researchers also found that people with a high need for power seek to stand out publicly, and do so (for example) by taking more extreme risks. Conversely, those with a high need for affiliation try to avoid public competition by taking relatively low risks.

Achievement motivation tends to be domain specific. For example, some students may be highly motivated to achieve at athletics, but not at academics. Other students may reject school psychologically, instead joining peer groups or even gangs in which school achievement is seen as undesirable. These students may have a high need to achieve, but the need may be directed toward nonschool-relevant goals, such as peer approval, and sometimes toward goals that damage society, such as gang-related criminal behaviors.

How do students react to teachers' demands for achievement (see Alderman, 1999, for an overview)? Consider the situation in which a teacher knows from past experience that a particular student is capable of doing far better work than she is currently doing. However, the student herself may not believe in her own competence. In this scenario, the teacher's demand for achievement may go unmet, not because the student is incapable, but because she is unaware of her capabilities. The perception of reality, rather than reality itself, is the more powerful predictor of how people, especially children, react to demands for achievement (Phillips, 1984). Unfortunately, girls—particularly as they grow older—often perceive their competence to be lower than boys' perceptions of their own competence. The result can be lesser expectations for achievement on the part of girls—and, therefore, lesser achievement (Phillips & Zimmerman, 1990). This effect emerges as early as kindergarten (Frey & Ruble, 1987).

■ **THE NEED TO ACHIEVE CAN BE STRENGTHENED THROUGH TEACHING** The motivation to achieve appears to be present in every culture that has been studied (Markus & Kitayama, 1991). The goal of one reasonably successful project in India, for example, was to raise the achievement motivation of Indian businesspeople and workers in their companies so as to help these people improve their lives. The employees attended an intense series of seminars designed to get them to think, talk, and act like achievement-oriented businesspeople (McClelland & Winter, 1969).

The fact that the need to achieve could be strengthened through training is highly relevant to teachers. Expert teachers often use similar techniques to get their students to "think big" about their potential and their future lives. These teachers stop students from talking in a non-achievement-oriented manner and model achievement-oriented behaviors for their students, such as how to use positive self-talk and possibility thinking to motivate themselves. For example, they say aloud, "I wasn't sure how to solve this problem, and I felt stumped. But then I thought, 'You can do it! Think of the times you have been successful in the past. Brainstorm five ways to solve the problem and work from there . . .'"

In the discussion of group differences in Chapter 6, we noted that achievement patterns vary among different ethnic and cultural groups. One study of achievement motivation in China showed that Chinese parents place great emphasis on achievement, but their focus is

THINKING CREATIVELY

Propose an addition or modification to Maslow's hierarchy and defend your proposed change.

SUGGESTION: The need for independence and self-reliance might be added between levels 4 and 5, stressing the importance of belief in one's ability to get things done.

THINKING ANALYTICALLY

What are the ethical implications of teaching the values of one culture to people from another culture?

SUGGESTION: Teachers may have trouble keeping a perspective on the customs of different cultures without some degree of bias. People often do not have the vocabulary to express fundamental differences between cultures. Students may conclude that a specific culture's values are being endorsed.

different from that of American parents (Ho, 1986). Whereas American children are motivated to achieve so as to become independent, Chinese children are motivated so as to please the family and community. However, Leung (2002) found that among children from Hong Kong, Japan, Korea, and Singapore, there are few common attitudes unique to these countries that are capable of explaining these students' superior performance in mathematics. Expert teachers remind themselves frequently that what motivates one child may differ from what motivates another child, and that no "one size fits all" explanation exists for group performance trends.

SELF-DETERMINATION AND CONTROL

In everyday activities, people's behavior depends to some degree on intrinsic motivation. People seek to be active, to observe and explore their surroundings, to manipulate aspects of and objects in their environments, and to gain mastery over their environments (White, 1959). People also seek *self-determination*, the ability to make things happen, to have control of oneself and one's environment. People prefer self-determination over determination by outside forces. Most people are unhappy when they feel controlled, whether by another person or by outside events. In short, we are motivated to be in charge of our own destiny.

Edward Deci and his colleagues (Deci, 1996; Deci & Ryan, 2000a, 2000b, 2006; Deci, Vallerand, Pelletier, & Ryan, 1991) have proposed a theory of self-determination. According to this theory, humans need to feel competent, related, and autonomous. Deci suggests that intrinsically motivated activities satisfy people's need for competence as well as their need for autonomy. In contrast, many extrinsically motivated activities can undermine people's sense of autonomy because they attribute the control of their behavior to sources outside themselves, rather than to internal ones.

Deci and his colleagues found that students with self-determined motivation are more likely to stay in school, behave well, show conceptual understanding, and be well adjusted. Motivation increases when students feel competent. Students feel competent when they face the right types of challenges and when they receive appropriate feedback on their performance. They also feel more competent when they feel that they belong within a social group. This feeling of belonging is increased if students' parents are involved in their lives and if their peers accept them. Another way motivation is increased is when teachers encourage autonomy as opposed to retaining tight control over students.

