

Chapter 7

Motivation and Classroom Learning

This chapter will help you answer the following questions about your learners:

- How can I help my learners interpret their classroom setbacks in ways that elicit renewed effort?
- What are some things teachers say to learners that can lower their motivation to succeed?
- How can learning strategies improve my students' motivation to learn?
- How can I convey to my students the motivation to say “Yes, I can do what my teacher expects”?
- How can I enhance my learners' determination to learn what I teach?
- How can I use project-based learning to motivate my learners?

In this chapter you will also learn the meanings of these terms:

antecedents

attribution theory

causal schemata

deficiency/growth needs theory

drive theory

instinct theory

intrinsic motivation

locus of causality

project-based learning

self-determination theory

self-efficacy theory

situational cues

Behavioral and cognitive psychologists agree that motivation is essential for learning. Yet how to motivate learners in the classroom continues to be one of the most puzzling problems confronting the teacher. Let's look in on Professor Thomas's learning seminar as his students discuss the topic of motivation.

Betty: Well, it seems to me that motivation is becoming the scapegoat for all learning failures. That's all I hear at school ... "These kids just aren't motivated" or "This kid just hasn't any motivation." And all the other teachers nod as if something profound has been said.

Roselia: I don't understand your problem with that. I say the same thing every day after my fourth-period class. Those kids just aren't motivated!

Betty: What gets to me is that I hear teachers talking about motivation as if they haven't any responsibility for it, or they believe it's inherited.

Kyle: I agree. We have to look at motivation as something affected by what we do and not as something out of our control.

Professor Thomas: So you agree with the behavioral science tradition on motivation?

Kyle: To the extent that it says a learner's motivation is under our control, yes. But the behaviorists view motivation as something we impose on the

person through reinforcement and, if necessary, punishment. I see it as more cognitive.

Leon: So you think it's all inside the person.

Kyle: Not in the sense that we're born with it. To me motivation is how a child thinks about goals, and about his ability to reach them. As teachers, we can influence that.

Janet: But that makes motivation sound so cold and mechanistic. Motivated people have a kind of energy that seems to come from inside them.

Motivation isn't just knowing where you want to go and believing you can do it. It's also having the power and vigor to get there.

Professor Thomas: Is this something a teacher can give a learner? And if so, how?

Is motivation an inherited trait like one of the three temperaments (activity, adaptability, emotionality) that we discussed in Chapter 3? Or is motivation influenced by reinforcement and consequences that strengthen some behaviors and weaken others? Is the key to motivating learners a lesson plan that captures their interest and attention? In other words, is motivation something innate that we are born with that can be strengthened by reinforcers external to the learning task, or is it something interwoven with the learning process itself? In Chapter 4 we studied how behavior can be created and strengthened by reinforcers external to the learning task. In this chapter we will focus our attention on intrinsic motivation.

Intrinsic motivation influences learners to choose a task, get energized about it, and persist until they accomplish it successfully, regardless of whether it brings an immediate reward. Intrinsic motivation is present when learners actively seek out and participate in activities without having to be rewarded by materials or activities outside the learning task. The first-grader who practices handwriting

because she likes to see neat, legible letters like those displayed on the letter chart is intrinsically motivated. The fourth-grader who puts together puzzles of states and countries because she likes to see the finished product and wants to learn the names of the capital cities is intrinsically motivated. The ninth-grader who repeats typing drills because he likes the feel of his fingers hopping across the keys, and connects that sense with the sight of correctly spelled words on the page, has intrinsic motivation.

In this chapter we will present a framework for understanding intrinsic motivation and then link this framework to classroom strategies for building it. First, we will describe some early motivational theories that make use of the person-as-machine metaphor. Not all of these theories apply to the classroom, but learning about them will show you how different theorists have approached the problem of motivation. You are sure to find some elements of your own thinking about motivation in each of them.

Next we will examine the current cognitive approaches, which view motivation from the vantage point of the person-as-rational-thinker metaphor. Cognitive motivation theories share strong ties with cognitive learning theories. We will examine two cognitive motivation theories, *attribution theory* and *self-efficacy theory*. Both emphasize that learners need to know, understand, and appreciate what they are doing in order to become motivated. Then, along with these cognitive motivation theories, we will examine a motivational perspective called *self-determination theory*, which attempts to reconcile cognitive theory's emphasis on intrinsic motivation with more traditional notions of human needs and drives. Finally, in the last section of this chapter, you will learn to use an approach to teaching and learning called *project-based learning*, which employs the principles of intrinsic motivation to energize learners.

Before we begin, consider the two most obvious features of the behavior of motivated learners: energy and determination. Motivated learners have more than just a vision of a goal they want to achieve. They have a passion or interest for achieving that goal. Motivated learners initiate actions, expend effort, and persist in that effort. As you become acquainted with the various theories, think about how they apply to your learners and keep this question in mind: How can this theory account for the energy and direction of a motivated learner?

Person-as-Machine: Biobehavioral Motivation Theories

Teacher: Now Jared, do you see why we have to do this stuff?

Jared: It's boring. I really don't care about all this stuff!

Teacher: Jared, do you care about passing this course?

Jared: Is that a threat?

Teacher: Jared, when I was in high school, I had a teacher who said there are only two things in life that are required.

Jared: School is one of them, right?

Teacher: No, death and taxes. You gotta die and you gotta pay taxes. Everything else is optional.

Jared: So you mean I don't have to do this stuff?

Teacher: You don't have to do this stuff. You don't have to read the paper and know what's going on in the world. You don't have to graduate from high school. You don't have to get a job.

Jared: Brother...

Teacher: I'll be happy to help you if you want help.

Jared: I get it. I'll do it! (Adapted from Nehring, 1989, pp. 39–40)

How to win the hearts and minds of learners has been a concern of educational psychologists since the foundation of their science. In any given classroom, some

learners will participate enthusiastically while others will not, but the explanation for this disparity is not always apparent. Over the years educational psychologists have used the term “motivation” to account for variations in the energy and direction of learners’ behavior. But as we will see, motivation means very different things to different psychologists.

Since no one has ever seen, touched, or weighed motivation, educational psychologists typically use metaphors to help them describe this phenomenon. The use of metaphors to describe complicated mental phenomena is familiar to you from earlier chapters of this book: Piaget uses the “balance” metaphor to help explain cognitive development, and cognitive psychologists use the metaphor of the mind as an information processing system. Likewise, various other metaphors have been the principal source of motivation theory and research (Weiner, 1991).

The earliest theories of motivation assumed that the forces that give energy and direction to human behavior were beyond human control. These theories propose that either internal or external forces beyond our control cause people to display motivated or unmotivated behavior. Weiner (1991) proposes “person-as-machine” as a metaphor for describing these theories.

According to Weiner, the person-as-machine metaphor has the following attributes:

- Machines have parts (a structure).
- There is a desired end or function.
- The whole functions as a unit of mutually interacting parts to reach this end.
- The behaviors are involuntary, or without volition. Hence, the actions are like reflexes.
- The behaviors are performed without conscious awareness.

- The reactions are necessary or predetermined by a set of circumstances or activating stimuli.
- The actions are fixed and routine.
- Forces and energy are transmitted. The forces may be in balance or equilibrium (no tendency to change), or out of balance, promoting a tendency toward change. (Weiner, 1991, p. 922)

By categorizing certain theories of motivation under the person-as-machine metaphor, Weiner alerts us to various distinctive characteristics pertaining to human motivation. The theories that make use of this metaphor include *instinct theory*, *drive theory*, and *deficiency-growth needs theory* (Zimbardo, 1996). Let's look at what each of these theories has to say about motivation.

Instinct Theory

Instinct theory was the earliest theory of motivation. *Instincts* are inherited, unlearned forces that help all species survive. Animals like salmon, bears, and turtles are preprogrammed at birth to engage in specific instinctive reproductive and feeding patterns. For example, salmon instinctively return to the same stream in which they were spawned to lay their eggs.

Humans are also born with instincts. The extent to which these instincts are under conscious control has been a subject of vigorous debate. Psychologists like William McDougall (1908) saw instincts as volitional and purposive:

The human mind has certain innate or inherited tendencies which are the essential springs or motive powers of all thought and action, whether individual or collective, and are the bases from which the character and will of individuals and of nations are gradually developed....(p. 20)

McDougall states that instincts are inherited tendencies whose characteristics are *energy, direction, and action*.

