

Motivation: What Teachers Need to Know

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Motivation, one of the foremost problems in education, is often inadequately addressed in typical foundational (educational psychology) courses. In this article, Ames clarifies the complex construct of motivation as it relates to learning and offers a revamped curriculum that applies motivation theory and research to practice. She recommends instruction in how motivation constructs relate to each other, to developmental changes, to individual and culturally related differences, and to the classroom context.

There are three things to remember about education. The first one is motivation. The second one is motivation. The third one is motivation.

—Terrell H. Bell

What is it about the academic motivation of students that teachers should know? Certainly, knowledge of motivation concepts, principles, and theories should be basic elements in a foundations course in educational psychology, but this is not really what educational psychology should be about. Teachers need to know how this conceptual knowledge relates to the classroom and to their instructional role in the classroom. Teachers also need to know how to rely on this knowledge when dealing with issues that involve motivational concerns and when making instructional decisions.

For example, consider a not very unusual problem facing a teacher about homework. How can a teacher set homework policy so that students complete the homework and still maintain their interest in the material? Teacher A's policy states that all homework must be turned in daily, that all homework will be graded daily with letter or percentage grades, and that homework counts for 30 percent of the quarter grade. Teacher B's policy states that students are to spend no more than thirty minutes per night on homework, that homework will be graded satisfactory or unsatisfactory, that students can redo and correct their work, and that homework counts for 10 percent of the quarter grade. We may think the stringency of Teacher A's policy might be more effective, but research on motivation would suggest that Teacher B's policy is more likely to fulfill both objectives. At the classroom level, teachers are often faced

with a child who continually avoids challenge. At the building level, teachers must come together and decide how to structure a reading program so that students will read more but also enjoy reading more. These are simple examples of everyday problems and decisions that involve motivation questions.

Student motivation has, for some time, been described as one of the foremost problems in education.¹ It is certainly one of the problems most commonly cited by teachers. Motivation is important because it contributes to achievement, but it is also important itself as an outcome.

Motivation is not synonymous with achievement, and student motivation cannot necessarily be inferred by looking at achievement test scores. Immediate achievement and test performance are determined by a variety of factors and may even be assured through a variety of ways, and some practices that serve to increase immediate achievement may actually have the effect of diminishing students' interest in learning as well as their long-term involvement in learning. When we talk about motivation as an outcome, we are concerned with students' "motivation to learn."² If we place a value on developing a motivation to learn in students, we are concerned with whether students initiate learning activities and maintain an involvement in learning as well as a commitment to the process of learning. Effective schools and effective teachers are those who develop goals, beliefs, and attitudes in students that will sustain a long-term involvement and that will contribute to quality involvement in learning.

If we evaluate our schools and classrooms strictly by how much students achieve, we can easily lose sight of these other educational goals and values. We not only want students to achieve, we want them to value the process of learning and the improvement of their skills, we want them to willingly put forth the necessary effort to develop and apply their skills and knowledge, and we want them to develop a long-term commitment to learning.³ It is in this sense that motivation is an outcome of education. Students who elect to take advanced science classes because they want to learn more and not just because they think they can do well is an example of this outcome.

It is therefore a first priority to help teachers develop an understanding of why motivation is important. This, indeed, may be a challenge when educational psychology textbooks typically allot only one chapter to motivation, and this chapter usually provides little more than an overview of theories and concepts. Moreover, topics that are intricately related to motivation, such as classroom management, individual differences, testing and evaluation, grouping, and family, are often treated in separate chapters with little or no linkage to motivational concepts and without discussion of motivational processes. Educational psychology is about application; it is not enough to highlight theories or review basic constructs and dot these presentations with a few examples.

Motivation has often been characterized within what has been called a

quantitative view of motivation,⁴ in which motivation has been described as the *intensity* of behavior, the *direction* of behavior, and the *duration* of behavior.⁵ The question for classroom teachers is how to get students to do what you want them to do and to do it consistently over time. This focus, however, does not help us in thinking about how to develop and nurture a motivation to learn in students.

