LEARNING WITH MOTIVATION

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INTRODUCTION

The study of academic motivation has blossomed during the past 40 years. Although motivation has been recognized as an important construct in both the fields of psychology and education for many years, it has recently become a major focus of research on learning in achievement contexts. There is a vast array of empirical data and theory that readily inform both learning and instruction. In the present chapter, we examine some of the most prominent current research on academic motivation. In particular, we discuss major theoretical perspectives that inform related empirical research. We also demonstrate that motivation theory and research can be applied to instructional contexts at all levels (i.e., preschool through adult learning) in order to improve student learning.

In their classic text, Pintrich and Schunk defined motivation as “the process whereby goal-directed activity is instigated and sustained” (2002, p. 5). This definition reflects a social-cognitive perspective on motivation, wherein academic motivation is determined both by social (contextual) factors, as well as by the cognitions (thoughts) of learners. For example, a student can be “motivated” in many different ways to read a book. For some students, the goal may be to complete the book because the book is enjoyable. For others, the goal may be to complete the book in order to earn a good grade on a test about the book, or to complete the book because it contains information that will be useful toward achieving other goals. From a motivation perspective, the processes by which learning is initiated and continued are the focus of interest. These processes are reviewed in the present chapter.

Our goal is to demonstrate that motivation is a complex topic with a rich research base; however, at the same time, we also establish that motivation theory can be readily applied to educational practice. The results of many empirical studies examining both predictors of academic motivation and outcomes that are predicted by academic motivation are quite consistent, and many of these results can be applied to practice. We first provide a brief historical overview of the study of academic motivation. We then discuss some of the currently popular and empirically supported theoretical frameworks. Then, we examine current trends and issues in the study of motivation. Next,
we present practical implications of motivation research, and we end by discussing future directions for the field.

**Historical Overview**

A historical overview of the study of motivation could encompass an entire book, and others have, in fact, provided detailed reviews of motivation (e.g., Heckhausen, 2008; Schunk, Meece, & Pintrich, 2013; Weiner, 1990). In light of this rich literature, we highlight the most important trends of the last century that have shaped current theory and research. These trends include the shift from behavioral to cognitive conceptions of motivation, as well as subtle and major developments within specific theories.

There are several different ways to examine developments in motivation research. One manner is simply to examine the various theories and perspectives that developed chronologically. Another is to examine these developments thematically. In the present chapter, we have chosen the latter approach, so that we can more readily point out the links between programmatic developments over the past century and current models of academic motivation.

**From Behaviorism and Drives to Cognitivism**

Probably the most obvious and often discussed shift in motivational theorizing over time is the general movement from behavioral views of motivation to more cognitive, and particularly social-cognitive, views.

**Behavioral and Drive Theories**

Early theory on the topic of motivation and behavior ignored cognitive processes in favor of behavioral theories that reflected a stimulus-response mechanism to explain human behavior (E. Anderman, 2010). The two most prominent theories that have framed this argument are operant conditioning and classical conditioning. Operant theorists argue that reinforcers and punishments shape motivated behaviors (Skinner, 1953, 1954). In operant conditioning, a child who is rewarded with a desired toy after the completion of each book will be more “motivated” to read books; receipt of the new toy would increase reading behavior. In contrast, if a teacher wants a student to stop reading aloud during silent reading time, then the teacher might punish the child (e.g., give the student a time-out). Thus various environmental reinforcers and punishers are seen as being the determinants of motivated behaviors from an operant perspective.

Classical conditioning represents a somewhat different behavioral framework for explaining motivated behaviors. In classical conditioning, motivation arises from individuals’ reactions to various stimuli; those stimuli can be both unconditioned (e.g., salivation at the sight of food), or conditioned (e.g., salivation upon hearing a bell that has been associated with food; Pavlov, 1927). Thus individuals may appear to be motivated to engage in certain behaviors (or to avoid engaging in certain behaviors) as a result of reactions to such stimuli. Classical conditioning is related to motivation in important ways. For example, a student who experiences difficulties learning mathematics may ultimately become conditioned to experience unpleasant anxious reactions at the mere sight of mathematical problems in the future.

Drive theories also played an important role in early motivation research. Drive theories are based on individuals’ needs (e.g., the need for sleep or food). Individuals’
drives become salient when a need must be satisfied. The individual is thus motivated to engage in certain behaviors in order to reduce the drive (and satisfy the need). Drive theory originated in early writings by Watson and Morgan (Remley, 1980), and was described in detail in theories developed by scholars such as Hull (1943) and Mowrer (1960).

Although behavioral theories have had, and arguably still do have, an important impact on education (particularly in the field of special education), many motivation researchers grew dissatisfied with behavioral perspectives. Specifically, these theories do not account for the fact that learners’ beliefs at times override previously learned reinforcement patterns in determining motivated behaviors (Dember, 1974). In addition, over time researchers became more cognizant of the fact that learning and motivation involved cognitive components (Bandura, 1986, 1997; Bruning, Schraw, & Ronning, 1999). Theoretical perspectives that focused on drives and conditioned behaviors did not acknowledge the important role that cognition plays in determining motivated behavior.

Early Cognitive Theories

Much of what we now call the Cognitive Revolution can be traced back to the 1970s when researchers began to challenge behaviorism as the status quo. However, it is important to note that many cognitive motivation theories developed at the same time that behavioral theories were in vogue. For example, volition (or will) has been acknowledged as being related to beneficial educational outcomes (Corno, 1994; Oettingen, Schrage, & Gollwitzer, 2015). Nevertheless, volition originally was acknowledged as an important cognitive motivation construct in early studies by researchers such as Wundt (Blumenthal, 1998; Danziger, 2001) and James (1890; Rychlak, 1993).

Freud’s (1966) theory of psychoanalysis also became prominent early in the 20th century. Freud’s views on motivation stood in sharp contrast to behavioral views. Freud argued that motivation emanates from the satisfaction of needs. Freud suggested the cognitive components of motivation are primarily unconscious in nature, but they are cognitive and not simply reactions to reinforcers or stimuli. As the individual channels psychological energy into meeting needs, the diminution of energy is experienced as satisfaction, ultimately increasing motivation. Freud’s work was the impetus for other needs-based theories, such as Maslow’s Hierarchy of Needs (Maslow, 1987).