Freud (1915) disagreed. According to Freud, instincts are neither conscious nor predetermined. They exist to satisfy biological needs and create a certain psychic energy or tension within the individual. This energy is bottled up, under pressure, like steam in a steam engine. It seeks release by driving us to pursue satisfactory (usually sexual) objects. Freud saw life as a struggle between the primal instincts of life (Eros) and death (Thanatos). Followers of Freud, as well as other psychologists, identified thousands of specific instincts by the 1920s (Bernard, 1924).

Instinct theory came under heavy attack in the 1920s and 1930s, especially from cultural anthropologists. These scientists pointed out that what were assumed to be human instincts were really cultural—or learned—patterns of behavior (Benedict, 1959; Mead, 1939). Instinct theory was soon replaced by drive theory as the principal explanation for the energy and direction of human action.

Drive Theory

Clark Hull is the psychologist principally identified with **drive theory** (Hull, 1943). *Drives*, according to Hull, are of two types: primary and acquired. *Primary drives* are forces within the individual that are triggered by biological needs such as hunger and thirst. These drives produce random activity (recall Skinner's animal experiments, described in Chapter 4). This activity is essentially directionless until the need is satisfied. Whatever behavior satisfies the need eventually becomes learned as a habit through the processes of drive reduction and reinforcement.

Acquired drives include desires for money, for love, to play sports, to write, or to create music. They do not spring from a biological need. Rather, they are

acquired through a process of association with a primary drive. Drive theory assumes that almost all psychological motives are acquired drives.

Hull believed that all activity is directed toward reducing the tension triggered by needs and drives. Drive reduction, therefore, is the psychological mechanism underlying both activity and learning. Whatever behavior results in lessening the tension (and consequently the drive) will be repeated until it becomes habitual.

The drive theory of motivation provides the foundation for behavioral learning theory and, unlike instinct theory, still has its proponents. Extrinsic reinforcers (for example, money or good grades) are viewed as incentives that activate acquired drives. The behavior that is instrumental in getting each incentive is learned through a combination of both drive reduction and reinforcement processes.

Deficiency/Growth Needs Theory

Abraham Maslow's perspective on motivation, **deficiency/growth needs theory**, has both similarities to, and differences from, instinct and drive theory. Like the originators of those theories, Maslow proposes that people are born with innate needs that they strive to satisfy. However, in contrast to Freud and Hull, Maslow (1943, 1970) believes that the ultimate direction of this energy is not simply satisfaction of biological needs or tension reduction but a striving for self-actualization. Consequently, his theory accentuates the positive, intellectual, uplifting (not simply hedonistic) side of human beings. For Maslow, innate forces and an innate hierarchy of needs (both deficiency needs and growth needs) give human behavior its distinctive energy and direction. Figure 7.1 illustrates Maslow's hierarchy of growth and deficiency needs, which range from primitive physiological requirements to complex aesthetic and cognitive needs, which Maslow calls *self-actualization*.

Summary

Instinct, drive, and deficiency/growth motivation theories use the machine metaphor to describe motivated behavior. These theories agree that humans, for the most part, give energy and direction to their own behaviors without thinking about it. Instinctual, inherited needs present at birth give behavior its direction. The drive to satisfy these needs explains how behavior becomes energized. Individuals are largely unaware of these two aspects of behavior.

Person-as-Rational-Thinker: Cognitive Motivational Theories

Early motivation theories, such as those just described, use biological and mechanical concepts including drives, energy, tension, and forces to explain the energy and direction of behavior. They present a picture of humans as passive and reactive, at the mercy of internal forces (needs and drives) or external forces (reinforcement and punishment) that they cannot control.

These mechanistic theories have been replaced in the last few decades by theories that use the person-as-rational-thinker metaphor (Weiner, 1980). The two principal examples of these theories are **attribution theory**, developed by Heider (1960), Kelly (1967), and Weiner (1986), and **self-efficacy theory**, whose major proponents are Bandura (1977a, 1982a) and Schunk (1991). Both of these theories posit that motivated behavior can be best explained by reference to conscious cognitive processes involving the ability to anticipate goals and rewards and to the use of judgment, evaluation, and decision making rather than unconscious biological or mechanical processes. Hence, they use the person-as-rational-thinker metaphor. They also allow us to draw parallels with the cognitive theories that we studied in the previous chapters.

Attribution Theory

At this point in your life—if you're like everyone else—you've succeeded at some things and failed at others. Think about one of your more recent successes or triumphs. Were you successful because you really made an effort, had the ability, were lucky, or exercised some combination of the above? Another way to ask this question is this: Do you attribute your success to internal forces (effort, ability) or external forces (luck)?

Now think of one of your failures. Did you fail because you didn't work as hard as you should have, lacked the ability, simply ran into bad luck or difficulties you had no control over, or some combination of these? In other words, do you take personal responsibility for your failure or blame it on someone or something else?

Proponents of attribution theory, like Bernard Weiner (1986), begin their analysis of motivation with the assumption that people inevitably seek to understand why they succeed or fail. In doing so they attribute their accomplishments or losses to a host of antecedents: good or bad luck, difficult or easy tasks, supportive or unfriendly people, their own hard work or lack thereof, or the degree to which they possess certain abilities. These antecedents are classified in Figure 7.2 as (1) locus of causality, (2) stability, and (3) controllability.

Locus of causality refers to the origin of the cause or causes to which people attribute success or failure. The origin can be either within or outside the person. Effort and ability are internal causes—they originate from within the person. The amount of energy a person expends to accomplish a goal is under that person's control. Innate ability also comes from within and is relatively immune to outside influence. People who attribute their success or failure to either of these two causes are said to be *internally oriented*.

Luck or degree of task difficulty are the typical external causes to which we attribute success or failure. If you believe you passed your last exam because it was easy (degree of difficulty) or because the professor just happened to choose questions you had studied (luck), you are using external causes to account for your success. Similarly, if a girl attributes her failure to make the baseball team to bad weather (luck) or the weight of the baseball bat (degree of difficulty), she is using external causes for her failure. Should this be a persistent feature of her thinking, we would label her locus of causality *externally oriented*.

Stability is another dimension of causal attributes. Some causal attributes can be changed, while others cannot. You can change the amount of effort you put into a task; you can get more help; you can study a different way. These are changeable attributes. However, if you attribute failure to your lack of innate ability you implicate a cause that is relatively unchangeable and stable.

The final dimension is *controllability*. Sometimes we attribute success or failure to antecedents that are out of our control. IQ is an example of an uncontrollable cause. So is luck. Effort, on the other hand, is something we have control over.

As you can see, attributes can be classified along all three dimensions. Luck, therefore, is an uncontrollable, unstable, external cause of success or failure, while effort is a controllable, stable, internal cause of success or failure (refer to Figure 7.2).

Attributions and Motivated Behavior. You are probably asking yourself what these causes of success or failure have to do with motivation. Weiner believes that your causal attributions affect your future efforts to succeed at any given task. According to Weiner, your attributions produce both emotional reactions regarding your future performance and expectations for success or failure. These

emotional reactions and expectations explain both the energy and direction that characterize your motivated behavior. Figure 7.3 depicts Weiner's attributional model of motivation.

Attribution theory implies that the energy that drives motivated behavior comes from two sources: (1) an inherited, biologically based drive to achieve success and avoid failure (Atkinson, 1957, 1964); and (2) an emotional reaction to your cognitive appraisal of past achievements and defeats. These emotional reactions affect subsequent behavior. They either energize or restart efforts to achieve.

The direction of motivated behavior—the goals or accomplishments you pursue—derives from the following factors:

- past experiences with tasks
- the causal attribution of success or failure that you made during these tasks
- your expectations about what is likely to happen the next time you face a similar situation

For example, consider Evelyn, an eleventh-grader who is being encouraged by her teacher to take a course in calculus. Evelyn likes to try new things. She likes challenges. Her parents describe her as always having had a strong need to please and to achieve. She consistently earns high grades on both classroom and standardized math tests. Evelyn, however, is reluctant to take the course, and this puzzles both her parents and her teacher.

