

# Synthesis of Research on Strategies for Motivating Students to Learn

Students are more likely to want to learn when they appreciate the value of classroom activities and when they believe they will succeed if they apply reasonable effort.

This article synthesizes the conclusions drawn from a review of the literature on motivation conducted to identify principles suitable for use by teachers, especially principles for motivating students to learn during academic activities. To begin with, student *motivation to learn* can be conceptualized either as a general trait or as a situation-specific state. The *trait* of motivation to learn is an enduring disposition to strive for content knowledge and skill mastery in learning situations. The *state* of motivation to learn exists when student engagement in a particular activity is guided by the intention of acquiring the knowledge or mastering the skill that the activity is designed to teach.

Several conceptual distinctions implied by these definitions of student motivation to learn guided my review of the literature. Student motivation to learn is an acquired competence developed through general experience but stimulated most directly through modeling, communication of expectations, and direct instruction or socialization by significant others (especially parents and teachers). If activated in particular learning situations, motivation to learn functions as a scheme or script that includes not only affective elements but also cognitive elements

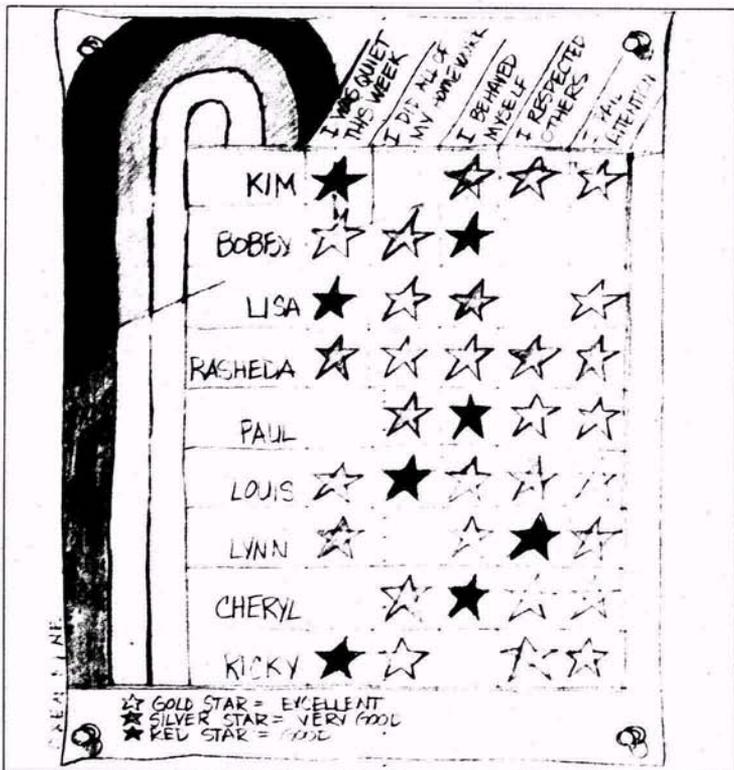


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such as goals and associated strategies for accomplishing the intended learning. According to this view, teachers are not merely reactors to whatever motivational patterns their students had developed before entering their classrooms but rather are *active socialization agents* capable of stimulating the general development of student motivation to learn and its activation in particular situations.

However, teachers work within certain restrictions. Schools are formal institutions that students are required to attend in order to learn a prescribed curriculum, and classrooms are public settings where performance is monitored by peers and graded by teachers. If teachers were recreation program directors, they could solve motivation problems merely by finding out what their clients like to do and arranging for them to do it. Instead, like supervisors in work settings, teachers must find ways to motivate their students voluntarily to try to do well what is required of them.

Schools are not ordinary work settings, however; they are settings for learning. With a few exceptions (penmanship, zoology dissection skills), school learning is covert and conceptual, not overt and behavioral. We need a clear distinction between learning and performance: *learning* refers to the information-processing, sense-making, and comprehension or mastery advances that occur during the acquisition of knowledge or skill; *performance* refers to the demonstration of such knowledge or skill after it has been acquired. The term *motivation to learn* refers not just to the motivation that drives later performance but also to the motivation underlying the covert processes that occur during learning. Therefore, strategies for motivating students to learn apply not only to performance on tests or assignments, but also to information-processing activities (paying attention to lessons, reading for understanding, paraphrasing ideas) initially involved in learning the content or skills. The emphasis is not merely on offering students incentives for good performance later but on stimulating them to

use thoughtful learning. Thus, strategies for stimulating motivation to learn differ from strategies for supplying extrinsic motivation for performance.