Social Cognitive Theories

Most contemporary theories of academic motivation have moved toward a social cognitive perspective. Social cognitive theories acknowledge that motivation is determined by beliefs about the self, cognitions, and social contexts (Alderman, 2008; Bandura, 1997). There are a number of contemporary motivation theories that have emerged in recent decades, and each of these theories feature both cognitive and social components.

Contemporary social cognitive theories, which are discussed in this chapter, include theories about the self and self-beliefs such as self-efficacy, reciprocal determinism, and social learning (including self-efficacy; Bandura, 1986; Pajares, 1996; Schunk & Pajares, 2002), goal orientation theory (Ames, 1992b; Dweck & Leggett, 1988; Pintrich, 2000a; Thorkildsen & Nicholls, 1998), self-determination theory (Deci, 1980; Ryan, Connell, & Deci, 1985), and expectancy-value theory (Eccles [Parsons] et al., 1983;
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We also explore social cognitive achievement emotions and related theories such as control-value theory (Pekrun, 2006). Although these theories differ, all acknowledge that self-beliefs (i.e., beliefs about one’s own competencies), individual cognitions (i.e., how we think and self-regulate in academic situations), and social contexts (i.e., the nature of schools, classrooms, and cultures) affect academic motivation in important ways.

CURRENT THEORETICAL FRAMEWORKS

It is important to note that motivation is not a one-size-fits-all term; rather, motivation is complex and consists of an array of components, and these various components are more readily explained with distinct theories. We prefer not to look at theories of motivation as competitive. Rather, each theory addresses distinct aspects of academic motivation. In addition, each theory has both strengths and weaknesses that must be considered.

In this section, we review five of the most prominent current theoretical perspectives on achievement motivation. These include: social cognitive theory, achievement goal theory, self-determination theory, expectancy-value theory, and control-value theory. We describe the general tenets of each theory, and review empirical studies that support each framework.

Social Cognitive Theory

Social Cognitive Theory is a term that is used to describe several related constructs including self-efficacy, reciprocal determinism, and social learning. Aspects of these various concepts and constructs all emphasize both the social and cognitive nature of learning, and are focused on how social interactions influence learning. Social cognitive theorists examine the interactions between the learner, the environment, and others. In this section, we focus specifically on self-efficacy, since much research indicates that it is related in important ways to educational outcomes (Bandura, 1997; Pajares, 1996).

Bandura defined self-efficacy as a person’s beliefs about his or her ability to complete a task (Bandura, 1997). Self-efficacy is critical to educators because of the empirical connection to outcomes for students. For example, research indicates that self-efficacy beliefs are related to the types of choices that students make. Betz and Hackett (1983) examined the relations between mathematics self-efficacy and college major choices; results indicated that students with higher mathematics self-efficacy were more likely to report choosing a science major. Self-efficacy also has been shown to relate positively to effort, persistence, and achievement (Bandura, 1997; Pajares, 1996; Usher, 2016).

Self-report methods such as surveys are the primary method used to assess efficacy beliefs (Pajares, 1996), although many of the existing measures are not theoretically in sync with Bandura’s recommendations (Usher, 2016). Self-efficacy beliefs are dependent upon the task with which they are associated, and as a result, a microanalytic assessment is needed (Pajares, 1996). Thus general efficacy beliefs are occasionally measured, but such measures may be less accurate than more specific measures that focus on specific domains or tasks (Pajares, 1996).

Individuals acquire efficacy for a task from four potential sources (Bandura, 1997). The mastery experience, or actually completing the task, is the most potent source (Lent, 1991; Klassen, 2004; Usher & Pajares, 2008). A successful mastery experience...
increases self-efficacy, whereas an unsuccessful mastery experience causes efficacy to drop. In a study with high school math students, mastery experiences were the largest predictor of the four sources of self-efficacy and were a greater predictor than actual prior performance (Lopez, Lent, Brown, & Gore, 1997). The second source is vicarious experience, or being present while another individual engages with the task. The importance of the task and closeness of the relationship to the person completing the task are related to the development of self-efficacy from a vicarious experience. The third is social persuasion, which includes being convinced by another individual that one is capable of completing a task. The significance of the relationship with the other individual is also critical to the potency of this source. The final source of efficacy is physiological, which refers to the human body’s reactions to the task. For example, sweating while giving a speech may cause self-efficacy for public speaking to diminish.

Achievement Goal Theory

Achievement Goal Theory (also known as Goal Orientation Theory) shifts the focus from an individual’s beliefs about his ability to complete a task to the reasons that students choose to engage in some tasks and not others. Early conceptualizations of goals posited two primary goals: mastery goals and performance goals. Depending on a variety of other factors, the orientation that students adopt is central to many motivational and academic outcomes (Ames, 1992b; Kaplan, Middleton, Urdan, & Midgley, 2002; Pintrich, 2000a).

Original Conception of Goals

Students who endorse mastery goals (also referred to as task goals and learning goals) are invested in tasks for the sake of learning. Mastery-oriented students refer to their own past performance as a point of comparison, instead of comparing their performance to that of other students. Students who endorse performance goals (also referred to as ability goals, relative ability goals, competitive goals, and ego-involved goals) are concerned with demonstrating their ability relative to others. Students who adopt performance goals are concerned about appearing competent, and compare their performance with that of other students. Demonstrating ability, rather than learning the material, is the central focus of the performance-oriented student (see E. Anderman & Wolters, 2006, for a review). Students who adopted mastery goals were less likely to compare their performance to other students and more likely to compare their performance to their own prior progress in a study in college chemistry classrooms (Church, Elliot, & Gable, 2001). An easy way to distinguish between mastery and performance goals is to remember that mastery-oriented students seek to develop competence, whereas performance-oriented students seek to demonstrate competence (Kaplan & Maehr, 2007). Nevertheless, it is important to note that students can simultaneously hold both goals (Darnon, Dompnier, Gilliéron, & Butera, 2010).

Goal orientations have been measured across several levels: the types of goals that individuals adopt are known as personal goal orientations; the goals that are perceived as being emphasized in classroom settings are known as classroom goal structures (Ames, 1992b; Midgley, 2002); and the goals that are perceived as being emphasized at the school-level are referred to as school goal structures (E. Anderman & Maehr, 1994; Maehr & Midgley, 1996). Most research on goal orientations has used survey methodologies, wherein students report self-perceptions; however, some researchers have
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used experimental methodologies in which goal orientations have been induced by manipulations (e.g., Elliot & Harackiewicz, 1996).