As it turns out, she took an advanced level algebra class in tenth grade and earned a C. She found the work difficult, and it required skills she had not learned in ninth-grade algebra. Furthermore, the teacher graded on a curve, and there were many eleventh- and twelfth-grade learners in the class. The tests were

multiple choice, and Evelyn dislikes multiple-choice tests, believing they give an advantage to the good guesser over the good thinker.

Evelyn attributed her low grades to two causes: task difficulty and luck. The work was hard and so were the tests. In addition, she was unfortunately matched against older and better-prepared learners. Moreover, Evelyn felt that the tests rewarded good guessing (luck), and she considered herself a poor guesser. She felt discouraged, frustrated, and angry.

In deciding whether to take calculus, Evelyn didn't see how things would be much different. She felt unprepared for such a tough course. Some of her friends from last year had failed it. She believed the grading system and tests would be the same this year.

Weiner believes that Evelyn's feelings of anger and discouragement and her low expectations for success are the direct result of her causal attributions, not of the situation itself. Evelyn attributed her C grade to causes that were uncontrollable, unstable, and external (luck, task difficulty). Given these attributions for failure, it is no wonder that she was reluctant and unmotivated to try calculus.

Two issues arise from Evelyn's predicament. First, what leads learners like Evelyn to decide whether effort or ability, luck or task difficulty, and circumstances outside or within their control are the causes of success or failure? What are they looking at, perceiving, or sensing that influences their choice of attributions? Second, since causal inferences affect learner motivation, what can you do to influence them? As we will see, answering the first question provides clues to the second.

Antecedents of Causal Attributions. As we have pointed out, people are naturally curious about **antecedents** behind their success or failure. School learners are

especially interested in this question and typically assign blame or credit to task difficulty (“That teacher is easy” or “He never passes anyone”), effort (“I was too tired to study”), luck (“I guess I studied the right things”), or mood (“I had a fight with my girlfriend and couldn’t concentrate”) (Bar-Tal, 1979).

How do learners decide what causes them to pass or fail tests, get A’s, C’s, or F’s on assignments, or receive good or poor course grades? On what basis do they assign success or failure to internal or external causes, stable or unstable characteristics, and controllable or uncontrollable factors? Weiner (1977) maintains that learners’ attributions spring from three general sources of information: (1) *situational cues*, (2) prior beliefs, or *causal schemata*, and (3) *self-perceptions*.

Situational Cues. In any learning task, a variety of environmental factors, or **situational cues**, help learners decide why they did well or poorly. One such cue is past experience with that task. If a learner has consistently done well on spelling assignments or word problems in math, she is more likely to attribute her success to ability (which is internal, stable, and uncontrollable) than to luck. A prior record of consistent failure will produce the same attribution. By the same token, a learner with a history of getting A’s, C’s, and F’s on compositions will probably decide that luck or effort, more than ability or task difficulty, is behind his accomplishments.

Learners also note their own performance success and that of their peers when deciding why they succeeded or failed. A sixth-grader who usually gets good grades on geography tests will say that strong ability is behind her high grade on the last quiz. Conversely, if this same learner got a low grade on that quiz, as did most of her peers, she would likely attribute this to the difficulty of the test (external, stable, uncontrollable).

A third cue that learners use to explain their accomplishments is time-on-task. A ninth-grader who spent the weekend preparing for an English test and worked diligently throughout the exam period will probably conclude that his A was due to effort (internal, unstable, controllable). If this same learner got an A without studying, he might say that the test was easy (external, stable, uncontrollable).

Finally, learners note how much help they received during the task when assigning attributions for the achievement. A learner who cheated on a test and received an A would not credit ability as the causal factor, nor would the learner who received a blue ribbon for a science project that was largely the work of an older brother.

Causal Schemata. We often hear the following expressions and may in fact believe them:

Success is 10 percent inspiration and 90 percent perspiration.

Nothing comes easy.

A fool blames failure on others, a wise man on himself.

We all have certain **causal schemata**, or enduring beliefs about success and failure. We acquire them in a variety of ways—through experience, reading, listening to parents and teachers, or absorbing the wise sayings of renowned thinkers. Some learners believe that effort, not ability, is the key to success; others believe just the opposite.

Weiner (1977) asserts that attributions for success and failure depend not only on situational factors but also on the enduring beliefs learners have about what underlies achievement. Consider the student who never studies (or who we believe never studies) and gets A's on all his tests. We inevitably attribute this to natural ability, native intelligence, or IQ. It couldn't have been due to effort, we assume, because the person doesn't appear to have exerted any. By the same token, we

perceive that the learner whose exceptional efforts consistently produce unexceptional results lacks ability. The learner herself may believe this.

Self-perceptions. In addition to situational factors and cognitive beliefs, learners also incorporate *self-perceptions* into their decisions about causal attributions.

Learners high in self-esteem typically say that effort or ability, rather than luck or task difficulty, is the root of their success (Ames & Ames, 1984). Students high in achievement motivation usually identify effort as the key to success, while those low in this quality blame failure on luck or task difficulty.

We have identified three antecedents of the causal attributions of your learners: situation, causal schemata, and self-perception factors. Since Weiner's research demonstrates that causal attributions affect achievement behavior, and because these attributions stem from the three antecedents just given, the issue of what you can do to influence your learners' causal attributions naturally arises. Let's turn, therefore, to what attribution theory has to say about your role in motivating learners.

Teacher Influence on Attributions. Attribution theory and research tell us that the causal attributions your learners make about their accomplishments have important consequences.

- They affect future learners' expectations for accomplishing learning goals.
- They engender emotional reactions such as anger (when failure is attributed to luck), guilt or shame (when failure is attributed to effort), or discouragement (when failure is attributed to lack of ability).

- They contribute to self-esteem. Learners feel good when hard work produces success or when they believe they have a natural ability for some task.
- They affect the classroom behavior of learners.

Consequently, you will want to do everything in your power to ensure that learners attribute their classroom accomplishments and setbacks in ways that elicit effort rather than discouragement. You can accomplish this in five ways.

- Recognize that your behavior conveys attributional information to your learners and carefully monitor the attributional messages you send.
- Focus on learning strategies.
- Refrain from grouping that promotes ability as the only source of success.
- Set up instructional arrangements that promote cooperation.
- Teach realistic goal setting.

Let's examine each of these responsibilities.

Monitor Your Attributional Messages. Although ability is an internal attribute of success, it is also an uncontrollable and stable one. Immediate effort, on the other hand, is not only internal but also unstable and controllable. In other words, effort is a cause of success that a learner can do something about. Clearly, then, it is in both the teacher's and the learner's best interests to stress the role of effort over ability in achievement. Nevertheless, many teachers inadvertently communicate the opposite, particularly to low achievers.

Here are some examples:

Mr. Barker teaches seventh-grade reading. He wants his low achievers to experience success. However, their reading level is several years below that

required by

their reading text. He has brought fourth- and fifth-grade materials into class and given them to his slower learners. He then lavishly praises these students for correctly reading the words and answering the easy comprehension questions that follow.

Mrs. Johnson likes to challenge her learners by throwing out thought-provoking questions as she lectures and explains. She is hesitant to ask such questions of her low achievers out of concern over embarrassing them in front of the group. As a result, she has inadvertently fallen into the noticeable (to all her learners) habit of asking only yes/no questions to this group or giving them the answers when they hesitate, rather than probing, and rephrasing questions, as she does for the higher achievers.

Mr. Nkruma doesn't want his learners to doubt their ability at math, particularly those who are struggling. He wants them to believe that if they only make an effort, they can succeed. But in his concern to protect his learners from the consequences of failure, he makes excuses for them when they do poorly on tests or answer questions incorrectly in class. For example, he'll say things like "I'm sorry that you didn't do as well as you hoped," "I guess you studied the wrong material," "This was an unusually hard test," or "I probably didn't allow enough time for this test" to his learners when going over their work.

According to Good and Brophy (1991), teachers who, however well intentioned, express sympathy at their learners' failure, show surprise at their success, give excessive unsolicited help, or lavishly praise success on easy tasks are

telling students that they lack ability. As McQueen (1992) points out in her discussions with low achievers, these students are painfully aware what the teacher's behavior is suggesting.