IMPORTANCE OF STUDENT CHOICE

Turning to the practical side of the the issue of self-determination in the classroom compels us to ask: What about the role of student choice in student motivation? Does giving students more choices always increase their engagement and learning? Deci, Ryan, and their colleagues have conducted a program of research that examined the importance of student choice in how motivated students become (Deci, 1992; Deci & Ryan, 1985a, 1985b, 1987, 2000a, 2000b, 2001, 2006; Deci, Vallerand, Pelletier, & Ryan, 1991). This work has generally supported the positive learning effects that result from giving students more choices in the classroom. Nevertheless, a growing body of research suggests that more choices may not always lead to greater motivation and learning. Teachers must understand the issues that they must consider when deciding whether to allow choices, and to what extent to allow them. The key questions are as follows: When does giving choices work? For whom does it work? And how should opportunities for choice be structured to create maximal motivation and learning?

In one interesting study, Flowerday and Schraw (2000) intensively interviewed 36 teachers and analyzed the results. Their goal was to describe in teachers' own words which types of choices they offer students, how they decide when and to whom choices should be given, and why they offer these choices.

These researchers found that most types of choices fall into one of six categories: topic of study, reading materials, methods of assessment, order of activities, social arrangements, and procedural choices. Most choices center on topic of study or reading materials. Fewer choices involve classroom assessments, because teachers are often required to conduct assessments in

TABLE 10.4 Guidelines for Classroom Practice: Offering Choices to Students

- | | |
|--|--|
| ■ Recognize that choice matters to students. | ■ Offer simple choices at first. |
| ■ Use choice in all grades, but offer choices more often with older students and with more competent students. | ■ Help students practice making good choices. |
| ■ Use choice when students know a lot about a topic or task. | ■ Provide feedback about choices. |
| ■ Use choice in a variety of settings. | ■ Use team choices for younger students. |
| ■ Use choice on different types of tasks (homework, assessment). | ■ Provide information that clarifies the choice. |
| ■ Use choice for academic and social activities. | ■ Offer choices within a task (e.g., topic, sequence). |

specific ways. Choice of learning activities is also common. Teachers offer a variety of choices for homework, in-class free time, and ways to demonstrate knowledge.

In deciding who is to be given choices, teachers consider age, ability, and prior knowledge. Older students get more choices. Likewise, students of higher ability receive more choices. Having high prior knowledge about a topic on the part of a student also increases the likelihood of the student being given greater choice.

Turning to the issue of when choices are given, many teachers use choice as a reward to maintain existing good behavior. Students who are performing well tend to have more opportunities to make choices. Although the past research suggests that giving students choices can increase their motivation and performance, in practice, teachers give choices to students who have already demonstrated motivation and good performance. All in all, teachers give students choices for three main reasons: to increase student self-determination, to increase personal interest, and to provide an opportunity for students to practice their decision-making skills. The findings of Flowerday and Schraw (2000) suggest the guidelines presented in Table 10.4.

In other research, Schraw, Flowerday, and Reisetter (1998) concluded that giving students choice of reading materials does not increase cognitive engagement or performance on tests or essays, though it does improve attitude toward the task. Making a more general argument, Schwartz (2000) described the "tyranny of freedom" in which too many and too varied choices lead to negative outcomes, such as general life dissatisfaction and increases in rates of depression.

Iyengar and Lepper (1999) offered a reconceptualization of the value of choice within a cultural context. These authors noted that decades of research point to the positives of choice—among them, increased levels of intrinsic motivation, greater persistence, better performance, and higher satisfaction. In their study, they tested the positive effects of choice for Anglo American versus Asian American children. They found that Asian Americans were most intrinsically motivated when choices were made for them by trusted authority figures or peers. By comparison, Anglo American children did better when they made their own choices. What is interesting about this study is that its findings show quite clearly the role of culture. Teachers must be sensitive to the fact that the optimal level of choice is a function of students' cultural backgrounds and beliefs (see Chapter 6 for a discussion of cultural issues in teaching).

In summary, the keys to the effective use of choice depend on several different factors: an understanding of students' cultural beliefs and expectations, an appreciation of when choice can be offered while still maintaining the integrity of curricular content, and an appreciation of the balance between the positives and the negatives associated with choice.

IMPLICATIONS FOR TEACHING

- Assess students' needs by observing them and their behavior, both with their schoolwork and with their peers. Try to determine which type of response from others and which type of stimulation from the environment make students act in certain ways. Help those students with a need for power and achievement by giving them

leadership opportunities and presenting them with challenges. When possible, work with and not against student dispositions. Guide students to direct their natural dispositions toward meaningful, positive accomplishments.

- **Help students with a need for affiliation by being nurturing and providing constructive criticism in a positive environment.** Be aware that these students may not perform well in an environment that stresses competitive games, argumentation, or judgments of their performance. Fulfill students' needs so as to free them to learn at their capacity and best demonstrate their knowledge.
- **Motivate students to develop the need for self-determination by allowing them to earn autonomy.** Give students control over assignment topics and tasks whenever possible. Teach by example—share your own experiences about how you developed the need for self-determination and describe its positive effects in your life.
- **Ensure that students' basic needs for food, shelter, and security are being met before challenging them to achieve at higher levels.** Enlist the support of the school administration and social agencies if necessary. Do not waste your own and the students' time by challenging them to achieve if their basic needs have not been met.