They also differ from strategies for capitalizing on students' intrinsic motivation, because intrinsic motivation is not the same as motivation to learn. *Intrinsic motivation* usually refers to the affective aspects of motivation—liking for or enjoyment of an activity. Intrinsic motivation, even for academic activities, does not necessarily imply motivation to learn. For example, students may enjoy participating in an educational game without trying to derive any academic benefit from it. Similarly, students can try to learn the knowledge or skills that an activity is designed to teach without enjoying the activity.

Guided by these distinctions concerning the nature of schooling and of student motivation, I have searched the literature for theory and research that suggest principles suitable for application by teachers in classrooms. This review and synthesis work has yielded the strategies summarized in the "Highlights" box (Ames and Ames 1984, 1985, Brophy 1983, Corno and Rohrkemper 1985, Deci and Ryan 1985, Keller 1983, Kolesnik 1978, Lepper and Greene 1978, Maehr 1984, Malone and Lepper in press, McCombs 1984, Nicholls 1984, and Wlodkowski 1978). For additional discussion and examples beyond this brief listing, see Brophy (1986a, b) or Good and Brophy (1986, 1987).

Development and organization of the list of strategies has been guided by *expectancy x value* theory (Feather 1982), which posits that the effort people will expend on a task is a product of: (1) the degree to which they *expect* to be able to perform the task successfully if they apply themselves; and (2) the degree to which they *value* participation in the task itself or the benefits or rewards that successful task completion will bring to them. This theory assumes that no effort will be invested in a task if either factor is missing entirely, no matter how much of the other factor may be present. People do not invest effort on tasks that do not

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lead to valued outcomes even if they know they can perform the tasks successfully, and they do not invest effort on even highly valued tasks if they are convinced that they cannot succeed no matter how hard they try.

The *expectancy x value* theory of motivation implies that, in order to motivate their students to learn, teachers must both help them to appreciate the value of academic activities and make sure that they can achieve success on these activities if they apply reasonable effort. The "Highlights" box is organized according to these *expectancy x value* theory ideas. First, it lists the preconditions necessary if teachers are to motivate their students. Second, it enumerates strategies that involve establishing and maintaining success expectations in the students. Third, it offers strategies that enhance the subjective value students place on school tasks. The latter strategies are subdivided into those that involve offering extrinsic incentives, taking advantage of intrinsic motivation, or stimulating student motivation to learn.

#### **Essential Preconditions**

No motivational strategies can succeed with students if the following preconditions are not in effect.

**"If teachers were recreation program directors, they could solve motivation problems merely by finding out what their clients like to do and arranging for them to do it."**

1. *Supportive environment.* If the classroom is chaotic or if the students are anxious or alienated, then students are unlikely to be motivated to learn academic content. Thus, in order to motivate students to learn, the teacher must organize and manage the classroom as an effective learning environment. This includes encouraging students, patiently supporting their learning efforts, and allowing them to feel comfortable taking intellectual risks without fear of being criticized for making mistakes.

2. *Appropriate level of challenge/difficulty.* Students will be bored if tasks are too easy and frustrated if tasks are too difficult. They will be optimally motivated by tasks that allow them to achieve high levels of success when they apply reasonable effort.

3. *Meaningful learning objectives.* Teachers should select academic activities that teach some knowledge or skill that is worth learning, either in its own right or as a step toward a higher objective. It is not reasonable to expect students to be motivated to learn if they are continually expected to practice skills already thoroughly mastered, memorize lists for no good reason, copy definitions of terms that are never used in readings or assignments, or read material that is not meaningful to them because it is too vague, abstract, or foreign to their experience.

4. *Moderation/optimal use.* Motivational attempts can be overdone, and any particular strategy can lose its effectiveness if it is used too often or too routinely.

### **Motivating by Maintaining Success Expectations**

Much of the best-known research on motivation is focused on the role of success expectations in determining performance. Research on *achievement motivation* (Dweck and Elliott 1983) has shown that effort and persistence are greater in individuals who set goals of moderate difficulty level, who seriously commit themselves to pursuing these goals, and who concentrate not on avoiding failure but on achieving success. Research on *effica-*

*cy perceptions* (Bandura and Schunk 1981) has shown that effort and persistence are greater in individuals who believe that they have the efficacy (competence) needed to succeed on a task than in individuals who lack it. Research on *causal attributions* for performance suggests that effort and persistence are greater in individuals who attribute their performance to internal or controllable causes rather than to external or uncontrollable ones (Weiner 1984). In particular, better performance is associated with a tendency to attribute success to a combination of sufficient ability with reasonable effort and a tendency to attribute failure either to insufficient effort (if this has been the case) or to confusion about what to do or reliance on an inappropriate strategy for doing it. The literature on motivation suggests that the following strategies (nos. 5-8) will help students maintain success expectations and associated goal setting behaviors, efficacy perceptions, and causal attributions.