Ginott (1972) advocates that teachers practice *congruent communication* when giving feedback to learners about their achievements. An important aspect of this type of communication is the use of encouragement instead of praise. According to Ginott, encouragement has the following attributes:

- Encouraging statements are directed at a student's actions—not at his or her character or person: “Your answers show thought,” not “You are a good thinker.”
- Encouraging statements reflect an accurate or honest evaluation of learner performance: “Your answers to these questions are too brief and need to show more thought. The other answers are thorough, thoughtful, and show understanding of the material,” not “Some of your answers are fantastic. All of them show real effort,” or “I feel bad that you got such a low grade.”
- Encouraging statements help learners believe in themselves and their own ability: “Your handwriting is much improved. I appreciate the effort you're putting into it,” not “Here's a happy face for that neat work.”
- Encouraging statements attribute learner achievement to internal rather than external factors: “You have good ideas; you should want people to understand them. That's why it's important to write clearly,” not “Write grammatically correct sentences or else I'll take off a point for each mistake.”

Although as a general rule you should behave as if you value effort more than ability, Spaulding (1992) advocates that teachers exercise some caution. Her

reasoning is that learners who believe that their success depends almost entirely on effort may begin to doubt their ability. For example, a student may believe that learners who are competent or who have ability don't have to try very hard to succeed. But since she has to spend several hours every night practicing French in order to get good grades, she concludes that she has little ability. This reasoning may influence her to drop the study of a foreign language from her plans even though she has a genuine interest in this area.

Hermine Marshall believes that teachers who believe that lack of success should be attributed to lack of effort may cause learners to feel frustrated and hopeless (ASCD Update, 1992). She raises the issue of what to say to the child who is trying as hard as he can but not succeeding. Do you continue to imply that he's not working hard enough?

Spaulding (1992) recommends that teachers help learners understand the connection between effort and ability rather than lead them to believe that learning depends almost exclusively on either one. According to Spaulding, learners must realize that abilities are fluid. While abilities may give certain learners initial advantages, effort helps them develop. Marshall (1990) urges teachers to focus learners on the cognitive processes or strategies they use to accomplish a task, rather than putting undue emphasis on effort.

Focus on Learning Strategies. As we saw in the last chapter, cognitive approaches to learning place as much emphasis on the processes of learning as on the outcomes. This is also true of cognitive approaches to motivation. Attribution theory, in particular, stresses that teachers point out what learners are doing during the process of learning and not just what they have accomplished.

For example, from Chapter 5 we know that attention, rehearsal, self-questioning, notetaking, practice, review, discussion, and numerous other strategies that learners engage in during instruction are important for acquiring

knowledge. When you give feedback or encouragement to learners during your lessons, you should take particular pains to point out not only what they learned but what they did to accomplish it.

Similarly, when giving feedback to learners who are performing poorly, ask your learners how they came up with their answers. Marshall (ASCD Update, 1992) believes that focusing on strategies is an “attitude that teachers need to develop.” She states that doing so accomplishes two things: (1) it reveals the thought processes of learners; and (2) it conveys to them that the process, as well as the product, is important. This puts the focus on learning and not just on coming up with the correct answer.

Refrain from Grouping that Exclusively Promotes Ability. Learners are acutely aware of, and often puzzled by, both school-wide and classroom ability grouping arrangements. Such arrangements can suggest that teachers value ability exclusive of effort. This perception on the part of learners inevitably affects their expectations of themselves, which may lead them to see no value in hard work. Attribution theory highlights a disadvantage of some types of ability grouping that may influence learners to assign greater importance for learning to ability (something they have less control over) in relation to effort or the use of learning strategies (something they have much control over) (Good & Brophy, 1991).

Promote Cooperation over Competition. In Chapter 8 we will discuss the importance of promoting cooperation among class members to build group cohesiveness. Teachers who make concerted efforts to build group cohesiveness often use a type of instructional arrangement called *cooperative learning* (Cohen, 1986; Slavin, 1987, 1990b, 1991). As we saw in Chapter 6, cooperative learning lessons assign students of varying abilities, ethnicity, and of both genders to small groups that pursue common goals together. Each member is given a role to

play—one member may function as a recorder, another as a researcher, still another as a summarizer—in order to foster the group's goal.

We will return to cooperative learning arrangements and their advantages for teaching heterogeneously grouped learners in later chapters. For now, we wish to point out that in terms of causal attributions for success or failure, cooperative learning arrangements emphasize the importance of learning processes and effort at least as much as ability (Cohen, 1986; Slavin, 1990b; Spaulding, 1992). In competitive learning arrangements, on the other hand, students work alone to achieve grades and rewards, and thus tend to emphasize ability over effort and learning processes (Maehr & Midgley, 1991). Research suggests that competitive arrangements diminish intrinsic motivation (Blumenfeld et al., 1991).

Teach Realistic Goal Setting. Attribution theory tells us that learners should believe that their efforts to learn and master new tasks will not be in vain. The likelihood of this depends to a large extent on whether their goals are realistic. Failure to meet goals that are unrealistic may cause learners to doubt their abilities and to approach the learning task with a lessened commitment to learning.

Teaching learners how to set realistic goals, therefore, is an important aspect of any instructional program that aims to build intrinsic motivation. Goal setting and the beliefs of learners in their ability to achieve goals are principal elements of the next motivation theory we will discuss, the self-efficacy theory.

Summary. Attribution theory holds that the key to understanding learners' motivations for achievement can be found by analyzing their assumptions about what causes their success or failure. Additionally, this theory tells us that the most direct way to enhance learners' intrinsic motivation is to teach in ways that convince learners that success is largely due to factors under their control.

Teachers influence causal attributions that energize and give direction to learner behavior by:

- carefully monitoring their attributional messages
- focusing on learning strategies
- refraining from ability grouping
- promoting cooperation among learners
- helping learners set realistic goals.

Self-efficacy Theory

The best-laid plans never work out. At least mine didn't. Not that first semester anyway. I thought through all the things I was taught in my education classes: clear objectives, hands-on material, guided practice, performance assessments...but my lessons bombed. Most of the kids in my seventh grade showed no interest in my lessons. Now I know why. They were too difficult, and the kids knew it. Everyone knew it but me. Now I plan my lessons with one thing in mind. When I tell the class what we will be doing, I want everyone to say "I'm good enough at this to do what the teacher wants." (Author, personal experience)

Self-efficacy theory holds that intrinsic motivation for academic tasks depends on learners giving a resounding "Yes!" to the question "Am I good enough to do what the teacher wants?" Bandura, one of the principal founders of self-efficacy theory, defines *self-efficacy* as "people's judgments of their capabilities to organize and execute courses of actions required to attain designated types of performance" (Bandura, 1986, p. 391). Bandura believes that learners initiate, work hard during, and persist longer at tasks they judge they are good at. This judgment is what Bandura refers to when he uses the term *self-efficacy*.

Self-efficacy is not a personality trait or disposition. There is no such thing as a self-efficacious person. It is not a biological drive or a psychological need. Instead, it is an appraisal or evaluation that a person makes about his or her personal competence to succeed at a particular task. Self-efficacy, therefore, is situation-specific. A person may have high self-efficacy for writing poetry but low self-efficacy for writing short stories. Another individual may judge herself to be competent at soccer but not at swimming. Nevertheless, the judgment, once made, goes a long way toward explaining the level of persistence and effort expended on a learning task as well as the level of achievement obtained.

You may be wondering how self-efficacy differs from attributions. Both appear to involve the cognitive process of judgment, and both affect internal motivation. Attributions, as you will recall, are perceived causes of success or failure. They influence expectations of success and subsequent behavior. Attributions are one type of information (we will soon identify others) that learners use to make their judgments about self-efficacy. An individual who succeeds at a hard task only after exerting high effort will judge himself less capable at that task than at a task of equal difficulty at which he succeeds with relatively little effort.

Antecedents of Self-efficacy Judgments. In addition to attributions, what other sources of information do learners use when appraising their self-efficacy for a given achievement? Dale Schunk (1991), a leading researcher on self-efficacy, identifies four such sources: past experience, encouragement, physiological cues, and modeling effects.

Past Experiences of Success or Failure. Suppose you are conducting a lesson on fractions. Those learners who have earned high grades on the three previous math tests will have higher self-efficacy than those who failed them. Similarly, learners

who have consistently earned high marks on the last several writing assignments will have greater self-efficacy and consequently greater effort and persistence for the current writing project than will those who earned low grades.