**The 2 × 2 Model**

In the mid 1990s, researchers argued and demonstrated that performance goals can be broken down into *performance-approach* and *performance-avoid* goals (Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997). A student who endorses performance-approach goals engages with a task in order to demonstrate that the student is more competent than others. In contrast, a student who endorses performance-avoid goals engages with a task in order to avoid appearing “dumb” or incompetent. Thus when presented with a challenging math problem, a student with performance-approach goals would be focused on demonstrating that she is better than others at solving the problem, whereas a student with performance-avoid goals would be focused on avoiding being seen as unable to solve the problem. Researchers now also distinguish between *mastery-approach* goals (i.e., the goal is to master the task) and *mastery-avoid* goals (i.e., the goal is to avoid misunderstanding the task; Conroy et al., 2003; Elliot & McGregor, 2001).

*Classroom goal structures* were introduced later by such theorists as Ames (1984) and Midgley (2002). These are defined as “goal-related messages that are made salient in the achievement setting (i.e., the laboratory, classrooms, schools) that are related to, and most likely influence, the personal goals that individuals pursue in those settings” (Kaplan, Middleton, Urdan, & Midgley, 2002, p. 24). Classroom goal structures reflect the purposes for learning that students perceive in classrooms. If a student perceives a mastery goal structure, the student believes that instruction emphasizes learning, improvement, and effort. If a student perceives a performance goal structure, the student believes that instruction focuses on relative ability, outperforming others, and grades. Goal structures are communicated to students through assessments, daily tasks, and discourse and instruction (Kaplan et al., 2002; Midgley, 2002). Some researchers also have distinguished performance goal structures—which focus on perceptions of an emphasis on ability and performance—from extrinsic goal structures—which focus on getting good grades on assessments (e.g., Anderman, Griessinger, & Westerfield, 1998).

Research generally indicates that mastery goals and perceptions of mastery goal structures are related to adaptive educational outcomes. For example, Archer (1994) used three independent large samples of university students to examine the relations between mastery goals and a variety of outcomes. Results indicated that mastery goals were related positively to the use of effective learning strategies, enjoyment of learning, and likelihood of choosing challenging academic tasks.

In contrast, there are mixed results regarding the benefits of performance-approach goals. Some research indicates that the adoption of performance-approach goals is related to maladaptive educational outcomes, such as the avoidance of help-seeking (Ryan, Hicks, & Midgley, 1997) and the avoidance of challenge (Middleton & Midgley, 1997). However, other studies indicate that performance-approach goals may be beneficial. For example, among college students, the adoption of performance-approach goals is related positively to achievement (Church, Elliot, & Gable, 2001; Elliot & McGregor, 1999; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997). In a study on the relation between goal attainment expectancies and achievement goals, students reported that mastery-approach goals were more easily attainable than performance-approach goals,
and the more difficult each goal appeared to be to attain, the less likely students were to pursue it (Senko & Hulleman, 2013). Additionally, students with low perceived competence are more likely to adopt both performance-approach goals and performance-avoid goals simultaneously, rather than abandoning performance-approach goals and adopting performance-avoid goals; students with high perceived competence are likely to adopt performance-approach goals uniquely (Law, Elliot, & Murayama, 2012).

Research indicates that performance-avoid goals are maladaptive (Pekrun et al., 2015). When students approach their academic work with the goal of avoiding appearing unable or incompetent, few benefits arise (Pintrich, 2000a). For example, research indicates that performance-avoid goals are related inversely to grades and performance (Elliot & Church, 1997; Elliot & McGregor, 2001; Roney & O’Connor, 2008; Skaalvik, 1997), and related positively to the use of self-handicapping strategies (Midgley & Urden, 2001). Although most of this research has been conducted using self-report survey measures, some experimental studies also support the negative effects of performance-avoid goals. For example, Elliot and Harckiewicz (1996) conducted an experiment in which undergraduate students were randomly assigned to one of four conditions: performance-approach, performance-avoid, performance-neutral, and mastery. In the performance-avoid condition, students were instructed to solve a puzzle in order to demonstrate that they were not poor puzzle solvers; results indicated that intrinsic motivation to solve puzzles was undermined for participants in the performance-avoid condition.

The 3 × 2 Model

In more recent work, the traditional goal framework has been challenged by researchers that suggest that the current 2 × 2 model for goals does not account for nuance between referents of the self, task, and other. Calls have arisen for a more nuanced approach to the study of goals that focuses on improvement and growth (Martin, 2006, 2011). A 3 × 2 model for achievement motivation, posited in 2011, calls for researchers to consider task goals, self goals, and other goals along the same approach-avoid valence as the traditional model (Elliot, Murayama, & Pekrun, 2011). Under the new framework, task-based goals evaluate competence in terms of the absolute demands of the task itself, self-based goals evaluate competence in terms of an individual’s own prior performance on a task, and other-based goals evaluate competence in terms of performance in comparison to others (Elliot et al., 2011). Further distinctions have been made in terms of the self-based goals to account for the evaluations of the self that are rooted in the past versus those that are focused on the future (Elliot, Murayama, Kobeisy, & Lichtenfeld, 2015).

Personal-best (PB) goals are those that reflect performance and effort higher than, or as good as, previous best performance and effort (Liem, Ginns, Martin, Stone, & Herrett, 2015). This is a very similar notion to the original mastery goal (2 × 2 model) and self-based approach goals (3 × 2 model), with an important distinction: personal best goals capture both the product outcomes (e.g., test scores) and process outcomes (e.g., greater effort) (Liem et al., 2015). PB goals are associated with educational aspiration, enjoyment, classroom participation, persistence, deep learning, flow, positive relationships with teachers, and engagement (Liem et al., 2015; Martin, 2006, 2011; Martin & Liem, 2010).

In sum, goal orientation theorists conceptualize motivation in terms of the goals that students have when they are engaged with academic tasks. These goals are related
to a variety of educational outcomes. Goals are determined both by students’ individual cognitive beliefs and also by contextual influences. Achievement goal theory has also evolved over time. Early conceptions of the theory identified mastery (developing competence) and performance (demonstrating competence) goals (Ames, 1992a; Dweck & Leggett, 1988). However, in the mid 1990s, researchers argued that performance goals reflect both approach and avoidance goals; thus performance goals were re-conceptualized as performance-approach goals (i.e., the goal of demonstrating one’s ability relative to others) and performance-avoid goals (i.e., the goal of avoiding appearing incompetent; Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997). More recently, a 2 × 2 model for goals was proposed that characterized mastery goals along the approach and avoid valence (Conroy, Elliot, & Hofer, 2003; Elliot & McGregor, 2001). Most recently, a 3 × 2 model of achievement goals has emerged that suggests three goal types: task, self, and other (Elliot, Murayama, & Pekrun, 2011). Task-based goals evaluate competence in terms of absolute demands of the task itself; that is, competence is determined by judging progress against the requirements of the task itself. Self-based goals are those that evaluate competence against one’s prior performance, similar to the former conceptualization of mastery-goals. Other-based goals consider competence relative to others (Elliot et al., 2011).