5. *Program for success.* The simplest way to ensure that students expect success is to make sure they achieve it consistently. Teachers can accomplish this by beginning instruction at their level, moving in small steps, and preparing students sufficiently for each new step so that they can adjust to it without much confusion or frustration. Note that students' success levels will depend not only on task difficulty, but on the degree to which the teacher prepares the students for the task through advance instruction and assists their learning efforts through guidance and feedback.

6. *Teach goal setting, performance appraisal, and self-reinforcement skills.* Help students learn to set and commit themselves to goals that are: (1) near rather than far (they refer to tasks to be attempted here and now rather than to ultimate goals in the distant future); (2) specific (complete a page of math problems with no more than one error) rather than global (work carefully and do a good job); and (3) challenging rather than too easy or too hard. Provide specific, detailed feedback and help students

use appropriate standards for judging their performance (i.e., to compare it with absolute standards or with their own previous progress rather than with the performance of peers), so that they can recognize their successes and reinforce themselves for their efforts.

7. *Help students to recognize linkages between effort and outcome.* Use modeling, socialization, and feedback to make students aware that the amount and quality of effort that they put into an activity determines what they get out of it. Portray effort as an investment, which will produce knowledge or skill development and thus empower students, rather than as a risk of failure or embarrassment. Portray skill development as incremental (open to improvement in small steps rather than fixed) and domain specific (students possess a great many different kinds of skills rather than a single IQ that determines performance in everything). Last, focus on mastery of instructional objectives rather than comparisons with the achievements of peers.

8. *Provide remedial socialization.* With discouraged students, use performance contracts, Mastery Learning Principles (additional instruction, practice opportunities, and make-up exams to allow struggling students to overcome initial failures through persistent efforts), and attribution retraining (teach students to concentrate on doing the task at hand rather than to become distracted by fears of failure; to cope with frustration by retracing their steps to find their mistake or analyzing the problem to find a better way to approach it; and to attribute failures to insufficient effort, lack of information, or reliance on ineffective strategies rather than to lack of ability).

Teachers can shape the ways students view their performance—what they see as achievable with reasonable effort, whether they define this achievement as successful, and whether they attribute their performance to their own efforts. Empty reassurances or a few words of encouragement will not do the job. Rather, a combination

of appropriately challenging demands with systematic socialization designed to make students see that success can be achieved with reasonable effort should be effective.

The strategies described in this section have addressed the *expectancy* term of the *expectancy x value* formulation. The strategies explained in the next three sections address the *value* term.

### **Motivating by Supplying Extrinsic Incentives**

Strategies for supplying extrinsic motivation do not attempt to increase the value that students place on the task itself but rather to link successful task performance with access to valued rewards.

9. *Offer rewards for good (or improved) performance.* In addition to grades, these may include: (1) material rewards (prizes, consumables); (2) activity rewards and special privileges (play games, use special equipment, engage in self-selected activities); (3) symbolic rewards (honor rolls, displays of good work); (4) praise and social rewards (teacher or peer attention); and (5) teacher rewards (opportunities to go places or do things with the teacher). Teachers should offer and deliver rewards in ways that call attention to developing knowledge and skills rather than in ways that encourage students to focus just on the rewards.

10. *Structure appropriate competition.* The opportunity to compete for prizes or recognition either as an individual or as a member of a team can add incentive to classroom activities. In addition to structuring competition based on test scores or other performance measures, teachers can build competitive elements into instruction by including activities such as argumentative essays, debates, or simulation games that involve competition (Keller 1983). Use handicapping systems such as those devised by Slavin (1983) to ensure that everyone has a good (or at least an equal) chance to win. It is also helpful to depersonalize the competition and emphasize the

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content being learned rather than who wins and who loses.

Extrinsic incentives and competition are more effective for stimulating intensity of effort than for inducing thoughtfulness or quality of performance. Thus, rewards and competition are best used with practice tasks designed to produce mastery of specific skills rather than with incidental learning or discovery tasks, and with tasks where speed of performance or quantity of output is of more concern than creativity, artistry, or craftsmanship.

11. *Call attention to the instrumental value of academic activities.* Where possible, note that the knowledge or skills developed by an academic task will enable students to meet their own

current needs, provide them with a "ticket" to social advancement, or prepare them for success in an occupation or in life generally. Help students to see academic activities not as imposed demands to be resisted but rather as enabling opportunities to be valued.