Encouragement or Persuasion from the Teacher. Learners who believe that they are not capable of a task, such as debating, can often be persuaded that they are by

a convincing and inspirational teacher. However, while persuasion can enhance self-efficacy, its effects will be fleeting if the learner's efforts produce failure.

Physiological Cues. Learners who recognize symptoms of anxiety during a spelling bee (such as rapid breathing, increased heart rate, and sweating) may interpret them as signs that they lack ability. This may lead them to lower their self-efficacy.

Modeling Effects. Learners who hear peers make positive self-efficacy statements during a learning task, and who observe successful performances, will increase their self-efficacy judgments accordingly (Schunk & Hanson, 1985; Zimmerman & Ringle, 1981). The opposite is also true. Observing failure by peers or hearing about how hard a task is causes learners to lower their estimates of self-efficacy.

Self-efficacy in the Classroom. As you can see from this list of antecedents, appraisals of self-efficacy are dynamic, ongoing, changeable judgments of competence, which learners base on a variety of personal and situational information. No one source of information determines self-efficacy. Nor are appraisals of self-efficacy, once made, necessarily firm. Rather, the learner continually weighs and combines information from a variety of sources and situations. This information includes task difficulty, number and patterns of prior successes and failures, amount of help given, current and past feelings of anxiety,

credibility of the person making encouraging statements, and perceived similarity to peer models.

But a learner's favorable appraisal of ability to achieve during a lesson does not necessarily predict successful or even persistent performance. As Schunk (1989b) cautions, high self-efficacy for dissecting a frog in the absence of skill, for example, will not earn a high grade in biology class. Similarly, learners who do not value the goal that a teacher identifies for a geography lesson are unlikely to participate in it with great effort and enthusiasm regardless of their self-efficacy for map-making. Nevertheless, given sufficient skill to perform an academic task, and given that learners value the goal of that task, their judgments of self-efficacy will be the principal determinants of the direction of their behavior and energy for it.

Now, let's apply these ideas about self-efficacy to analyzing the behavior of Evelyn, the reluctant math student. Evelyn, as we know, had a bad prior experience with an advanced math class. In addition, she attributes her failure to factors out of her control: luck and task difficulty. Consequently, her initial appraisal of self-efficacy for calculus is low. Still, she knows she has an aptitude for math based on her test scores. Moreover, she rises to challenges. In other words, she has the skill and a positive attitude. Consequently, if we could only change her self-efficacy, she might take calculus and do well.

A conversation with a counselor might help Evelyn reappraise her self-efficacy for calculus. The counselor might point out that Evelyn has good preparation and adequate skill to do well (persuasion). In addition, the counselor could encourage Evelyn to talk to her friends who took calculus last year and did well (modeling). Finally, the counselor could help Evelyn reexamine her goals for the course, which may be unclear or unrealistically high (outcome expectations).

Assuming that Evelyn takes her counselor's advice and enrolls in the course, her self-efficacy would now hinge on such factors as anxiety, continued encouragement from teachers and parents, and her actual performance, as well as the similarity she perceives between herself and her peers and her observations of their performance.

Enhancing Self-efficacy. School programs designed to influence learners' self-efficacy and change achievement-related behavior have focused primarily on three activities: goal setting, information processing, and modeling. Let's examine each and see what you can do to improve your learners' judgments of self-efficacy.

Goal Setting. Researchers of self-efficacy, such as Schunk (1991), Bandura (1988), and Elliot and Dweck (1988), have found an important link between lesson goals and self-efficacy. They have discovered that when teachers give learners a goal or help them identify their own goals for an activity, there is an initial boost in self-efficacy for that activity.

This initial appraisal is soon followed by a commitment to attempt the task. As learners work toward a goal and receive feedback on their progress, their self-efficacy is validated and enhanced. As self-efficacy heightens, so do effort, persistence, and skill development. Some guidelines appear in the accompanying box, *Enhancing Self-efficacy*.

Information Processing. "I'm just not good at word problems." "I have trouble figuring out main ideas." "Reading comprehension is my real weak point." "I just can't remember a lot of what I read." You have probably heard learners make these comments. You may have even said something similar yourself at some point. They all indicate low self-efficacy for higher-level cognitive tasks.

Schunk postulated that learners who believe that they will encounter difficulty in complex learning tasks have lower self-efficacy than learners who feel

confident about handling the information processing demands of these tasks. He reasons that learners who begin reading comprehension or math problem-solving activities already doubting their ability to succeed will cease efforts to master these tasks when they encounter difficulties. If, however, they sense that they understand what they are reading or are successfully solving a problem, their self-efficacy will increase, as will their motivation to persist and learn the material.

One way to help learners improve their ability to process information during reading or math activities is to teach learning strategies. As you will recall, learning strategies are systematic plans that learners use to help with the information processing demands of complex learning tasks. Such strategies, when used consciously, allow learners to sense that they are learning. The perception that they are learning enhances their self-efficacy, motivation to learn, mastery of the learning task, and willingness to use the strategies again.

Some suggestions for enhancing students' use of learning strategies are given here:

- Teach learning strategies to enhance motivation for complex learning tasks.
- Have learners observe a peer using a learning strategy, and listen to that person comment on how it helps him or her.
- Videotape your learners using a cognitive strategy and show the tape to them. This approach has been shown to enhance self-efficacy and skill learning.
- Have learners verbalize the strategy out loud as they are using it. Then gradually fade this technique so that the learner's comments become less and less audible and eventually are uttered covertly. Learners who talk

about strategies as they are using them increase their attention to tasks, perceptions of learning, and self-efficacy.

Refer to Chapters 5 and 6 for more detailed information on the use of cognitive learning strategies.

Modeling. Nothing succeeds like success! A corollary to this proverb might be: Nothing reinforces success like seeing someone else succeed! And this is the major point of self-efficacy research on the impact of peer models. Such research has clearly shown that when learners see someone else succeeding, they believe more in their own capabilities (Schunk, 1989a, b; Schunk, Hanson, & Cox, 1987; Zimmerman & Ringle, 1981). In these studies the following peer modeling activities increased the self-efficacy of observers for learning tasks such as subtraction, division, word puzzles, and complex problem solving:

- hearing a peer express confidence at being able to solve a learning task
- observing a peer showing high persistence and high confidence
- hearing a peer explain how she solved a problem
- hearing a peer make helpful statements like “I need to pay more attention to what I am doing”
- seeing and hearing several peer models instead of just one
- having learners observe videotapes of themselves (called *self-modeling*) using strategies and making positive self-efficacy statements.

Teachers interested in enhancing the self-efficacy of learners should therefore make use of the abundant modeling opportunities in their classrooms.

Summary. Self-efficacy theory holds that the key to a learner’s motivation for achievement lies with the learner’s own beliefs in his ability to organize and

execute the actions required for a successful performance. These beliefs derive from

- past experiences of success or failure
- encouragement or persuasion from others
- physiological cues, such as rapid breathing and increased heart rate, that tell the learner something about his or her capabilities to complete the task
- modeling by peers, which may make the task appear easy or difficult.

Teachers can influence the self-efficacy of learners through the teaching of realistic goal setting and learning strategies and by having peers model successful performances.

Self-determination Theory

Recall that in the introduction to this chapter we asked that as you encountered different motivational theories, you keep in mind the question “How can this theory account for the energy and direction of a motivated learner?” The cognitive motivational theories of attribution and self-efficacy have been criticized for focusing more on the direction than on the energy dimension of motivated behavior. Let’s explore this important distinction.

Pintrich (1991) believes that both attribution and self-efficacy theory make motivation appear too cognitive, too abstract, too devoid of energy and passion. Similarly, Deci and his colleagues (1991) argue that most current approaches to intrinsic motivation fail to deal with the question of why learners desire certain goals or outcomes. For example, Deci believes that attribution and self-efficacy theory emphasize too strongly the role of beliefs when accounting for intrinsic motivation. He questions how these theories account for the needs of learners to

feel competent and independent. He claims that such theories make the motivational process appear too rational, too cold, too isolated from the day-to-day emotions and feelings that characterize the classroom behavior of children.

Deci offers an alternative, **self-determination theory**. He contends that this theory reintroduces a component of motivation that has long been neglected by most modern cognitive motivational theories: human needs. Moreover, it does so while still assigning a critical role to the learners' thought processes. Let's examine the self-determination perspective and see how it can be applied.