Rather than the duration of behavior (or what has been called engaged time), we need to think about the quality of task engagement. Students need to develop motivational thought patterns that contribute to self-regulated learning. Observing students' time on task does not tell us about what they are attending to, how they are processing information, how they are reacting to their performance, and how they are interpreting feedback. What is critical is the quality of engaged time, not the duration of engaged time.

Rather than the direction of behavior, we need to think about students' goals or reasons for learning. Two students may choose to work on a science project or complete a math worksheet, but they may pursue quite different goals in doing so. A student who works for extrinsic rewards such as grades is likely to engage in very different thought processes and behaviors compared with the student who wants to learn something new about the subject matter or improve a skill. Students' reasons for learning have important consequences for how they approach and engage in learning.

Motivation is also not a matter of increasing the intensity of behavior. The task facing teachers is not one of maximizing or even optimizing the level of motivation; to suggest so perpetuates a view that motivation is a state of arousal or energy. What is assumed is that by increasing or optimizing this state, performance will be enhanced. What we often find, however, is that students can be equally motivated but for very different reasons. Often, it is not that the child is not motivated, but that the child is not motivated to do what *we* want him to do. Rather than focus on differentiating high, low, and optimally motivated students, we instead need to define adaptive and maladaptive or positive and negative motivation patterns and to understand how and why these patterns develop over time.

MOTIVATION CONSTRUCTS

To teach quantitative concepts such as duration, intensity, and direction is not going to help teachers understand how or why students develop adaptive, positive, or effective thought patterns. At a very general level, these thought patterns include goals, beliefs, and attitudes that are involved in how students approach learning situations, engage in the process of learning, and respond to learning experiences. Some examples are self-worth or self-concept

of ability, attributions, self-regulated learning, and achievement goals. We need to pay more attention to how teachers can become more successful in socializing these adaptive motivation patterns in students. To set the stage for some later points, let me briefly describe just a few of these constructs.

SELF-WORTH

Students' self-worth is intricately tied to their self-concept of ability in school settings.⁶ This self-concept of ability or self-efficacy has significant consequences for student achievement behavior. Self-efficacy is an expectation or belief that one is capable of performing a specific task, organizing and carrying out required behaviors in a situation.⁷ Efficacy is not self-concept of ability in a general sense; it is task- or situation-specific. One's self-worth is implicated when the task is important and when one's ability is threatened. Clearly, in the classroom, all tasks can be made important through the use of external rewards and certain evaluation procedures. Indeed, it is very difficult to look in a classroom and determine what is or is not important to different children. As a consequence, self-efficacy is often a critical factor predicting children's task choices, willingness to try and persist on difficult tasks, and even actual performance in many classrooms.

At first glance, it may appear that increasing student's self-efficacy is merely a matter of increasing children's confidence that they can do well. This is not necessarily the case. Consider an example where a teacher tells all her students that everyone's story is going to become part of the class newspaper. Although all the children can expect success in getting their stories "published," a child may still harbor intense doubts about whether he or she can write a story. The child's self-confidence of ability to write the story has not been changed. Children's self-efficacy does respond positively when they learn to set short-term, realistic goals and are shown how to make progress toward these goals. It is not a matter of convincing them they can do well or even guaranteeing it; it is giving them the strategies to do so.

Children's understanding about their ability is responsive to developmental changes as well as situational influences, and this also has important implications for practice. Young children tend to have an optimistic view of their ability, high expectations for success, and a sort of resilience after failure.⁸ Moreover, young children tend to equate effort with ability. To them, hard workers are smart and smart children work hard. As children progress through school, their perceptions of their ability decrease and tend to reflect the teacher's evaluation of their ability. Older children's self-evaluations are more responsive to failure or negative feedback, meaning that they are more likely to adjust their expectations downward after failing. Older children also develop a more differentiated view of effort and ability. While effort can increase the chance for success, ability sets the boundaries of what

one's effort can achieve. Effort now becomes the "double-edged sword."⁹ Trying hard and failing threatens one's self-concept of ability.