The Role of Student Attributions and Beliefs

Students' goals and needs intimately affect their motivation levels. At the same time, another important factor in the development and maintenance of motivation are students' beliefs about their own and others' behaviors. Students' motivation is often affected by how the students explain their own successes and failures, as well as those of their peers. These explanations are called *attributions*. The ways students understand the workings of the school environment also affect their motivation. These explanations are called *beliefs*. Thus two important types of student understanding are attributions and beliefs.

ATTRIBUTION THEORY

An **attribution** is an explanation pointing to the cause of a particular behavior. For example, for Tomás to explain his newfound fondness for geometry, he might make an attribution that explains his perceptions of himself, telling himself that he is the type of person who likes geometry. Attribution theories clarify how people explain not only their own behavior, but also the behavior of others. People make attributions so they can understand their social world and answer questions such as "Why did I act that way?" and "Why did she do that?"

Fritz Heider (1958/1983), who developed attribution theory, pointed out that people make two basic kinds of attributions. The first kind are personal, or **dispositional attributions**. These explanations of behavior are based on internal characteristics in a person—"My nervousness when taking tests and my poor memory made me fail." The second kind are **situational attributions**. These explanations see behavior as being caused by external factors such as settings, events, or other people—"The overcrowded, hot room and the noisy play rehearsal next door made me fail."

Bernard Weiner (1982, 1985; Grietmeyer & Weiner, 2003; Reyna & Weiner, 2001) has shown that people use a variety of sources of information to explain the causes of their behavior in achievement-related contexts. The most important causes of success and failure are people's perceptions of their ability and effort. Other salient factors are the home environment and the teacher. Thus, in Weiner's theory of motivation and emotion, how people explain their behavior is of central importance (see Figure 10.2).

BELIEFS ABOUT ABILITY AND SELF-EFFICACY

Students who achieve in school and students who do not differ in terms of more than their ability levels. The difference is also related to students' perceptions of their ability (Dweck, 1999a,

FIGURE 10.2 How Students Explain Success and Failure

Success and Failure Viewed as Stable Traits

		Success		Failure	
Internal	Controllable	"I am smart because I always study."	"I am smart and succeed no matter what I do."	Controllable	"I never try."
	Uncontrollable	"The teacher likes me."	"I got the easy version of the test."	Uncontrollable	"I am stupid."
External	Controllable			Controllable	"The teacher hates me."
	Uncontrollable			Uncontrollable	"The cutoff grade for passing was too high."

Success and Failure Viewed as Unstable Traits

		Success		Failure	
Internal	Controllable	"I worked really hard this time."	"Sometimes I am on, and sometimes I am not."	Controllable	"I did not study enough."
	Uncontrollable	"I got the teacher a birthday card last week."	"I was really lucky."	Uncontrollable	"I got sick and could not think straight."
External	Controllable			Controllable	"My parents did not quiz me at home."
	Uncontrollable			Uncontrollable	"I had awful luck."

Source: Figure from "How Students Explain Success and Failure" from *Human Motivation: Metaphors, Theories, and Research* by B. Weiner. Copyright © 1992 by B. Weiner. Reprinted by permission of CCC/Sage Publications, Inc.

1999b, 2002; Dweck & Bempechat, 1983; Grant & Dweck, 2003; Hong, Chiu, Dweck, Lin, & Wan, 1999). Students who believe they are not capable but who have high ability generally perform less well than their ability would predict. Teachers may be surprised when a student who knows correct answers when called upon nevertheless scores poorly on a test of the same material. This situation can happen if the student believes she is not capable. By comparison, students who believe they are very capable often perform better than their ability would predict. Dweck's research on entity versus incremental views of intelligence is relevant here (see Chapter 1). People who subscribe to the **entity view of intelligence** believe they are born with a fixed amount of intelligence that cannot be increased, whereas those who subscribe to the **incremental view of intelligence** believe they are born with a certain amount of intelligence that can be increased.

The entity view that "What you are born with is what you have got" contrasts with the incremental view of more successful students, who believe that improvement comes from effort and hard work. Students who see the value of effort and hard work in achieving their goals are more likely to be motivated and to push themselves to excel. Thus such students possess an internal rather than external locus of control (as discussed earlier in this chapter).

Expert teachers can help students develop an incremental view of their abilities and an "effort attitude" by stressing that improvement comes from effort and that everyone has the ability to improve through hard work. Expert teachers avoid making statements about how some children are simply born smarter or more talented; instead, they stress the role of hard work in becoming expert learners. Some schools may unintentionally encourage an entity view of intelligence by labeling certain children as gifted or outstanding students without stressing that they have worked harder than have lower-achieving students.

- **HOW STUDENTS RESPOND TO CHALLENGES** Researchers have found that students working on very challenging tasks respond to the tasks in two different ways (Dweck, 1998; Dweck & Leggett, 1988; Nicholls, 1984). What happens to a child when he or she is no longer able to complete a task? Some students, termed *helpless*, tend to give up easily or to

THINKING CREATIVELY

Describe three ways a teacher could encourage a student to hold an incremental as opposed to an entity view of intelligence.