Human Needs. In our presentation of attribution theory, we pointed out that a learner's intrinsic motivation for a particular task depended on her beliefs about what was responsible for past successes or failures. We outlined teaching practices that lead learners to believe that success results from factors under their control.

Self-efficacy theory tells us that learners' intrinsic motivation for a task rests with their beliefs about whether they are good at it and can achieve its goals. We learned about instructional practices that promote positive self-efficacy beliefs.

Self-determination theory is more complex. It tells us that underlying intrinsic motivation is an attitude of self-determination to accomplish a goal. This attitude is more than just a belief in one's self-efficacy, although that is a component of self-

determination. Likewise, self-determination involves more than beliefs about the causes of success or failure. Rather, self-determination theory focuses on three innate human needs: competence, relationships, and autonomy.

Competence needs involve the learner's knowledge of how to achieve certain goals and the skill for doing so. Deci believes that learners have an innate psychological need to believe that they are competent. *Relationship needs* are innate requirements for secure and satisfying connections with peers, teachers, and

parents. Finally, *autonomy needs* refer to the ability to initiate and regulate one's own actions. Figure 7.4 depicts these aspects of self-determination theory.

Deci believes that classrooms promote intrinsic motivation by helping learners acquire an attitude of self-determination. In other words, they meet learners' needs for competence, relationships, and autonomy. Furthermore, self-determination theory underscores that all three needs must be satisfied if the learner is to develop an attitude of self-determination. Learners who believe in their own competence will not feel self-determined if the classroom does not allow them to accomplish tasks with some degree of independence. Thus, classrooms characterized by teacher-directed instructional techniques are less likely to satisfy learners' needs for autonomy than are classrooms that incorporate constructivist instructional approaches, including cooperative learning. Similarly, classrooms that rely heavily on extrinsic rewards and punishments to control behavior will not meet learners' autonomy needs.

Deci also contends that meeting a learner's needs for competence and autonomy while at the same time ignoring needs for relationships will fail to enhance self-determination and intrinsic motivation. How can this be? Doesn't a need for relationships imply a certain degree of dependence on the part of learners? And doesn't this detract from feelings and beliefs about autonomy?

Deci resolves this seeming contradiction between needs for autonomy and needs for relationships by explaining that autonomy means that learners initiate and regulate their own learning behaviors. Self-initiation and self-regulation can develop only in a classroom where such behavior is supported and encouraged by peers and adults. Thus, self-determination theory tells us that learners will develop intrinsic motivation and the self-determination underlying such motivation only in a social milieu that supports competence and autonomy (Vygotsky, 1987, also

assigns a significant role to relationships when he talks about the social nature of learning).

Enhancing Self-determination. Self-determination theory is a new and ambitious attempt to reconcile the early need and drive theories of motivation with more modern cognitive motivational perspectives that focus on a learner's attributions and beliefs. While research into the antecedents of self-determination has just begun, we can still provide some recommendations for promoting it, as shown in the accompanying box, *Promoting Self-determination*. Notice the similarities of these suggestions to those identified for effort-enhancing attributions and positive self-efficacy.

Summary. Self-determination theory tells us that learners have innate needs to feel competent, relate to other people, and be autonomous. They come to school, in other words, with built-in energy and a desire to achieve, and they possess the basic ingredients for developing the internal motivation to do so. The questions teachers should ask themselves as they scan the eager faces of their learners on the first day of school are these: "What can I do to meet their needs for competence, relationships, and autonomy? What is the best way to focus and give direction to this energy?" Self-determination theory holds that the answer to these questions lies in designing a classroom that

- places a premium on skill development
- allows learners to feel that they control this development
- encourages relationships that support the development of competence and autonomy.

With these three principles as guides, let's explore an approach to teaching and learning called project-based learning.

Project-based Learning

Teachers who practice **project-based learning**, or build their instructional programs around projects, provide learners with an environment ideally suited to the nurturing of intrinsic motivation (Blumenfeld et al., 1991). Whether your perspective on motivation leans toward attribution theory, self-efficacy theory, self-determination theory, or all three, project-based learning offers some solutions to the age-old problem of how to give energy and direction to the classroom behavior of learners.

Before we describe project-based learning, let's briefly review attribution theory, self-efficacy theory, and self-determination theory.

- *Attribution theory* emphasizes teaching methods that assure learners that their success depends on factors they control. Teachers do this by (1) stressing the importance of the learning process, not just the product; (2) helping learners set goals; and (3) using instructional groupings to promote cooperation.
- *Self-efficacy theory* emphasizes instructional programs that help learners set their own goals, acquire learning strategies, and observe successful peer models to enhance self-efficacy beliefs and intrinsic motivation.
- *Self-determination theory* emphasizes the important role of teachers in fostering intrinsic motivation by arranging their classrooms, designing lessons, and speaking to learners in ways that meet their needs for competence, relationships, and autonomy. The specific recommendations for doing this are nearly identical to recommendations for promoting effort-enhancing attributions and positive self-efficacy.

Project-based learning (PBL) makes extensive use of the ideas and research of Weiner's attribution theory, Bandura's and Schunk's self-efficacy theory, and

Deci's self-determination theory in designing its comprehensive approach to classroom teaching and learning. It uses these motivational approaches to help delineate the roles of its three principal components: *tasks*, *learners*, and *teachers*, as shown in Figure 7.5.

In PBL, intrinsic motivation is not viewed as a feature of learning tasks, a disposition of learners, or the sole responsibility of teachers. Rather, intrinsic motivation is marshaled, generated, and sustained in a learning environment where it is recognized that each of these elements has a necessary role to play, though each alone is not sufficient. When each of these components carries out its assigned role (the intersection of all three circles in Figure 7.5), intrinsic motivation results. Let's examine these components of PBL and see how each incorporates elements of the cognitive motivational theories we have studied.

The Role of Tasks

PBL assigns a critical role in the development of intrinsic motivation to the nature of the classroom learning task. It asks the question, "What kinds of tasks are most likely to induce and support learner interest, effort, and persistence?" PBL advocates the use of projects as the most appropriate vehicles for engaging learners. *Projects* have two essential components: (1) they are built around a central question or problem that serves to organize and energize classroom activities, and (2) they require learners to produce a product or outcome to successfully answer the question or resolve the problem.

Projects challenge learners with important (often real-world) problems and usually require them to draw on several diverse skill areas to solve them. A third-grade project, for example, built around the problem of nonrecyclable garbage, can involve the skills of reading, research, data gathering, data analysis, hypothesis-generating, and problem solving. Projects may be built around issues

of current societal concern or questions of historical or purely intellectual interest. Good projects have the following critical characteristics.

- They are of extended duration (require several weeks to complete).
- They link several disciplines (math, reading, and writing skills, for example).
- They allow for a variety of solutions (the focus should be as much on process as on product).
- They involve the teacher as coach, and require small group collaboration to complete.

Blumenfeld and other proponents of PBL caution teachers that projects, by themselves, will not engage learners or motivate them to invest the effort necessary to investigate, acquire information, test solutions, and evaluate results (Anderson & Roth, 1989; Blumenfeld et al., 1991; Doyle, 1983). Rather, they must be used in a classroom milieu that supports thoughtfulness and sustained motivation.

There are, however, certain characteristics that projects must include if they are to capture the interest of learners and enhance intrinsic motivation. They must (1) present an authentic, real-world challenge, (2) allow for learner choice and control, (3) be doable—capable of being carried out within the time and resource limitations of the student and classroom, (4) require collaboration, and (5) produce a concrete result. Let's look more closely at each of these characteristics.

Present a Challenge. Both attribution and self-efficacy theory stress the importance of goals that learners want to achieve. PBL meets this important ingredient of intrinsic motivation when it offers learners an authentic, sometimes novel, and always challenging problem or question to investigate, resolve, and report on. Contrast such a project with worksheets, exercise books, end-of-chapter

questions, and other routine tasks, which take up most academic time (Doyle, 1983; Goodlad, 1984; Sizer, 1984).

Allow for Learner Choice and Control. We learned about the importance of meeting learner needs for autonomy when we reviewed self-determination theory. Effective projects allow learners options regarding modes of investigation (reading, interviewing, observing, controlled experimentation), styles of reporting (written reports, audiotapes or videotapes, visual displays), solutions to problems, or types of products or artifacts to develop.