What does this mean to teachers? First, for young children, praising their effort may actually convey to them a sense of confidence in their ability. Because ability and effort are not well differentiated, praise for children's efforts can enhance their self-confidence. However, this does not work with older children. To them, effort and ability are not the same, and they are more concerned with being perceived as able. It is at this point that teachers' and students' preferences diverge. While teachers may value effort and hard work, students prefer to maximize their chances for success and at the same time minimize their effort expenditure. Ability is important in most classrooms; when students' self-concept of ability is threatened, they display failure-avoidance motivation.¹⁰ They engage in failure-avoiding tactics such as not trying, procrastinating, false effort, and even the denial of effort. Why would they do this when these behaviors most assuredly will increase the likelihood of failure? What these behaviors accomplish is reducing the negative implications of failure. From the students' point of view, failure without effort does not negatively reflect on their ability. What they have achieved is "failure with honor."¹¹

ATTRIBUTIONS AND RELATED METACOGNITIVE BELIEFS

The consequences of students' attributions for success and failure for their subsequent achievement behavior have been well described in the research literature. Attributions are related to expectations about the likelihood of success, to judgments about one's own ability, to emotional reactions of pride or hopelessness, and to a willingness to engage in effort-driven cognitions as in self-regulated learning. Over time, children who believe that failure is caused by a lack of ability are likely to exhibit a sense of helplessness. Low expectations, negative affect, and ineffective strategies characterize these children. Children with this dysfunctional attribution pattern are less likely to develop or enact those metacognitive skills that will enable them to tackle a wide range of classroom tasks. By contrast, children who perceive a relationship between their own effort and success are likely to respond to failure or problem situations with a sense of hopefulness and engage in strategic task behavior.¹²

Related to attributional beliefs is students' use of learning strategies and other self-regulated thought processes. These are effort-driven processes, and in that sense, they are motivational. They include, for example, organizing and planning, goal-setting, self-monitoring, and self-instruction. These strategies have been called generic or general learning strategies in that they can be applied across situations and across domains. Of course, students have to have knowledge of the strategies and an awareness of their appro-

priateness to the situation, but beyond knowledge and awareness is the volitional (motivational) question of whether students will apply the strategies. Whether students choose to engage in such strategic thinking is largely dependent on whether they are willing to apply the necessary effort and whether they believe effort will lead to success. Thus, there are two issues concerning students' strategy use. The first issue concerns whether students have and can apply the necessary skills or strategies. The second issue is motivational: whether students believe that effort is linked to success and that the outcome is worth the effort, and whether they are willing to expend the effort.¹³

ACHIEVEMENT GOALS

Related to attributions are students' reasons for learning and their achievement-related goals.¹⁴ The issue here is *why* students engage in learning and choose to engage in academic tasks rather than whether they choose to do so. For example, students may choose to participate in specific activities to gain external rewards, to develop their skills and ability, or to demonstrate that they are smart by outperforming others or by trying to achieve success with minimal effort.

Students who are interested in learning new things and developing their skills and ability have been described as mastery-oriented. These students are willing to expend the necessary effort to learn something new and confront challenging tasks. It is this mastery-goal orientation that is more likely to produce independent learning and sustained involvement in achievement activities. These students are motivated to learn.

Students who instead perceive that normative performance is important and want to demonstrate that they have ability or to protect their ability when threatened are labeled performance-oriented. Such students tend to think more about their ability than about "how to do the task." Their strategies, such as memorizing facts or reading or studying only what they think will be on a test, tend to serve their performance only over the short term.

Whether students adopt mastery or performance goals is, in part, dependent on their classroom experiences, essentially their perceptions of how the teacher structures the classroom.¹⁵ Many children enter school with mastery or learning goals but many become socialized into a performance-goal orientation.¹⁶ When we consider the preponderance of public evaluation practices, normative comparisons, extrinsic rewards, ability grouping, and emphasis on production, speed, and perfection, it is no wonder that children find it difficult to maintain a learning or mastery orientation.