SUGGESTION: Provide examples of students and famous people who started out as failures and later succeeded. Reward effort and a positive attitude. Praise students who improve over past performance and encourage them to share their hints for success with other students.

show poor performance when they confront difficult problems. These helpless students seem not even to be trying at the level their ability would predict. Other students, called *mastery oriented*, keep trying just as hard or even harder when problems become more difficult. Helpless students often blame low ability for their poor performance; mastery-oriented students blame their poor performance on lack of effort and maintain their higher expectations for future success.

Researchers have found that helpless and mastery-oriented students do not differ in ability. Instead, what separates these students is their attitude about ability and achievement (Dweck & Leggett, 1988; Nicholls, 1984). Helpless students tend to have **performance goals**, which are related to the judgments others make of their performance: They want to look smart, earn positive teacher comments, and avoid negative judgments of their ability. Mastery-oriented children have **learning goals**—they want to improve their skills and learn new things. These two types of students have very differing views of the nature of ability (see Table 10.5). Helpless students hold an entity view of intelligence, in which intelligence is seen as a fixed quantity that each of us is born with. Mastery-oriented students hold an incremental view of intelligence, which suggests that intelligence can be improved through effort.

The helpless view has been observed in children as young as four years old, and more generally in five- to six-year-olds (Heyman, Dweck, & Cain, 1992). When children from the two groups are highly confident about their abilities, they may reach similar levels of achievement. However, when children lack confidence in their abilities and see intelligence as something fixed rather than something that can be developed, they give up easily and often fail, believing themselves capable of no more. This line of research offers an important lesson for expert teachers: Too much emphasis on performance goals (such as praise, grades, and high scores) can undermine students' focus on mastery-oriented goals (such as learning new things and improving themselves). The message of this research has also been shown to apply to college students (Strange, 1997), for whom an incremental view of intelligence is associated with mastery-oriented achievement attitudes and behaviors.

■ KEEPING STUDENTS FOCUSED ON LEARNING GOALS Expert teachers must maintain a focus on the love of learning and skill building for their own sake, especially as children get older, so as not to allow children to become overly fixated on performance goals at the expense of learning goals. If a teacher stresses performance and grades, students will learn their lessons to please the teacher, not because the lessons hold students' interest. As these students grow older and move up through the grades, they will encounter more complex material; unless they are able to enjoy learning for its own sake, they will become frustrated with the new experiences of challenges (Henderson & Dweck, 1990). Instead of seeking challenges and the learning they offer, they will avoid challenges to avoid failure.

When it comes to the school district's need to administer formal assessments, the teacher can tell the students that the tests are important, but that they do not measure everything that is important about learning. Undermining the standardized assessments may, however, lead to students not trying as hard on them. Thus, although it can be confusing for teachers, the best

TABLE 10.5 Recognizing Students with Learning Versus Performance Goals	
Students with Learning Goals	Students with Performance Goals
■ Define success in terms of improvement and progress. ■ Place intrinsic value on effort, hard work, challenges, and meaningful learning. ■ View errors as a normal part of the learning process. ■ Are oriented toward the process of learning. ■ Enjoy the act of learning something new. ■ Measure their success against their own past performance.	■ Define success in terms of recognition, high grades, and perfect scores. ■ Place intrinsic value on outperforming others and consistently scoring highly. ■ View errors as unacceptable and embarrassing. ■ Are oriented toward the product of learning. ■ Enjoy the act of performing well in comparison to others. ■ Measure their success against others' performance.

strategy is generally to acknowledge that formal assessments are a part of life and that students should do their best on them. After instilling this message, teachers can move toward stressing other types of more intrinsic motivators associated with optimal learning.

In Jim Jenson's class, which is profiled in the chapter-opening vignette, Jim would focus on helping students adopt learning goals that represent meaningful mastery of material, rather than performance goals that will be undermined—in this case, by the students' beliefs that they cannot accomplish meaningful tasks. You can encourage learning goals by emphasizing meaningful understanding rather than by simply working through 20 sample problems, for example. Remember that teachers who are themselves intrinsically motivated are better at getting students to seek the intrinsic rewards of learning (Csikszentmihalyi, 1997).

How does receiving instruction affect students' motivation? One study sought to answer this question by having students play a computer game (Sansone, Sachau, & Weir, 1989). The experimenters varied whether students received performance feedback. The game also gave students instruction on how to perform better. The findings showed that receiving instruction actually lowered motivation, but only when no performance feedback was provided. When feedback was given, instruction did not decrease motivation; in this case, students remained interested and motivated.

The lesson for the expert teacher is that instruction must be coupled with meaningful feedback on performance. In another study, the experimenters changed how meaningful the context was by describing the activity's goals as either skill related or fantasy related. Instruction decreased interest in the fantasy-emphasis context but increased interest in the skill-emphasis context. Thus, when instruction matched perceived goals, students felt more positive while performing the task.

■ PERCEPTIONS OF ABILITY AS INFLUENCES ON ACHIEVEMENT As an example of the importance of perceptions of ability to achievement, consider the relationship between girls' and boys' SAT math scores and their attitudes about their competence in math. Girls and boys tend to have different perceptions about their abilities. Girls often believe they are less capable and boys often believe they are more capable in math. Research has shown that students who believe they are quite capable do better than predicted by their ability level, whereas students who believe they are not capable do less well than predicted by their ability level. In general, children with negative thoughts about their ability become distracted from learning, lose track of the details of their tasks, and sometimes become immobilized from further learning (Brown, Bransford, Ferrara, & Campione, 1983). Thus these children wind up getting less and less practice in the areas in which they need practice the most.