**Self-Determination Theory (SDT)**

**Intrinsic and Extrinsic Motivation**

Deci, Connell, and Ryan (1989) defined self-determination as “experiencing a sense of choice in initiating and regulating one’s own actions” (p. 580). Self-determination focuses on three basic human needs: the need for competence (i.e., the need to experience success and mastery), the need for autonomy (i.e., the need to experience control over outcomes in one’s life), and the need for relatedness (i.e., the need for feeling a sense of social belonging; Deci & Ryan, 2000). According to SDT, it is particularly important to satisfy the needs for competence and autonomy to become intrinsically motivated (Deci & Moller, 2005).

The basic tenets of SDT, as described in Deci and Ryan’s (1985) more specific Cognitive Evaluation Theory, are intrinsic and extrinsic motivation. Although controversial among some scholars, these two constructs represent parts of a continuum that consists of (a) amotivation (i.e., a complete lack of motivation), (b) four levels of extrinsic motivation (external, introjected, identified, and integrated), and (c) intrinsic motivation (Ryan & Deci, 2000a). Intrinsic motivation is defined as engagement with a task fully and freely, without the necessity of material rewards or constraints (Deci & Ryan, 1985); extrinsic motivation refers to varying degrees of engagement with a task in order to receive an external reward. The four types of extrinsic motivation describe the extent to which an individual internalizes motivation for the task. Through this process, learners begin to transform their reasons for engaging with tasks from extrinsic to intrinsic (Deci & Ryan, 1991).

*External regulation* describes how motivation originates outside a person. For example, a student who engages in academic tasks for the sole purpose of receiving a reward, or for the sole purpose of avoiding an unpleasant consequence such as loss of recess, is externally regulated (Deci et al., 1991). *Introjected regulation* is a type of extrinsic motivation in which behavior is largely determined by one’s feelings; an individual who is regulated by introjection may behave in ways that the individual feels are appropriate
(i.e., socially acceptable); however, such individuals are not motivated by their own volition (Deci et al., 1991). Identified regulation describes a person who values to some extent the task, and has accepted the process of regulation. Students who spend extra time studying because they genuinely feel their skill level may improve, even if they do not enjoy the task, fall into the category of identified regulation (Deci et al., 1991). Finally integrated regulation is very similar to intrinsic motivation: integrated regulation toward an activity suggests that a learner has internalized information and integrated involvement with specific tasks into one’s self-schema, whereas purely intrinsic motivation refers to a situation in which a person is interested in the activity itself.

The use of extrinsic rewards can interfere with intrinsic motivation through the overjustification phenomenon (Lepper et al., 1973; Lepper & Henderlong, 2000). When students perceive that a reward is available for their participation in a given activity, the students’ participation in the activity is in essence overjustified (since they would have participated in the activity anyway). Once the reward is no longer available, the “justification” for engaging with the task is gone, and consequently intrinsic motivation to subsequently engage with the task decreases. More specifically, students reason that their participation is no longer justified, given the loss of the possibility of receiving the reward.

Autonomy, Relatedness, and Perceived Control

SDT incorporates needs-based aspects of human life in its framework. There are three innate psychological needs each human possesses, according to the theory (Deci et al., 1991). They are the need for competence, the need for relatedness, and the need for autonomy or self-determination. Competence, in this theory, is described as an individual’s need for attainment of various outcomes and feelings of efficacy for doing so, relatedness is described as an individual’s need for secure and satisfying connections with others, and autonomy is described as the ability to regulate one’s own actions and behaviors (Deci et al., 1991). Needs are central to human behavior and the human psyche, and the opportunity to satisfy these needs contributes to an individual’s likelihood to be motivated.

Autonomy is an inner endorsement of one’s own actions, or the sense that one’s actions emanate from oneself and are one’s own (Deci & Ryan, 1987). Autonomous individuals perceive themselves as the initiators of their own behavior, selecting desired outcomes and deciding how to achieve them, (Deci & Ryan, 1987). Alternatively, individuals who perceive they are controlled do not feel they are the initiators of their own behaviors. These individuals feel they have to do the behavior, regardless of the extent to which they agree with the intended outcomes (Deci & Ryan, 1987).

Deci and Ryan (1987) note that of primary concern to the issue of autonomy and control is the context that an individual perceives, and whether that context is supportive of one’s autonomy. There are a number of variables that can potentially have an effect on the extent to which an individual will feel autonomy-supported or controlled. These include rewards (Deci & Ryan, 1980; 1987; Harackiewicz, 1979), threats, deadlines, evaluation, surveillance (Lepper & Greene, 1975), choice (Zuckerman, Porac, Lathin, & Deci, 1978), and positive feedback (Ryan, 1982; Vallerand & Reid, 1984). Additionally, research has indicated the effects that a controlling event can have on the individual’s self-determination: at risk include the individual’s interest or enjoyment (Ryan et al. 1983), creativity (Amabile, 1979), cognitive activity (Deci, 1984), self-esteem and aggression (Deci, Nezlek, & Shinman, 1981), and health (Schulz & Hanusa, 1978).
Research supports the relation of SDT to adaptive motivational outcomes. Specifically, when social contexts support meeting individuals’ needs for autonomy, those individuals experience a variety of positive outcomes. For example, in one study, Deci and colleagues (1993) examined the relations between mothers’ vocalizations and intrinsic motivation of 6- and 7-year-old children. Results indicated that when mothers’ vocalizations were perceived as controlling, their children reported lower levels of intrinsic motivation. In another study in an organizational setting, Deci et al. (1989) examined the relations of managerial styles to workers’ self-determined motivation. Using a sample of over 1000 employees from a large cooperation, Deci and colleagues found that when extrinsic stressors were addressed in an organization (e.g., when salary issues were addressed), there was a strong relation between provision of an autonomy-supportive work context with workers’ satisfaction with their jobs.