ENHANCING MOTIVATION

In most of our foundational courses, we stop once we have covered the basic

theories or motivational constructs. We cannot assume, however, that teachers are prepared to translate these ideas into classroom practice. This is a major problem for foundations courses. We give too little attention to how motivation concepts interface with the instructional program, too little attention to how the social context of the classroom can undermine or facilitate the development of students' motivation to learn, and too little attention to how motivation principles relate to each other. What we do is cover the basics, highlight a few principles, maybe even review a case study or two, and then hope that the teacher's intuition has somehow been enlightened and that the teacher will be able to apply this knowledge. Many textbooks, when it comes to dealing with applications, rely on conventional wisdom. There are several major texts that present a problem (e.g., how to deal with a child who exhibits poor motivation) and then present teachers' solutions. These solutions are not linked to any conceptual framework. There is even an implicit endorsement of these ideas and solutions as credible, viable, and conceptually sound because the source is practicing teachers. Unfortunately, it is often the case that this is not so. The problem is that many strategies for enhancing student motivation involve the use of principles that are counter-intuitive. Let me illustrate this point with examples that are related to the motivation constructs described in the preceding section.

1. If children lack confidence in their ability to succeed, we might infer that these low-confident children should receive a heavy dose of success experience. The considerable literature on learned helplessness and attribution retraining, however, has shown that success alone does not alleviate a helplessness syndrome.¹⁷ In contrast to what we might surmise, providing or ensuring successful outcomes or feedback does not necessarily bolster children's confidence in their abilities. Such a prescription ignores the role of cognitive motivational factors in determining how children interpret their classroom experiences. For many children success is not sufficient to create or maintain a belief that they have the ability to reverse failure. Children who are convinced that they lack the necessary ability to do school tasks do not take responsibility for success and even underestimate their performance when they do well. Thus, it is not a matter of persuading them they can do well or even guaranteeing it; instead, practice should involve giving them short-term goals and strategies for making progress toward the goals.¹⁸ Once students understand how to reach a goal and focus on strategies, rather than outcomes, they are more likely to "own" the outcome.

2. Related to an emphasis on success is the prescription "try to find *something* positive to say about a child's work." Reinforcing children's work even if it involves some small aspect of the total effort should be a step in the direction of giving the child more confidence. Unfortunately, for the very children who most need positive feedback, the "something positive" is often something unimportant and irrelevant to the task requirements. For example, if the task is to write a book report in a certain format, commenting positively on the

child's neat handwriting is not likely to have the intended effect.

On the one hand, the generous use of praise would seem to be an obvious and salient way of encouraging children who generally perform poorly, but as Brophy has shown, the way praise is often used in elementary school classrooms can undermine the achievement behavior of these children.¹⁹ The praise children receive is often on irrelevant aspects of a task; in these instances, children discount the praise. Praise on easy tasks or praise that is noncontingent on children's effort or performance quality can be interpreted by children as evidence that they lack ability; it can, therefore, have unintended negative effects on children's self-confidence.

The effects of praise must also be considered from a developmental perspective. Praise can be interpreted quite differently by younger and older children. Praising young children's effort conveys to them a positive expectation that they can do the work and can enhance their perceptions of their competence. Because older children have differentiated concepts of ability and effort, praising their effort may actually be interpreted by them as low expectations for their ability. It is therefore important to understand how developmental changes in cognition mediate the effects of well-intended behaviors. The application of basic psychological principles requires more than just a casual understanding of how cognition gives meaning to actions and classroom events.

3. One of the seeming paradoxes of research on student learning concerns the effects of rewards and incentives on student motivation. We have been taught that, if we want to increase the probability of a behavior, the most efficient method is to apply reinforcement principles. In fact, it seems that we have been indoctrinated into this way of thinking so well that these extrinsic reinforcements are often overused. Recent research by Boggiano and her colleagues certainly supports this assertion.²⁰ They presented a number of scenarios that described children involved in both high- and low-interest activities to adults, college students, and parents and asked them to judge how well certain strategies would maintain or increase the child's interest over time. For example, they described one ten-year-old child as one "who really enjoys reading and particularly likes to read books to learn about new things." Another ten-year-old was described as a child who "does not enjoy reading and chooses the easiest books to read when asked to write a book report." What is particularly striking is that regardless of the child's interest level, extrinsic rewards (such as adding 50 percent extra to the child's allowance) were preferred over other strategies as a way of maintaining or increasing the child's interest. Reward was preferred to reasoning, punishment, and even noninterference. Moreover, Boggiano et al. found that adults consistently preferred large rewards over small rewards, which they interpreted as reflecting a belief that interest level would vary with the size of the reward.