STEREOTYPE THREAT. A program of research by Claude Steele and his colleagues (1997b; Davies, Spencer, & Steele, 2005; Steele & Aronson, 1995; see also Aronson, Fried, & Good, 2002) has also looked at the issue of students' beliefs about their own competence. This research has focused on minority students' beliefs about their general academic competence, and female students' beliefs about their competence in mathematics. Steele has attempted to show that students' negative beliefs lower their performance. Before giving a tough math test to a group of boys and girls, he had the test administrator tell half of the students that girls and boys have equivalent performance on the test. The other half of the test-takers were given no information related to gender. Steele showed that girls' performance was substantially higher on the same test when they were told beforehand that girls perform the same as boys, compared to when girls were given no information about gender-related performance.

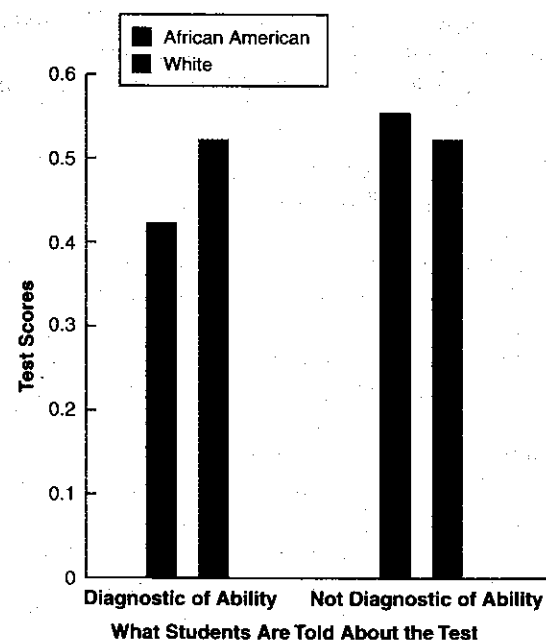
Steele explains the jump in girls' performance by suggesting that girls hold negative stereotypes about their mathematical ability. These stereotypes depress girls' performance on difficult math tests (only performance on difficult tests was assessed). When girls are told that past research has shown that on the particular test they are taking, girls perform the same as boys, then girls do not suffer from their negative stereotype, and their performance shoots up (Steele, 1997b). In this situation, Steele suggests, because the girls are told that girls do as well as boys, they are not hindered by their negative stereotypes. Steele labels this phenomenon *stereotype threat*.

In one of Steele's (1997a) studies on stereotype threat, African American and white students were given intellectual tests under two conditions: (1) *diagnostic*, in which they were told, "This test is a genuine test of your verbal abilities and limitations . . . and will help us in an analysis of your verbal ability"; and (2) *not diagnostic*, in which they were told, "This study is designed to better understand the psychological factors involved in solving verbal problems . . . Try hard even though we will not be evaluating your ability." Results showed that, after statistically controlling for differences in participants' SAT scores, African American subjects performed worse than white subjects when the test was presented as a measure of their ability (see Figure 10.3). Their performance improved dramatically—matching or even exceeding the performance of whites—when the test was presented as less reflective of ability (in which case the performance of whites decreased). Steele believes that when taking an intellectual test, African American students risk confirming as self-characteristic a negative stereotype of low intelligence. This vulnerability interferes with performance on tests because it causes anxiety, diverts attention to other concerns, and produces overcautiousness and self-indicting interpretations (in other words, "stereotype threat").

Many interesting studies have focused on the causes, consequences, and potential ways to reduce the effects of stereotype threat. Schmader and Johns (2003) found that stereotype threat works by reducing working memory capacity in threatened individuals. Cadinu, Maass, Rosabianca, and Kiesner (2005) found that the stereotype threat effect in women was linked to negative thinking. Osborne (2001) found that anxiety played a major role in explaining ethnic differences in academic performance, but that it was less important in explaining sex differences in mathematics achievement. Interventions have been found to be successful in increasing the performance of individuals of color and from low-socioeconomic-status (SES)

FIGURE 10.3 How Stereotype Threat Works

In the condition represented by the bars on the left, a group of African American and white students were told the intellectual test they were taking was diagnostic of their ability. In the condition represented by the bars on the right, another group of African American and white students were told the same test was not diagnostic of their ability. African American students' performance improved when they believed the test was not diagnostic of their ability.



Source: Steele (1997b).

backgrounds (see, for example, Ambady, Paik, Steele, Owen-Smith, & Mitchell, 2003). In some interventions, potentially vulnerable students are mentored and encouraged to either view intelligence as malleable or to attribute earlier academic difficulties to external factors (Good, Aronson, & Inzlicht, 2003).