Although research on SDT supports individual facets of the theory, much additional research is warranted. In particular, future research that examines multiple aspects of the theory simultaneously should be extremely beneficial.

### Expectancy-Value Theory

Expectancy-value theory originally was described as the product of one’s expectancy of attaining a given outcome and the value one placed on that outcome (hence Expectancy X Value, often shortened to EV; Atkinson, 1957). Expectancies and values, according to Eccles, are cognitive rather than just motivational (Wigfield & Eccles, 1992) and these two factors are posited to have the greatest influence on student performance, persistence, and choice of tasks (Eccles [Parsons] et al., 1983). Expectancies and values are shaped by both perceived competence and goals, and positively valenced (Wigfield & Eccles, 1992). Expectancies are defined as a student’s beliefs about his or her ability to successfully complete the requisite task, either currently or in the future (Eccles & Wigfield, 2000).

In the EV model, four types of achievement values were identified: attainment value (the importance of doing well on the task), intrinsic value (the enjoyment derived from the task), utility value (how the task relates to future goals), and one negatively valenced value: cost (all of the possible negative aspects of engaging in the task) (Wigfield & Eccles, 1992). Antecedents to these achievement values included self-schema and goals (e.g., gender-role identities), affective experiences (positive or negative emotions elicited from previous similar tasks), cost of success (the priority of the task in relation to important goals), and perceived beliefs of significant others (perceptions of those they value; Wigfield et al., 1992).

These expectancies and values were originally thought to be inversely related; that is, the more challenging the task, the lower the value, and vice versa. This idea has since been invalidated empirically (Eccles [Parsons], Adler, Futterman, Goff, Kaczala, & Meece et al. 1983; Wigfield & Eccles, 1992). For example, Wigfield et al. (1997) examined the relations between expectancies and values in math, reading, music, and sports, using a longitudinal sample of over 600 children. Results indicated that expectancies and values were correlated positively in all domains, across grades 1 through 6.

### EV or EVC?

Traditionally, expectancy-value theory posited that the interactions between expectancies and values resulted in achievement motivation (Eccles [Parsons] et al., 1983). Two
types of expectancies were validated in much of the research: ability beliefs reflecting self-beliefs about current ability to complete a task; and, expectancy beliefs reflecting self-beliefs about future ability to complete the task (Eccles & Wigfield, 1995). Three types of values were identified in the theory: interest value (inherent enjoyment in the task), utility value (how useful is the task to related goals), and attainment value (does this task align with my identity and goals?) (Eccles [Parsons] et al., 1983). Cost was added to the model as a fourth value, consisting of three types: effort required to be successful, time lost with other valued activities, and psychological effects if the task is failed (Eccles [Parsons] et al., 1983). Within the model, cost has been largely ignored (Barron & Hulleman, 2014).

More recently, expectancy-value theory has been challenged by scholars who suggest that “cost” is underestimated in traditional E-V models and who propose moving to a model that accounts equally for cost dimensions in a revised E-V-C model (Barron & Hulleman, 2014). Traditional models include cost as a mediator of overall value (Eccles [Parsons] et al., 1983). In the new model, cost is given the same status as a distinct construct consisting of four sub-components (task effort, other effort, loss of valued alternatives, and negative psychological experiences with failure). Empirical support for the revised model is emerging (Barron & Hulleman, 2014; Flake, Barron, Hulleman, Grays, Lazowski et al., 2011; Flake, Barron, Hulleman, McCoach, & Welsh, 2015; Perez, Cromley, & Perez, 2014).

**Control-Value Theory**

Control-value theory is a theory of emotions in achievement settings regarding any achievement-related activities (Pekrun, Frenzel, Goetz, & Perry, 2007; Pekrun & Perry, 2014). Within this theoretical framework, students experience achievement emotions when they feel in control of (positive emotions) or not in control of (negative emotions) achievement activities and outcomes that are important to them (Pekrun, 2006; Pekrun et al., 2007). These emotions result from a cognitive appraisal process in which the student evaluates the achievement situation and makes the determination that the situation is a threat (negative appraisal) or a challenge (positive appraisal) to important goals (Pekrun, 2006). These emotions influence cognitive resources, motivation, use of strategies, and self- vs. external-regulation of learning (Pekrun, 2006).

Control appraisals refer to the perception of subjective control over achievement activities and their outcomes (Pekrun et al., 2007). They include action-control appraisals, defined as the expectancies that an activity can be successfully initiated and performed (i.e., self-efficacy beliefs); action-outcome appraisals, defined as the expectancies that the given activity will lead to the appropriate outcome; and situation-outcome appraisals, defined as the expectation that a given outcome will occur (the assurance that the expected outcome will indeed occur given the appropriate effort) (Pekrun et al., 2007). Achievement emotions that are likely dependent on control appraisals include pride, shame, gratitude, and anger. When a student appraises him- or herself as having control over the achievement task, he will experience pride (after success) or shame (after failure). Achievement emotions that are likely independent from control include joy, contentment, anger, or frustration. When a student appraises himself as having no control over the achievement situation, he will likely experience contentment (after success) and anger (after failure).
Value appraisals include intrinsic and extrinsic values, similar to those defined in aforementioned theories. Intrinsic value appraisals refer to the belief that the task is inherently interesting or enjoyable. Extrinsic value appraisals refer to the belief that the task is useful for some other purpose (Pekrun et al., 2007). For activities that are positively valued and perceived as controllable, students will likely experience enjoyment. Variations of enjoyment in academic settings can range from excitement to relaxation. Activities that are perceived as controllable but negatively valued are likely to elicit anger from a student who may feel the activity is wasting her time. Finally, an activity that is not valued will result in boredom (Pekrun et al., 2007).

Summary

Motivation research has a rich history with methodologies, constructs, and levels of specificity that have changed greatly through recent history. Conceptualizations of motivation have evolved from theoretical perspectives solely concerned with unconscious motives, drives, and rote behaviors to current theories that acknowledge cognitive, social, and developmental aspects of motivation.

Human motivation is complex, as there are numerous theoretical perspectives that are used by researchers to explain the reasons why students engage with academic tasks. Motivation researchers are concerned with students’ goals, the intrinsic and extrinsic nature of motivation, students’ beliefs about their competence, and students’ perceived valuing of tasks. For most motivation researchers, the specific motivational issue that is being examined determines the theoretical perspective that is most useful in a given situation. For example, if a motivation researcher is interested in examining students’ long-term likes and dislikes in a particular subject (e.g., mathematics), then the researcher might examine the question using an expectancy-value perspective. Thus, specific motivational questions that are the best indicators of various aspects of the theory should be employed. As the research on motivation contributes to our understanding of it, researchers must continually develop their theoretical and methodological approaches to capture more and more sophisticated nuances in the area.