Certainly programs involving extrinsic rewards tend to be pervasive in our schools as a mechanism for increasing achievement behavior. In many

schools and classrooms, extrinsic incentives are seen as necessary to get children to spend time on various tasks and lessons. Over twenty years ago, Jackson suggested that many of children's schooling experiences involve a hidden curriculum of controls and social constraints.²¹ As students progress through school, they become more and more extrinsically controlled.

What are the consequences of using extrinsic incentives to try to shape children's achievement behaviors, to get them to complete their work, to increase the quality of work, and to get them to spend more time on particular tasks? The evidence from considerable research converges in identifying the "hidden cost" of using extrinsic rewards to motivate children.²² This is not to say that incentives cannot be effective in some situations and for some children. The fundamental problem is that when we look into classrooms, we see the same incentive system being used for all the children in the classroom.

I am not suggesting that we need to inculcate the idea that incentives are ineffective or motivationally detrimental. The use of extrinsic incentives can have multiple effects on children's motivation; predicting the specific effects requires an analysis of a number of component processes. For instance, it is important to consider the relationship of extrinsic incentives to other motivation variables. In certain instances, rewards may have the effect of increasing self-efficacy, which can positively influence students' motivation or willingness to learn. The relation of extrinsic rewards to individual differences is of critical importance. In the classroom, extrinsic incentives are often intended to motivate the least attentive students or those who typically perform poorly; however, the rewards are typically applied to the entire classroom or even the entire school population, as in many reading incentive programs. The hidden costs become most apparent when they are applied to these larger groups where individual differences in interest, performance, and ability are ignored.

4. From the work on intrinsic motivation comes the recommendation to give children choices and thus a sense of personal control in the classroom.²³ Choice of tasks or activities is viewed as fostering belief in personal control and increasing interest and involvement in learning. This is easy enough to endorse and gives us a nice, simple application of intrinsic motivation theory to the classroom. A problem arises when we consider the context or structure of many classrooms. When normative evaluation and public comparisons are expected, students' choices reflect an avoidance of challenge and a preference for tasks that ensure success. In other words, a choice is not an equal choice in some contexts. When evaluation is pending on one's final product, choices are not based on interest; they more likely reflect a protection of one's ability and concern for one's level of performance. In this case, motivation theory cannot be applied without considering the context of the classroom.

5. On the basis of attribution theory, we might infer that it is a good idea to try to persuade students that they are not working hard enough or that they need to work harder on occasions of failure or poor performance. The

implication is that students must perceive that outcome varies with effort expenditure and that increased effort will result in more positive outcomes.

The first consideration here is that the admonishment to try harder is to no avail to the student who believes he or she is already trying hard. This is a very likely scenario for young children, who believe they always try hard because it is not smart not to try. Telling these children that they did not work hard enough may actually decrease their sense of efficacy.

Second, problems arise when we put too much emphasis on effort. We do not want to impress on students that sustained maximal effort is what leads to success. Students may feel very satisfied when they have worked very hard and achieved success, but this is usually accompanied by the feeling that "I don't want to work that hard again." Conveying the expectation that a maximized effort is necessary may spark a child's investment once in a while, but over time students are more likely to become discouraged. In classrooms where the goal is to demonstrate one's ability over the long term, continuously maximizing one's effort is not desirable.

Finally, in most classrooms, students do not perceive the classroom hierarchy as effort-determined. As Nicholls suggests, students at the bottom of the hierarchy are not there because they are not effortful;²⁴ convincing students that this is, in fact, the case has little credence. If we want teachers to apply attribution theory to classroom practice, they need to know that whether they convey to students that effort is important depends on how they structure tasks, evaluate students, and give recognition and rewards.

These examples illustrate the complex nature of classroom learning and motivation. One of the major problems in our training of teachers is that we do not adequately address how motivation theory, constructs, and principles relate to practice: How can teachers develop in students a motivation to learn? As the preceding five examples illustrate, we currently rely on the wisdom of experience or derive applications without regard to the complexities involved. We need to consider how motivation constructs relate to each other, to developmental changes, to individual and culturally related differences, and to the context or structure of the classroom itself when we apply motivation theory and research to practice.