PERCEPTIONS OF COMPETENCE AND PERCEPTIONS OF CONTROL OVER OUTCOMES. Researchers have also examined the role of perceived competence and control in students' preference for taking on a challenge (Boggiano, Main, & Katz, 1988). As part of this line of inquiry, they have investigated students' perceptions of their academic competence and their beliefs in their level of personal control over school-related performance. These perceptions and beliefs appear to affect students' intrinsic interest in and preference for challenge in a setting in which they would be evaluated. In one study, students with higher perceptions of their academic competence and personal control demonstrated more intrinsic interest in schoolwork and more preference for challenging school activities. When given an evaluative, controlling directive (e.g., "Your last three answers are not correct—try another sample problem and let me check your work before you go on to Chapter 3"), students who had high perceptions of their own academic competence and control preferred a greater challenge than did students who had lower perceptions of their academic competence and control. No difference between the groups of students in terms of preference for challenge was evident when no controlling directive was presented. Thus students' belief in their academic competence is important, as is their belief in their ability to control their school performance (Leondari & Gialams, 2002).

SELF-ESTEEM VERSUS SELF-EFFICACY

■ **SELF-ESTEEM** Self-esteem refers to the value a person places on himself or herself. Self-esteem is related to **self-concept**, or one's ideas about one's attributes and abilities. According to research by Harter (1990; Harter & Whitesell, 2003), people's self-concepts became increasingly differentiated as they explore their abilities and learn more skills. They may think highly of themselves in one of these differentiated areas, but not in another. Between the ages of four and seven, children can make reliable judgments about themselves in four personal domains: cognitive competence, physical ability, social ability, and behavioral conduct (Harter & Pike, 1984). By adulthood, people can rate themselves within 11 different domains of competency: intelligence, sense of humor, job competence, morality, athletic ability, physical appearance, sociability, intimacy, nurturance, adequacy as a provider, and household management (Messer & Harter, 1985).

Not only do our own judgments of ourselves affect our self-esteem, but other people's judgments of us do, too (Cooley, 1982). In general, children's perceptions of their ability become more modest and more accurate as they grow older (Frey & Ruble, 1987; Stipek, 1984). When self-perceptions are too modest and, therefore, inaccurate, problems sometimes result. Self-evaluations of low ability may lead to motivational problems, especially in older children (Rholes, Blackwell, Jordan, & Walters, 1980; see also Rholes, Jones, & Wade, 1988). Children who underestimate their abilities also seem to seek out less challenging tasks than do children who view their abilities more realistically (Harter, 1982, 1990). Children from low-SES backgrounds have been shown to display less positive self-perceptions in a number of life domains compared to higher-SES children (Muldoon, 2000).

Herbert and Stipek (2005) looked at the emergence of gender differences in children's perceptions of their academic competence from kindergarten through fifth grade. Children, their parents, and their teachers rated the children's competencies in math and reading. Math and reading skills were also assessed directly. Beginning in third grade, girls rated themselves as less competent in math than boys rated themselves. However, there was no gender difference in math achievement or in teachers' ratings of children's math ability. Parents rated boys' math competencies higher than girls' abilities in both third and fifth grades. Although girls outperformed boys on the reading achievement measure in third and fifth grade, and teachers' ratings of children's reading ability reflected this gender difference in performance, gender differences were not found in either parents' or children's ratings of

THINKING PRACTICALLY

Rate yourself in each of the 11 domains of competency, on a 1-to-10 scale in which 1 = extremely poor, 5 = average, and 10 = outstanding.

SUGGESTION: Think about how you perform in different types of situations for each of the domains. Compare your ratings with a classmate's.

their ability. Actual achievement and teachers' ratings both predicted children's judgments of their literacy skills. Parents' ratings of children's competence were a particularly strong predictor of children's judgments of their math skills.

Teachers cannot neglect the importance of self-perceptions, especially given that inaccurate self-perceptions guide how children handle both schoolwork and life outside of school (Phillips, 1984, 1987). For example, children who seriously underestimate themselves have low expectations for their success, believe that respected adults also take a dim view of their abilities, are reluctant to sustain effort in difficult tasks, and are more anxious about being evaluated than are other children (Phillips & Zimmerman, 1990). Often, the concept of self-esteem is described as though the effects of self-esteem are simple and straightforward. The converse is actually closer to the truth—in practice, self-esteem is multidimensional, complex, and influenced by numerous factors (DuBois & Hirsch, 2000). Helping students develop accurate self-perceptions is part of the way teachers help students mature and grow in their abilities. In one study of nearly 25,000 eighth-grade students followed through twelfth grade, Ross and Broh (2000) found that academic achievement in the eighth grade was associated with an internal locus of control in the tenth grade, which was also associated with academic achievement in the twelfth grade. Doing well in school at an earlier age and having supportive parents increased self-esteem. Having higher self-esteem did not improve either grades or test scores, however.

■ **SELF-EFFICACY** Self-efficacy refers to a person's belief in his or her ability to get things done. How does our belief in our own competence affect the likelihood that we will attain a particular goal? Self-efficacy theory emphasizes that our ability to achieve a goal is based on our belief as to whether we can achieve the goal (Bandura, 1986a, 1986b). People's expectations of self-efficacy can derive from a number of different sources: direct experience, interpretations of the experiences of others, what people tell them they are able to do, and others' assessment of their emotional or motivational state. In general, if someone has a higher degree of self-efficacy, then she or he is more likely to attain the outcome desired.