PRACTICAL IMPLICATIONS

The practical implications of motivation research are plentiful. Of particular importance are the daily decisions that teachers make in classrooms and the powerful effects these can have on students’ motivation. Whereas expensive, large-scale interventions can certainly be delivered to enhance achievement motivation, simple changes in daily instructional practices can also have profound effects on students, both positively and negatively. For example, E. Anderman et al. (2001) found that in classrooms where teachers used performance-oriented instructional practices (e.g., displaying the work of the best students), children’s valuing of mathematics and reading declined over the course of a year.

Reviews of the implications of motivation research for practice have been presented elsewhere (Ames, 1992b; E. Anderman & L. Anderman, 2014; Brophy, 2004; Maehr & Midgley, 1996). In the following sections, we briefly examine some of the daily decisions that teachers make and how these decisions affect student motivation. In particular, we examine decisions regarding (a) selection of academic tasks, (b) evaluation of achievement, and (c) grouping students for instruction.
Selection of Academic Tasks

Teachers choose the types of tasks and activities to be presented to students every day. Although districts and states often set standards and curricula, the ways in which curricula are presented vary. Within mandated curricula, teachers still make important choices about how material is presented, and those decisions can affect student motivation both in the short- and long-term.

Classification of Tasks

Academic tasks can be classified in a number of different ways, each with significant implications for student motivation. For example, tasks can be classified in terms of (a) seatwork, (b) homework, (c) group work, and (d) assessments. These terms have different connotations and applied meanings for students. For example, when a student hears that a task is going to be seatwork, the student may express different types of motivation, compared to when the task is presented as an assessment. Moreover, these various tasks all often can be completed using technology (e.g., on laptops, iPads, or smartphones).

Researchers tend to classify academic tasks somewhat differently, but these classifications nevertheless may affect student motivation. Doyle (1983) described four types of tasks that are presented in classrooms. These include (a) memory tasks (i.e., recalling information that has been learned previously), (b) procedural/routine tasks (i.e., applying an algorithm to solve a problem), (c) comprehension/understanding tasks (i.e., recognizing that an article about outer space is referring to possible voyage to Mars), and (d) opinion tasks (i.e., giving opinions about the performance of politicians during political debates) (Doyle, 1983).

Another common classification system is Bloom’s Taxonomy. The original taxonomy for the classification of cognitive learning objectives included six categories: (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). The taxonomy was revised several years ago; this revision was undertaken in order to better reflect the actual cognitive processes that students use when engaging with academic tasks. The revised taxonomy includes the following cognitive functions: (a) remember, (b) understand, (c) apply, (d) analyze, (e) evaluate, and (f) create (Anderson et al., 2001). Bümen (2007) conducted an experimental study in which preservice teachers were taught either the original taxonomy, or both the original and revised taxonomies. Results indicated that teachers who also learned the revised version produced lesson plans that were rated as being of higher quality than those of the group that was only exposed to the original taxonomy.

Motivation and Tasks

As mentioned, the choice of task is related to student motivation. Thus, if a teacher chooses a task that focuses on analysis, this task may be motivational for some students, but not for others. Indeed, the task may be exciting to students who enjoy analyzing complex phenomena (i.e., those who have a high need for cognition; Gray, Chang, & Anderman, 2015), whereas the same task may induce anxiety in a student who either does not enjoy analytic tasks or has had unpleasant experiences in the past with such tasks.
Depending on the type of task that is selected, the context of the classroom environment, and the students’ prior experiences and beliefs about the nature of the task, the specific task that students are asked to complete affects their motivation (E. Anderman & L. Anderman, 2014). Most theories of achievement motivation can be used to explain how task choice affects student motivation. However, research from goal orientation and from expectancy-value theories in particular have focused on how tasks affect motivation.

**Goal Orientation Theory and Task Choice**

Goal orientation theorists argue that students’ goals are determined by several factors, including the classroom context, as well as the specific task. In most cases (although certainly not all), the teacher determines the types of tasks that students encounter. From a goal theory perspective, the student can adopt mastery goals, performance-approach goals, or performance-avoid goals for the task; in addition, the student can adopt several of these goals simultaneously (Linnenbrink & Pintrich, 2001; Pintrich, 2000b).

The instructions that teachers provide to students upon receipt of the task can determine the types of goals that students adopt. Both experimental research (Elliot & Harackiewicz, 1996) and descriptive research (E. Anderman et al., 1999; Izadikhah, Jackson, & Ireland, 2012) indicate that adoption of goals for particular tasks can be induced by the context in both academic and work settings. More specifically, when teachers focus students on issues related to relative ability or social comparison, performance goals may be induced, whereas when teachers focus students on effort, improvement, and using oneself as a point of reference, mastery goals may be induced. For example, Patrick et al. (2001) examined teachers’ specific behaviors in fifth-grade classrooms that were perceived by students as emphasizing a variety of goal structures. Classroom observations indicated that teachers utilized distinct behaviors across these classrooms. Although teachers in both high- and low-performance focused classrooms publicly provided feedback about task performance and rewards during instruction, the emphasis on the *importance* of feedback and rewards was much greater in the high-performance classrooms. Results also indicated that teachers in high mastery classrooms emphasized creativity and deep understanding. Those teachers also were observed as being particularly enthusiastic and encouraging verbal participation from their students.

**Expectancy-Value Theory and Task Choice**

Recall that Eccles and Wigfield’s expectancy-value theory of motivation focuses on four core achievement values (attainment value, utility value, intrinsic value, and cost). Research indicates that values develop over time, and that students are able to think about achievement values in a more complex manner as they move from childhood into adolescence (Eccles, 1993; Eccles, Wigfield, Harold, & Blumenfeld, 1993; Wigfield & Eccles, 1992). The development of positive achievement values in students is important, because valuing an academic subject is predictive of subsequent involvement with that subject (e.g., enrollment in future courses in that subject; Wigfield & Eccles, 1992) and of later life-choices, including career-related decisions (Durik, Vida, & Eccles, 2006).