Be Doable. Learners will persevere and expend high amounts of effort if they see results (attribution theory). Similarly, they are more likely to believe that they can see a project through to a successful conclusion (self-efficacy) if it is time limited, requires readily available resources, and includes points along the way where they can receive positive feedback, make revisions, and generate further products.

Require Collaboration. Self-determination theory tells us that intrinsic motivation is nurtured in classrooms that allow learners to meet their social needs. Self-efficacy theory points out that learners acquire beliefs about their own capabilities from observing others. Projects that cannot be completed unless a small group of learners adopt different but essential roles are ideal vehicles for incorporating the principles of these motivational theories (see Chapter 6 on roles in collaborative learning activities).

Result in a Concrete Product. Projects that give learners concrete goals to work toward are more likely to sustain intrinsic motivation. Moreover, products and the process involved in producing them allow for performance-based assessment. This type of assessment allows learners to see the connection between what they do in class and what their grades are based on. This gives learners a greater sense of

control over their grades, and it better meets their needs for autonomy (as identified in self-determination theory) than grades based on paper-and-pencil tests alone.

The Role of the Learner

The key to developing intrinsic motivation is not simply a matter of finding the right activity or project. Educators since the time of John Dewey (1938) have urged schools to engage learners in “hands-on” learning activities as the best way to develop intrinsic motivation. Nevertheless, many educational reforms may have failed because they only described the activities to be completed—they did not consider the role of the learners’ motivational beliefs and the teacher’s encouragement of those beliefs to the overall activity (Blumenfeld et al., 1991).

PBL recognizes that efforts to reform learners’ tasks in school will fail unless instruction seeks to influence what learners think about the tasks and themselves. Consequently, PBL recognizes that learners will acquire important knowledge and skills from projects only if they (1) attribute their success to effort, (2) believe that they can accomplish the goals of the project, and (3) perceive themselves as competent. PBL also recognizes that learners are more likely to perceive themselves as competent if they have the prior knowledge, prerequisite skills, and learning strategies necessary for completing the projects before they begin (again, note the fit between PBL and the cognitive strategies we described in Chapters 5 and 6).

The Role of the Teacher

PBL recognizes that the teacher is the last piece in the intrinsic motivational puzzle. The teacher’s unique role in PBL is that of the supporter of intrinsic

motivation. Consequently, Blumenfeld and her colleagues urge teachers to support their learners' interest, efforts, and achievements by:

- avoiding statements implying that innate ability is all that is required to complete a project
- focusing learners' attention on both the process of completing the project and the end product
- making encouraging statements to learners.

Summary

In this chapter we studied two major approaches to motivation and classroom learning: person-as-machine behavioral theories and person-as-rational-thinker cognitive theories. We found the cognitive theories of attributions, self-efficacy, and self-determination to be most useful to the classroom, since each provides practical recommendations to teachers for increasing the internal motivation of their learners. Furthermore, project-based learning provided suggestions for how attribution, self-efficacy, and self-determination theories could be combined to direct the roles of tasks, learners, and teachers in providing a classroom environment that encourages intrinsic motivation.

We now turn, in Part III, to issues of classroom and instructional management. There we will see how the theories of development, learning, and motivation we have studied so far can be applied to the daily routines of classroom life.

Summing Up

This chapter introduced you to motivation and classroom learning. Its main points were these:

- Intrinsic motivation influences learners to choose a task, get energized about it, and persist until they accomplish success, regardless of whether it brings an immediate reward.
- Theories of motivation can be divided into “person-as-machine” behavioral theories and “person-as-rational-thinker” cognitive theories. The former include instinct, drive, and deficiency/growth theories; the latter include attribution, self-efficacy, and self-determination theories.
- Attribution theory presumes that people inevitably seek to understand why they succeed or fail. The antecedents to which individuals credit their successes or failures can be classified into (1) locus of causality, (2) stability, and (3) controllability.
- Locus of causality refers to the extent to which an antecedent is internal or external.
- Stability of an antecedent refers to the extent to which the antecedent can be altered by the individual or is unchangeable.
- Controllability of an antecedent refers to the extent to which the antecedent is within or outside the individual’s control.
- According to attribution theory, the direction of motivated behavior derives from past experiences with tasks, causal attributions, and expectations about what is likely to happen the next time a similar situation is encountered.
- The antecedents of a learner’s attributions derive from situational cues, causal schemata (or prior beliefs), and self-perceptions.
- Self-efficacy theory holds that intrinsic motivation depends on the learner’s belief in his or her own capabilities to organize and execute the courses of action required to attain designated types of performance.

- The antecedents of self-efficacy judgments include past experiences of success or failure, encouragement or persuasion from the teacher, physiological cues (such as heart rate), and modeling by peers.
- Self-determination theory holds that intrinsic motivation derives from an attitude of determination to accomplish a goal. This attitude is fostered by helping the learner acquire the necessary skills, acquire secure and satisfying connections with others, and become self-initiating and self-regulating.
- Project-based learning (PBL) uses attribution, self-efficacy, and self-determination theory to build an instructional program that provides an environment for nurturing intrinsic motivation.

For Discussion and Practice

- *1. How would you explain the concept of intrinsic motivation to a friend who knew nothing about theories of motivation?
- *2. In the teacher's interaction with Jared about doing "this stuff" to pass the course, what, in your opinion, explains why Jared changed his mind and decided to do what his teacher wanted?
- *3. Explain why some motivational theories can be described with the "person-as-machine" metaphor.
- *4. Describe the two types of drives identified by Hull, and give an example of each.
- *5. Identify the five needs described by Maslow that represent the major motives that govern human behavior. From your own experience, give an example of each. Which are deficiency needs and which are growth needs?

- *6. According to attribution theory, what classifications of antecedents and their variations can be used to explain success or failure?
- *7. Provide an example of (a) an external, unstable, and uncontrollable cause of success or failure and an example of (b) an internal, stable, and controllable cause of success or failure.
- *8. According to Weiner, from what three general sources of information do attributions spring? From your own experience, give an example of each.
- *9. Identify five ways you can help your learners acquire positive attributions and, with examples from your teaching area, show how you would implement them in your classroom.
- *10. According to self-efficacy theory, what four sources of information do learners use to attribute success or failure to their actions? Provide an example at your grade level of information a learner might use from each of these sources to attribute success or failure to his or her actions.
- *11. Identify three ways you can help your learners enhance their self-efficacy and, with examples from your teaching area, show how you would implement them in your classroom.
- *12. According to Pintrich, what criticism of attribution and self-efficacy theories does self-determination theory attempt to avoid?
- *13. What three needs does self-determination theory attempt to explain that attribution and self-efficacy theories cannot?
- *14. In your teaching field and grade level, provide one example each of a learner's need for competence, relationships, and autonomy.
- *15. Explain one of the ways attribution theory, self-efficacy theory, and self-determination theory each contribute to project-based learning.

- *16. In your own teaching area, make a list of five projects that are likely to induce learner interest, effort, and persistence.
- *17. What five characteristics should your list above of projects have if they are to be successful in capturing the interest, effort, and persistence of your learners? Replace any on your list that you feel do not have these qualities.

Suggested Readings

Pintrich, P. R. (Ed.). (1991). *Educational Psychologist*, 26 (3 & 4). The entire issue of this journal is devoted to examining current issues and new directions in motivation theory and research.

Sizer, T. R. (1984). *Horace's compromise: The dilemma of the American high school*. Boston: Houghton Mifflin. A lively and readable examination of the problem of unmotivated high school students and what needs to be done to interest them in learning.

Spaulding, C. L. (1992). *Motivation in the classroom*. New York: McGraw-Hill. This book, written for the classroom teacher, reviews important theories and devotes several chapters to classroom activities that build intrinsic motivation.

Intrinsic motivation. Motivation to engage in an activity for its own sake.

Intrinsic motivation influences learners to engage actively in activities without having to be rewarded. It energizes learners to persist until they accomplish a task successfully.

Instinct theory. An early school of thought about motivation that assumed that individual and collective actions and thoughts were a result of inherited and innate instincts.

Drive theory. A theory of motivation that is based on the assumption that all activity is directed toward reducing the tension triggered by needs and drives.