Students' level of self-efficacy can lead to self-fulfilling prophecies. When students believe they are able to do something, they are more likely to expend the effort and resources to do it, and thus eventually to achieve their objective. Indeed, Jim Jenson kept telling his students that they were capable of reading if only they applied themselves. One success leads to another, helping students to view themselves as being continually successful in maintaining the outcomes they desire. In contrast, if students have a low sense of self-efficacy, they may believe they are unable to succeed and, as a result, may hardly try. Not surprisingly, the result is failure, which then leads to the expectation of future failure. Expert teachers enhance students' self-efficacy by setting for the students realistic, highly specific, and attainable goals, and then helping them plan how to meet these goals (see Table 10.6).

IMPLICATIONS FOR TEACHING

- **Discourage students from blaming their failures on bad luck or other unfortunate situations.** Instead, encourage students to blame failures on lack of hard work. Model effective techniques by talking positively about your own school failures and their causes (and potential or actual solutions).
- **Encourage students to view success in school and in life as a result of hard work, not innate ability.** Point out that students who excel have often worked long and hard to earn their accomplishments. Make clear that this level of dedication applies to all their favorite athletes, writers, or performers. Make examples of hard workers, and ask these students to share their secrets for success with the class.
- **Emphasize that students can feel good about themselves as a result of meaningful accomplishments, both within and outside of the traditional school domain.** Discourage the idea that "everyone should feel good about herself or himself regardless of what she or he does." Stress the role of concrete, effective action rather than simply thinking good thoughts.

TABLE 10.6 A Lesson Plan for Helping Students Develop More Effective Conceptions of Intelligence

The goal of this lesson is to move students away from common misconceptions about intelligence and toward more productive attitudes. Although it can take a long time to change someone's attitude about intelligence, this lesson raises important questions and suggests the variety of ways that people can be talented.

Common Misconceptions

- Intelligence is a fixed thing that you either have or don't have.
- There is only one kind of intelligence—everyone who's smart is smart in the same way.

What to Do

1. Introduce the importance of thinking about intelligence. One possible way:
 - Part of your (the students') job this year will be to show me (the teacher) how you are smart.
 - This job will be easy because each of you is already smart in many different ways.
 - This job will not be so easy because you may not know how you are smart, how to demonstrate your abilities, or how to develop them.
 - Part of my job is to help you figure out what your strengths are and how to use them.
 - A good place to start is by thinking about what "smart" or "intelligent" means. Our own personal definitions of intelligence can influence how we think of ourselves and what we do—both in and out of school.
2. Give students a chance to think individually about intelligence by writing in journals or simply having a moment to think quietly before class discussion.
3. For a class discussion, ask students to describe particular people they think are very good at something. If they have trouble, you might ask them to think of relatives, friends, famous people, heroes—people they would want to be.

More Useful Conceptions

- Intelligence is something that you can improve through work, by thinking about yourself, and by monitoring your actions.
- There are many different ways to be intelligent—everyone is smart in some ways and not so smart in others.

4. Encourage diverse examples. If students focus mainly on academic talent, ask them to think of talented musicians, athletes, artists, actors, cooks, auto mechanics, and so on. Continuing for about ten minutes, ask students to talk about how each person is talented. What kind of intelligence does that person need to do what she or he does so well? You might keep track of the range of responses on a board.
5. Review students' ideas and have the class think about what it means to be intelligent.
6. Encourage the notion that intelligence is an ability to do things that we value and there are many different ways to be productive and talented. Also encourage the notion that people's abilities change and improve over time.
 - Can you think of people who are smart at one thing and terrible at another?
 - Can you remember when you could not do something that you are very good at now?
 - If someone does well in school, will that person do well in anything she or he tries?
7. Sum up what the class has said. Inform students that they will spend much of the year thinking about their own talents and improving how they work in school.

Source: From *Practical Intelligence for School* by W. M. Williams, T. Blythe, N. White, R. J. Sternberg, and H. I. Gardner. Copyright © 1996. Reprinted by permission of Allyn & Bacon.



Motivating Students with Special Needs

Once you have helped students set goals and develop effective self-concepts, these students will still face daily challenges in staying motivated. However, for some students, the typical and traditional methods of motivation aren't enough. Today's classrooms include many challenging students with special needs, and you are likely to encounter these students and be expected to motivate them from your first day on the job.

Modern-day teachers face many students who come from backgrounds that may place these students at a disadvantage for developing motivation. For example, students from single-parent families often need more motivation than they now tend to have (Bronfenbrenner, McClelland, Wethington, & Moen, 1996). Compared with other students, those from single-parent homes miss school more often, and on average are more pessimistic about the value of schooling and the value of planning for later life. Children from single-parent homes tend more often to be living within a lower-SES household; as a consequence, they tend to have a lower standard of living and to experience greater economic and other types of stresses, yet have fewer resources with which to overcome these obstacles (Weinraub, Horvath, & Gringlas, 2002).

Expert teachers are alert to the needs of students from single-parent families, who may require special assistance in developing motivation. Of course, children vary widely, and no one profile fits all children from single-parent families, just as no research findings predict the behavior of all children living in these families.

THINKING CREATIVELY

What advantages might students from single-parent households have compared to students from dual-parent households?

SUGGESTION: Children from single-parent households might be more independent and self-reliant; they might be more mature and exhibit more adult-like behaviors and skills. As a consequence, they might have better success in school.