CONTEXT OF MOTIVATION

Finally, if we want teachers to apply these constructs in order to develop these motivational patterns in students, it is important to recognize that motivation occurs within a context—the school, the classroom, and the family. We spend a great deal of time discussing individual differences in motivation, treating motivation as a trait, but not enough time attending to how the organization and structure of the classroom shapes and socializes adaptive and maladaptive motivation patterns. Moreover, developing a positive motivational orientation in students is necessarily a matter of dealing with

diversity among students in the classroom.²⁵ Teachers need to know ways of dealing with this diversity, and these methods ought to involve a comprehensive look at the classroom.

Thus, the teacher must first be guided by goals that assign primary importance to developing in students a motivation to learn. Second, we need a framework for identifying those aspects or structures of the classroom that are manipulable. These structures must represent the classroom organization and must relate to instructional planning. Then we need to identify strategies that will serve to enhance the motivation of all students. These strategies or applications must be grounded in theory and research and evaluated in relation to developmental factors and in relation to other motivation constructs, as well as individual differences. Many educational psychology textbooks describe one or two ideas for application but do not provide a comprehensive view of classroom organization.

When we look at the classroom, there are six areas of organization that are manipulable and that involve motivational concerns: task, authority, recognition, grouping, evaluation, and time. These structures have been described in considerable detail by Epstein.²⁶ There is considerable research that relates to each area, and there are many motivational strategies that can be extracted from the research; the point is to apply appropriate strategies in all of these areas frequently and consistently. Preservice teachers often learn a great deal about only one area, and practicing teachers often focus on one or two areas but do little in the others. As a consequence, motivation becomes restricted to one area of the classroom. Often that area is reward or recognition (providing rewards and incentives), and even in that area inappropriate strategies are used.

This framework offers a starting point for extracting motivational strategies and applications from research and theory, and for relating them to all areas of classroom organization and instructional planning. This is important because motivation enhancement cannot be reserved for Friday afternoons, or be viewed as something to be used during free time or extra time or as superfluous to academic activities. Nor can motivational concerns surface only when a student does not do well. Motivation as an outcome is important to all students in the classroom all the time. This view gives student motivation a central place as an educational outcome, important in its own right. The emphasis is on identifying strategies that will foster a mastery-goal orientation in students and that relate to all aspects of classroom learning and organization. It requires a comprehensive approach to looking at how motivation theory and research interface with classroom learning.