Drive theorists would explain the desire to succeed at schoolwork as an acquired drive.

Deficiency/growth needs theory. A theory of motivation that posits that humans have an innate hierarchy of needs that drives all activity.

Figure 7.1

Maslow's hierarchy of needs. *Source:* Adapted from "A Theory of Human Motivation," by A. Maslow, 1943, *Psychological Review*, 50, pp. 370–396.

Attribution theory. A perspective on motivation that assumes that people seek to understand why they succeed or fail.

Self-efficacy theory. An approach to motivation that emphasizes an individual's personal expectations, internal standards, and self-concept.

Figure 7.2

Weiner's three-dimensional model of attributions. *Source:* "A Theory of Motivation for Some Classroom Experiences," by B. Weiner, 1979, *Journal of*

Educational Psychology, 71 (1). Copyright © 1979 by the American Psychological Association. Reprinted by permission.

Locus of causality. In attribution theory, a generalized belief about the causes of success and failure of our actions.

Learners seek to understand why they succeed or fail. They may attribute success or failure to factors in or out of their control.

Figure 7.3

Model of attributions and motivated behavior.

Antecedents. Stimuli present in an environment that make a behavior more likely to occur.

Situational cues. Stimuli in the learner's behavioral environment that predispose the learner to behave in a certain manner.

Causal schemata. Beliefs about the sequential nature of observed data in which effects are attributed to causes.

How can I help my learners interpret their classroom setbacks in ways that elicit renewed effort?

What are some things teachers say to learners that can lower their motivation to succeed?

How can learning strategies improve my students' motivation to learn?

A focus on cognitive learning strategies in all facets of instruction will help learners acquire the skills and attitudes they need to succeed at academic tasks.

Learners enjoy self-efficacy motivation when they believe in their own capabilities to succeed at a task.

How can I convey to my students the motivation to say “Yes, I can do what my teacher expects”?

Applying Your Knowledge:

Enhancing Self-efficacy

- **Identify goals that are short-range, concrete, and challenging.** Setting specific goals for the next class or the next week is more effective than setting goals for the end of the six-week period or the semester.
- **Identify specific performance outcomes you want your learners to attain at the end of the lesson or unit.** Identifying goals in terms of specific performance indicators boosts self-efficacy (“type 30 words per minute” is better than “increase your speed”). Although easy goals may enhance self-efficacy during the initial stages of learning a new skill, learners feel better about their ability when they accomplish more challenging tasks.

- **Give learners immediate feedback on both their own performances and those of peers.** While goals give an initial boost to self-efficacy, performance feedback sustains and heightens it. Furthermore, Schunk (1983) showed that informing learners about how their peers were doing persuaded them that the goals were attainable and increased self-efficacy.
- **Let learners set their own goals whenever possible.** Schunk and Hanson (1985) found that the learners with the highest self-efficacy for subtraction were those who were allowed to set their performance goals.

Self-determination theory. An approach that holds that an attitude of determination is the foundation for motivated behavior.

Focus on

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When I was a graduate student I spent time observing children both in a nursery school and in their late elementary years. I was amazed at the difference, amazed that the younger children seemed so much more curious, so much more eager to learn. I wondered whether the experiences the older children had had in school might in some way have accounted for their lower levels of what I came to call intrinsic motivation.

When I began studying intrinsic motivation, the field of empirical psychology was still dominated by behaviorism, although the cognitive revolution had begun. I found both approaches unsatisfactory, for neither dealt with issues of motivation in ways that took account of the inherent tendency of people to grow and develop, to actualize their potentials, to self-initiate, and to engage the world in an attempt to master it.

Furthermore, the primary approach used in applying psychology to real-world problems was behavior modification. To me, that approach was inadequate: Its focus on controlling people was philosophically objectionable, and besides, it did not seem to work very well, especially for complex human problems. I found the assumptions and values of humanistic psychology much more congenial, and it seemed to me to be possible to use rigorous empirical methods to study human beings as living organisms—in other words, to take a humanistic view of people while studying them empirically.

At the time I started my research program I was interested in the concept of self-determination. In a sense, really, I was interested in the meaning of psychological freedom, or what the existentialists have called “authenticity.” I was unwilling simply to rule this out of consideration as so many other psychologists had done; I wanted to consider it an empirical matter. So I started with the concept of intrinsic motivation because that represented to me the prototype of self-determination. I thought that if we could understand the dynamics of intrinsic motivation reasonably well, we could move on to the more complex matters of people being self-determined to do extrinsically motivated activities. That is exactly what my collaborator, Richard M. Ryan, and I have done. Now we are considering not only self-determination in extrinsically motivated behaviors but also self-determination in emotion-motivated actions.

The research on the effects of extrinsic rewards on intrinsic motivation intrigued me in part because its implications are so directly opposite to the behavior modification approach. Interestingly, there is some complementarity in the findings of the two approaches, and yet they make opposing prescriptions. The complementarity is first that both approaches have found that it is often possible to control people's behavior—that is, people will do what they have to do in order to get desired outcomes—and second that both approaches recognize that if people become dependent on rewards or other controls, and the rewards or controls are terminated, the behavior will decrease substantially.

However, the important point that has become clear from the work Rich Ryan and I have done is that when people become dependent on rewards or other controls, there are significant negative consequences for their performance and well-being. This fact has led us to recommend that rewards and other controls not be used unless they are absolutely necessary to motivate behavior, but many behaviorists, unwilling to give serious consideration to these negative consequences, continue to advocate the use of reinforcement procedures to try to control behavior.

The results of our research point clearly to the fact that the orientation teachers take toward their students—toward the learning and behavior of their students—has an important impact on the students’ motivation, self-regulation, performance, and adjustment. When the teachers are controlling and evaluative, rather than understanding and supportive of autonomy, the students are likely to experience negative consequences. We do not, however, take a blaming attitude toward teachers, for teachers are themselves dealing with monumental challenges. Our research shows that teachers tend to become more controlling (i.e., they tend to be less student-centered and supportive of autonomy) when they feel pressured and directed by the administration and by other forces around them. I think the results of our research contain two important messages for teachers—two things they can put to direct use. First, teachers can understand the importance of being autonomy-supportive of their students; in other words, they can understand that the more controlling, directive, and pressuring they are with the students, the more negative the effects they will have on the students. Second, they can understand that their own controllingness is caused in part by the stresses they feel. When they lose their patience and feel irritated with their students, they can find ways to deal with their own stresses: They can find a friend to talk to and build mutually supportive relationships with others in that setting so they can help each other during the difficult times.

Figure 7.4

Components of self-determination.

How can I enhance my learners' determination to learn what I teach?

Applying Your Knowledge:

Promoting Self-determination

Teachers Can Help Meet Learners' Competency Needs By

- Giving positive feedback, rather than corrections and criticism, after learning.
- Congratulating learners for doing well, but only for self-initiated tasks. Deci et al. (1991) report that praising learners following performance on learning tasks they were told to do reduced feelings of autonomy and intrinsic motivation for these tasks.
- Focusing on prerequisite skills and emphasizing errorless learning (a recommendation made by behavioral learning theory, which we studied in Chapter 4).

Teachers Can Meet Learners' Needs for Relationships By

- Stressing cooperative over competitive learning.
- Involving parents in the educational process. Grolnick and Ryan (1989) report that learners whose parents are more involved in their education are more self-determined than those whose parents are not (see Chapter 16 on home–school partnerships).

Teachers Can Meet Learners' Needs for Autonomy By

- Minimizing the use of contingent rewards.
- Allowing learners more choices. Deadlines and other events used to pressure learners to think, feel, or behave in certain ways generally decrease self-determination and intrinsic motivation.

- Acknowledging learners' feelings about being forced to do things they don't like or in ways they don't like. Koestner, Ryan, Bernieri, and Holt (1984) report that intrinsic motivation is maintained when teachers acknowledge learners' feelings of dislike for either particular activities or ways of doing them.

Project-based learning. An approach to learning that argues that intrinsic motivation is marshaled, generated, and sustained in a learning environment that recognizes the importance of the interrelationships among learning tasks, learner disposition, and teachers.

Figure 7.5

Three principal elements of project-based learning.

How can I use project-based learning to motivate my learners?

Questions marked with an asterisk are answered in the appendix.