Teachers communicate achievement values to students by the ways in which they present academic tasks. Many times, students engage in academic tasks without...
understanding why the task is important. However, educators can easily affect student motivation by helping students to value certain tasks. Specifically, it is incumbent upon educators to choose tasks that perceive as being important, interesting, useful, and worthy of one’s time.

**Evaluation of Student Achievement**

Most education involves the assessment of achievement. The motivational consequences of evaluation are important. Indeed, receipt of a “good grade” or a “bad grade” can have profound effects on subsequent motivation. In addition, a forthcoming assessment may produce debilitating anxiety in some students, which can adversely affect performance. On a larger scale, policy in the United States such as the No Child Left Behind legislation mandates that high-stakes assessments are given in all states (Linn, Baker, & Betebenner, 2002; National Center for Education Statistics, 2006).

**Intrinsic/Extrinsic Motivation and Evaluation**

Students’ intrinsic and extrinsic motivations are related to assessment practices. When a student is intrinsically motivated, the receipt of a grade may ultimately lower the students’ intrinsic motivation to learn (Deci et al., 1999b, 2001; Freedman, Cunningham, & Krismer, 1992; Ryan et al., 1985). This may be particularly true in schools or classrooms that stress the importance of testing. When the teacher persistently talks about the importance of grades, students may become highly focused on grades, at the expense of deep learning. In such contexts, students ultimately may come to believe that the grade is more important than the actual material that is being learned. This in turn can lead to decrements in intrinsic motivation. For example, a student who truly loves reading mystery novels may experience decrements in intrinsic motivation to read such novels if the student is enrolled in an English class in which the students are persistently tested on the novels. This may be particularly true if the assessments focus on factual recall of somewhat trivial details in the novel.

Although testing and assessment are not going to be eliminated in schools, the emphasis on testing can be diminished. First, teachers can be better educated to use discourse that does not focus on evaluation. That is, teachers can be better trained to communicate about the intrinsic value of the content, rather than simply focusing on the importance of a forthcoming test. Second, teachers also can be better educated regarding the proper way to present grades to students. The negative effects of grades on intrinsic motivation can be lessened if grades are presented as informational and non-controlling in nature (Deci, Spiegel, Ryan, Koestner, & Kauffman, 1982; Pittman et al., 1980). Thus rather than simply writing “A” on a student’s paper, optimal motivation may be achieved if an additional personal comment is written to the student. Such comments should indicate that the student earned the “A” grade because she truly mastered the material. Moreover, the comment should indicate that the student earned the grade, rather than indicating that the teacher gave the student the grade (which could be perceived as controlling).

**Grouping Students for Instruction**

The ways that teachers organize groups for instruction can affect student motivation (Linnenbrink, 2005). Children recognize that they often receive differentiated
instruction based on ability (Weinstein, Marshall, Brattesani, & Middlestadt, 1992). Thus, students who are placed in lower ability groups are aware of such placements. Such grouping practices often are inevitable, but they do impact academic motivation.

A student who is put in the low-ability reading group during the first grade may develop a poor self-concept of ability at reading; that low self-concept of ability may perpetuate if the student consistently is placed in low-ability reading groups throughout the elementary school years. In contrast, a student who moves from a low-ability group into a higher-ability or heterogenous group at a later time may not experience the same decrements in motivation (E. Anderman & L. Anderman, 2014). Low-achieving students in particular may benefit from participation in mixed-ability groups. For example, Saleh, Lazonder, and DeJong (2005) randomly assigned fourth graders to either homogeneous or heterogeneous groups. Students all received identical instruction on plant biology. Results indicated that low-ability students displayed greater learning when they were assigned to the heterogeneous groups.

Grouping of students by ability is very popular among educators, particularly because it is easier for a teacher to prepare instruction for a more homogeneous group of students. Nevertheless, the evidence about the effectiveness of ability grouping on achievement is limited. Indeed, research indicates that between-class ability grouping is largely unrelated to achievement, except for the highest-ability students (Fuligni, Eccles, & Barber, 1995; Gamoran, 1992; Slavin, 1990). Other research indicates that teachers of low-ability groups focus less on students’ individual interests and use less cognitively demanding tasks than do teachers of higher-ability groups (Borko & Eisenhart, 1986; Oakes & Lipton, 1990). Grouping students by ability and utilizing differentiated curricula may contribute to achievement gaps, particularly in secondary school students (Schofield, 2010).

Cooperative learning has been demonstrated to be a viable alternative to grouping students by ability (Johnson, Johnson, & Smith, 2007; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Slavin, 1996, 1983; also see Chapter 18 in this volume). Most cooperative grouping techniques have several common characteristics: (a) success of the group is dependent on mutual success among group members; (b) groups are heterogeneous in composition; and (c) students must still demonstrate individual learning.

Research on cooperative learning indicates that it is effective both at producing achievement gains and at maintaining students’ motivation to learn (Qin, Johnson, & Johnson, 1995; Slavin, 1990, 1992, 2014). A number of explanations have been posited to explain the benefits of cooperative learning. For example, Webb and her colleagues have argued that in classrooms where cooperative groups are used effectively, students communicate better with each other, and offer each other help that students ordinarily might not receive (Webb, 1982, Webb, Nemer, & Ing, 2006). From a Vygotskian perspective, when students learn in cooperative groups, the social interaction among the students facilitates cognitive growth, since higher-achieving students can scaffold learning and lure lower-achieving students into their zones of proximal development (Palincsar, 1986; Vygotsky, 1978).

Educators can effectively use groups for instruction without harming students’ intrinsic motivation. In particular, groups can be organized around students’ interests instead of around abilities. Motivation is enhanced when students are allowed to examine areas of personal interest (Hidi, 1990; Renninger, 2000; Schiefele, Krapp, & Winteler, 1992; Schraw, Flowerday, & Lehman, 2001). Thus, an alternative to assigning students to reading groups that are organized in terms of students’ abilities is to organize the groups around various topics. For example, teachers could arrange groups so that one
group is reading a mystery, another is reading science fiction, another is reading an adventure, and another is reading a tragedy. Such arrangements afford all students the opportunity to engage in reading with peers around mutually interesting topics.