Consider one finding about student motivation and achievement: Among high school seniors in the years 1990 to 1992, 22 percent of students coming from two-parent homes achieved an A grade-point average, whereas only 16 percent of students coming from families headed by a single mother did so. In other words, there is a 38 percent increase in the number of students who earn an A average when we compare two-parent homes to single-parent homes. Thirty percent of students from two-parent families had skipped one or more days of school in a four-week period, 34 percent of students from families headed by a single mother had done so, and 37 percent of students from other nontraditional family structures had done so.

In general, students' motivation to plan for the future has declined since 1980 (White & Wethington, 1996). This decline has been associated with a widening gap in which students from single-parent families are becoming even less motivated to plan for the future. However, the more education a student's mother has, the more likely student is to believe in the value of planning for the future (White & Wethington, 1996). In an examination of a nationally representative sample of Hispanic students, Battle (2002) found that socioeconomic status was much more important to educational achievement than family configuration, such as whether students lived with a single parent or both parents. In a series of analyses, Jeynes (1999, 2000) found that the effects of family structure on academic achievement vary considerably among the most common family structures. For children living with a cohabiting (unmarried) couple or a remarried widower, achievement is negatively affected. Thus researchers have not found support for the common assumption that children of divorced parents living with one parent are worse off than are children living with a reconstituted family.

Consider another finding that shows the relationship between parental/family involvement and patterns of student motivation and achievement. Ginsburg and Bronstein (1993; see also Bronstein, Ginsburg, & Herrera, 2005) looked at family factors related to students' intrinsic/extrinsic motivational orientation and academic performance. Students with an extrinsic motivational style who earned lower grades were likely to have parents who policed their homework. These students were also likely to have parents who maintained either too much or too little control over their children. These parents were often not involved meaningfully in students' school performances and tended to use extrinsic rewards to motivate their children. In contrast, students with an intrinsic motivational style were likely to have received parental encouragement in response to their grades. Intrinsically motivated students were likely to have higher academic performance and to have parents who exerted less control and supported reasonable independence in their children. In general, expert teachers remember that there are numerous, complex, interacting factors that influence student motivation and achievement.

**■ MOTIVATING STUDENTS FROM LOW-SOCIOECONOMIC-STATUS BACK-
GROUNDS** Antonio Roazzi (1988) examined which incentives work to motivate children from different socioeconomic groups. He gave children tough paper-and-pencil tasks to complete under one of three conditions: verbal reinforcement ("That's great!"), a modest financial reinforcement, or gustatory reinforcement (a chocolate bar). Roazzi found that the effects of incentives varied by social class. For middle-class students, verbal reinforcement was just as effective as the other two types of reinforcement. For lower-SES students, however, verbal reinforcement was not as effective. (It is possible that teachers from higher-SES groups may have trouble choosing the most effective verbal reinforcements for lower-SES students, and may also have trouble earning the respect of lower-SES students in general.) Chapter 6 discusses the implications of social class for teachers in more detail.

The teacher of lower-SES students must realize that the teaching tips that work to motivate middle-class students may sometimes need to be adjusted to motivate low-SES students. When working with hard-to-motivate students of any type, expert teachers know they must begin by determining what really matters to each student. Knowing what is most important to a student enables a teacher to choose the incentive or reward that is most motivating (McCombs & Pope, 1994).

Students from disadvantaged social, ethnic, and cultural groups may sometimes benefit from an extra dose of motivation to enable them to overcome obstacles that may keep them from succeeding in the mainstream culture. These students must often work harder than their nondisadvantaged counterparts to succeed equally well. A key finding about ways to motivate low-SES minority children comes from work by Zena Blau (1981) with inner-city Chicago children. Blau found that the children who were motivated enough to escape the cycle of poverty had in common one educated adult in their lives—teacher, parent, friend, or other role model—with an educational focus (i.e., someone who heavily stressed the value of education). Even if the children's parents themselves were not well educated, her research showed that a single educated adult who provided mentoring and role modeling helped these children turn their lives around. Interacting with one person with an educational focus was essential to the child's outcome. Expert teachers remember this critical role they can play in their students' lives every day.

■ MOTIVATING STUDENTS IN SPECIAL EDUCATION PROGRAMS Students in special education programs represent another type of challenge, depending on the specific disability and learning issues they possess (Rankin-Erickson & Pressley, 2000). One popular method for dealing with special education students is to set incremental goals. As an illustration of how motivation can be increased through the use of incremental goals, consider the programs created for students with special needs. In Chapter 5, which focused on exceptional children, we discussed the use of individualized educational plans (IEPs), as mandated by Public Law 94-142, the Education for All Handicapped Children Act. These IEPs are created by the teacher in consultation with the child and parents, and they specify the child's learning and performance goals. The plans begin with global statements about what the student will attempt to achieve in a given year. Next, the plans provide incremental and specific goals for achieving the plan. These goals are spelled out in sequential steps that identify individual behaviors and performances for each step. Once the student works through the steps, he or she has accomplished the overarching goals for the term or year.



In order to improve his fine motor skills, a teacher encourages a young child with disabilities to paint. Motivation is particularly important to children with mental and physical challenges. Expert teachers understand how important it is to use incremental goals to motivate students and to make every task seem reachable.