Notes

1 See Lawrence A. Cremin, *The Transformation of the School* (New York: Random House, 1961).

- 2 See Carole Ames and Jennifer Archer, "Achievement Goals and Learning Strategies," *Journal of Educational Psychology* 80 (1989): 260-67; Jere Brophy, "Conceptualizing Student Motivation," *Educational Psychologist* 18 (1983): 200-15; Elaine S. Elliott and Carol S. Dweck, "Goals: An Approach to Motivation and Achievement," *Journal of Personality and Social Psychology* 54 (1988): 5-12; Martin L. Maehr, "Meaning and Motivation: Toward a Theory of Personal Investment," in *Research on Motivation in Education, Vol. 1: Student Motivation*, ed. Russell Ames and Carole Ames (Orlando: Academic Press, 1984), pp. 115-44; and John Nicholls, "Quality and Equality in Intellectual Development," *American Psychologist* 34 (1979): 1071-84.
- 3 Brophy, "Conceptualizing Student Motivation," pp. 200-15.
- 4 Carole Ames and Russell Ames, "Systems of Student and Teacher Motivation: Toward a Qualitative Definition," *Journal of Educational Psychology* 76 (1984): 535-56.
- 5 For example, Nathan Gage and David C. Berliner, *Educational Psychology* (Boston: Houghton-Mifflin, 1984).
- 6 See Martin Covington and Richard Beery, *Self-Worth and School Learning* (New York: Holt, Rinehart & Winston, 1976); and Martin Covington, "The Motive for Self-Worth," in *Research on Motivation in Education, Vol. 1*, pp. 77-113.
- 7 Dale Schunk, "Self-efficacy and Cognitive Skill Learning," in *Research on Motivation in Education, Vol. 3: Goals and Cognitions*, ed. Carole Ames and Russell Ames (San Diego: Academic Press, 1989), pp. 13-44.
- 8 Deborah Stipek, "The Development of Achievement Motivation," in *Research on Motivation in Education, Vol. 1*, pp. 145-74.
- 9 Martin Covington and Carol Omelich, "Effort: The Double-Edged Sword in School Achievement," *Journal of Educational Psychology* 71 (1979): 169-82.
- 10 Covington and Beery, *Self-Worth and School Learning*.
- 11 *Ibid.*
- 12 Ames and Archer, "Achievement Goals," pp. 260-67; and Carole Diener and Carol Dweck, "An Analysis of Learned Helplessness: Continuous Changes in Performance, Strategy, and Achievement Cognitions following Failure," *Journal of Personality and Social Psychology* 36 (1978): 451-62.
- 13 Ames and Archer, "Achievement Goals," pp. 260.
- 14 *Ibid.*; Elliott and Dweck, "Goals," pp. 5-12; Nicholls, "Quality and Equality," pp. 1071-84; and Maehr, "Meaning and Motivation," pp. 115-44.
- 15 Covington and Beery, *Self-Worth and School Learning*; Ames and Archer, "Achievement Goals," pp. 260-67; and Ames and Ames, "Systems of Student and Teacher Motivation," pp. 535-56.
- 16 John Nicholls, *The Competitive Ethos and Democratic Education* (Cambridge: Harvard University Press, 1989).
- 17 Carole Dweck, "Motivation," in *Handbook of Psychology and Education*, ed. R. Glaser and A. Lesgold (Hillsdale, N.J.: Erlbaum, 1985).
- 18 Schunk, "Self-efficacy and Cognitive Skill Learning."
- 19 Jere Brophy, "Teacher-Praise: A Functional Analysis," *Review of Educational Research* 51 (1981): 5-32.
- 20 Ann Boggiano et al., "Use of Manimal-Operant Principle to Motivate Childrens Intrinsic Interest," *Journal of Personality and Social Psychology* 53 (1987): 866-79.
- 21 Philip W. Jackson, *Life in Classrooms* (New York: Holt, Rinehart & Winston, 1968); see also Mark Lepper and Melinda Hodell, "Intrinsic Motivation in the Classroom," in *Research on Motivation in Education, Vol. 3*, pp. 73-105.
- 22 Mark Lepper, "Extrinsic Reward and Intrinsic Motivation: Implications for the Classroom," in *Teacher and Student Perceptions: Implications for Learning*, ed. J. Levine and M. Wang (Hillsdale, N.J.: Erlbaum, 1983a), pp. 281-317; and *idem*, "Social Control Processes and the

Internalization of Social Values: An Attributional Perspective," in *Developmental Social Cognition: A Sociocultural Perspective*, ed. E. Tory Higgins et al. (New York: Cambridge University Press, 1983), pp. 294-330.

23 See Richard deCharms, *Enhancing Motivation: Change in the Classroom* (New York: Irvington, 1976); Edward Deci and Richard Ryan, *Intrinsic Motivation and Self-determination in Human Behavior* (New York: Plenum, 1985); and Richard Ryan, James Connell, and Edward Deci, "A Motivational Analysis of Self-determination and Self-regulation in Education," in *Research on Motivation in Education, Vol. 2: The Classroom Milieu*, ed. Carole Ames and Russell Ames (Orlando: Academic Press, 1985), pp. 13-51.

24 Nicholls, *The Competitive Ethos and Democratic Education*.

25 Joyce Epstein, "Effective Schools or Effective Students: Dealing with Diversity," in *Policies for America's Public Schools: Teachers, Equity, Indicators*, ed. Ron Haskins and Duncan MacRae (Norwood, N.J.: Ablex, 1988).

26 Ibid.; and idem, "Family Structures and Student Motivation: A Developmental Perspective," in *Research on Motivation in Education, Vol. 3*, pp. 259-95.