Feedback

Research is clear that student feedback is very important for adaptive motivation and learning (see also Chapter 14 in this volume). Feedback that is focused on self-improvement can influence students to adopt mastery orientations and experience enjoyment (when feedback is positive) or anger (when feedback is negative), whereas feedback that suggests social comparisons will likely elicit performance goals and cause student to experience hope and pride (when a student is performance-approach oriented) and anxiety, hopelessness, shame, or relief (when a student is performance-avoidant; Pekrun, Cusack, Murayama, Elliot, & Thomas, 2014). Offering feedback that is based on one’s own performance, rather than on the performance of others, is quite clearly the better option in classroom settings.

FUTURE DIRECTIONS

In this chapter, we have reviewed developments in research on academic motivation. In the concluding section, we suggest some areas in which motivation research has shown some initial promise, and some in which further research is needed.

Motivation-Based Interventions

Motivational issues have not been the focus of many intervention studies. Maehr (1976) noted over 30 years ago that motivation often is neglected as a valued outcome variable. Although motivation often has been included as a predictor variable in educational interventions, it for the most part has not been identified as a valued outcome worthy of study.

A 2007 issue of Educational Psychologist focused on educational interventions that are designed to enhance student motivation (Wentzel & Wigfield, 2007). Whereas that issue featured several important and promising interventions, it also served as an important reminder about the limited amount of intervention-based work that has occurred in the study of motivation. Indeed, the majority of studies over the past 40 years have been descriptive. Such studies are important and have helped us to identify how motivation constructs are related to other important outcomes (e.g., achievement). However, few studies have experimentally evaluated programmatic efforts (i.e., programs that are well grounded in motivation theory) aimed directly at enhancing academic motivation. As described in this chapter, some recent work by Hulleman and his colleagues (e.g., Hulleman et al., 2010) has demonstrated that interventions framed in motivation theory can be delivered in a cost-effective manner, with potentially strong positive effects on subsequent motivation and achievement. Work in this area is nascent but highly promising.

Developmental Studies

Another important area for future research is in the area of longitudinal/developmental studies of motivation. Some longitudinal studies examining changes in motivation
constructs over time have been conducted. For example, some studies have examined changes in expectancies and values (Eccles et al., 1993; Wigfield & Eccles, 1992, 2002; Wigfield et al., 1991). Other studies have examined changes in achievement goal orientations (E. Anderman & Midgley, 1997; L. Anderman & Anderman, 1999), and some studies have investigated changes in intrinsic motivation over time (Gottfried, Fleming, & Gottfried, 2001). However, developmental studies are still relatively rare in the motivation field.

Longitudinal studies are particularly difficult to conduct because of concerns with participant attrition. First, it is very time-consuming to collect large-scale longitudinal data. Families often move to new neighborhoods, and it becomes quite difficult and expensive to track students over time. Second, it often is difficult to convince participants to agree to remain in studies over extended periods of time. Even though a study participant may remain in the viable sample pool, it may be difficult to persuade all participants to continue participating.

Nevertheless, there is a need for additional studies examining how motivational beliefs develop over time. In particular, the field is lacking in studies that examine motivation in both very young children (i.e., preschool and the lower grades), and in studies examining older adolescents (i.e., after the transition into high school; Wigfield & Eccles, 2002). In addition, there is a need for studies that examine the development of motivational beliefs across diverse populations and from varied socioeconomic backgrounds. Finally, there is a need for developmental studies that are framed in other theoretical frameworks (e.g., SDT).

Qualitative Studies

Most motivation research has been conducted using survey-based designs and quantitative methods. Whereas researchers have learned much about the relations of motivation constructs to a host of variables, quantitative studies have not provided researchers or practitioners with more nuanced information about how students think about motivation, and how social contexts and social interactions affect motivation. In particular, many of the quantitative studies that have been conducted in the field of motivation have relied on self-report data, provided by students via survey instruments. Turner and Meyer (2009) re-examined one of their survey-based studies of motivation in math classrooms, and concluded that the results of self-report measures about math are quite generic in nature. Specifically, they noted that whereas students responded to items about mathematics, the researchers really did not know about the specific aspects of math that students were thinking about when responding to the survey items.

Qualitative studies allow motivation researchers to delve more deeply into the ways in which students truly think about motivation. Some qualitative studies have been conducted in recent years. These studies have provided the motivation community with important insights into the relations of motivation to learning in classrooms. For example, the previously mentioned study by Patrick and colleagues (L. Anderman, Patrick, Hruda, & Linnenbrink, 2002; Patrick et al., 2001) examined the ways that elementary school teachers communicate mastery and performance goal structures to their students. Classroom observations indicated that teachers who communicated a mastery goal structure to their students engaged in specific instructional behaviors, such as communicating the importance of effort, encouraging student interaction, and demonstrating a concern for student learning. In comparison, teachers who communicated...
the presence of a performance goal structure emphasized grades, tests, and ability differences among students.

In another study, L. Anderman and her colleagues (L. Anderman, Andrzejewski, & Allen, 2011) conducted an observational study in high school classrooms. Surveys were used to identify a small set of teachers who were perceived by students as communicating a strong mastery goal structure, high academic press, high social support, and a low performance-avoid goal structure. Observations were then conducted in order to identify and describe the instructional practices of those teachers. The authors proposed a grounded model that included three intersecting themes: supporting understanding, building and maintaining rapport, and managing the classroom.

**CONCLUSION**

Motivation affects learning in important ways. As we have reviewed in this chapter, motivation is related to how students learn in classrooms; to ways in which students approach academic tasks; to the development of interest in certain domains; to students’ beliefs about their abilities and their weaknesses; to the activities in which students choose to participate during their free time; and to numerous other outcomes, including career choices.

Although student motivation is affected by numerous entities (e.g., parents or communities), motivation is communicated to students daily and consistently by their teachers. The interactions that students have with their teachers have powerful effects on motivation. Thus, the practical implications of motivation research are profound. Educators make both small and large instructional decisions that affect students’ motivation. The selection of tasks, the manner in which assessments are delivered, the ways that instructional groups are formed, and the discourse that teachers use in class all are related to students’ motivational beliefs.

Finally, we must reiterate that motivation is a complex topic. Many educators have a simplistic view of motivation, and many assume that motivation solely resides within the student, and that the teacher does not have any responsibility in determining student motivation. In the present chapter, we have tried to communicate that motivation is complex. It involves students’ goals, values, ability beliefs, and numerous other variables. Although at some level motivation does emanate from the student, motivation also is largely determined by the instructional practices and social contexts of schools and classrooms. The instructional decisions made by teachers every day strongly influence students’ beliefs about their abilities, their goals, their values, and ultimately their educational and vocational choices.

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