Extrinsic motivational strategies are effective under certain circumstances, but teachers should not rely on them. When students are preoccupied with rewards or competition, they may not attend to or appreciate the value of what they are learning.

### **Motivating by Capitalizing on Students' Intrinsic Motivation**

Teachers can capitalize on intrinsic motivation by planning academic activities that students will engage in willingly because they are interested in the content or enjoy the task. Opportunities to do this are limited by several features inherent in the nature of schooling—compulsory attendance, externally prescribed curriculum, public monitoring, and grading of performance. Further, students differ in what they find interesting or enjoyable. Even so, teachers can schedule activities that incorporate elements that most students will find rewarding.

12. *Adapt tasks to students' interests.* Whenever curriculum objectives can be accomplished using a variety of examples or activities, incorporate content that students find interesting or activities that they find enjoyable. When giving examples or applications of concepts being learned, include people, fads, or events prominent in the news or in the youth culture.

13. *Include novelty/variety elements.* Make sure that something about each activity (its form or content, the media involved, or the nature of the responses it demands) is new to the students or at least different from what they have been doing recently. Do not allow a steady diet of routine lessons followed by routine assignments to become "the daily grind."

14. *Allow choices or autonomous decisions.* Within the constraints imposed by the instructional objectives, offer students alternative ways to meet

requirements and opportunities to exercise autonomous decision making and creativity in determining how to organize their time and efforts. If children make poor decisions when left completely on their own, provide them with a menu of choices or require them to get their choices approved before going ahead.

15. *Provide opportunities for students to respond actively.* Most students prefer activities that allow them to respond actively by interacting with the teacher or with one another, by manipulating materials, or by doing something other than just listening or reading. Provide students with opportunities to participate, for example, in projects, experiments, role-playing, simulations, educational games, and creative applications of what is being learned.

16. *Provide immediate feedback to student responses.* Students especially enjoy tasks that allow them not only to respond actively but to get immediate feedback they can use to guide subsequent responses. Automatic feedback features are built into programmed learning and other "self-correcting" materials as well as into computerized learning programs. Teachers can incorporate feedback features into typical activities by leading the group through an activity and then circulating to supervise students' progress during seatwork. Teachers can arrange for alternative sources of feedback when they cannot be available themselves by providing answer keys or instructions about how to check work, designating student helpers, or having students review their work in pairs or small groups.

17. *Allow students to create finished products.* Students prefer tasks that have meaning or integrity in their own right over tasks that are mere subparts of some larger entity. They are likely to experience a satisfying sense of accomplishment when they finish such tasks. Ideally, task completion will yield a finished product that students can use or display such as a map, an essay, a scale model, or something other than just another ditto or workbook page.

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### Highlights of Research on Strategies for Motivating Students to Learn

Research on student motivation to learn indicates promising principles suitable for application in classrooms, summarized here for quick reference.

#### Essential Preconditions

1. Supportive environment
2. Appropriate level of challenge/difficulty
3. Meaningful learning objectives
4. Moderation/optimal use

#### Motivating by Maintaining Success Expectations

5. Program for success
6. Teach goal setting, performance appraisal, and self-reinforcement
7. Help students to recognize linkages between effort and outcome
8. Provide remedial socialization

#### Motivating by Supplying Extrinsic Incentives

9. Offer rewards for good (or improved) performance
10. Structure appropriate competition
11. Call attention to the instrumental value of academic activities

#### Motivating by Capitalizing on Students' Intrinsic Motivation

12. Adapt tasks to students' interests
13. Include novelty/variety elements
14. Allow opportunities to make choices or autonomous decisions

15. Provide opportunities for students to respond actively
16. Provide immediate feedback to student responses
17. Allow students to create finished products
18. Include fantasy or simulation elements
19. Incorporate game-like features
20. Include higher-level objectives and divergent questions
21. Provide opportunities to interact with peers

#### Stimulating Student Motivation to Learn

22. Model interest in learning and motivation to learn
23. Communicate desirable expectations and attributions about students' motivation to learn
24. Minimize students' performance anxiety during learning activities
25. Project intensity
26. Project enthusiasm
27. Induce task interest or appreciation
28. Induce curiosity or suspense
29. Induce dissonance or cognitive conflict
30. Make abstract content more personal, concrete, or familiar
31. Induce students to generate their own motivation to learn
32. State learning objectives and provide advance organizers
33. Model task-related thinking and problem solving

—Jere Brophy

18. *Include fantasy or simulation elements.* Where more direct applications of what is being learned are not feasible, introduce fantasy or imagination elements that will engage students' emotions or allow them to experience events vicariously. In addition to full-scale drama, role-play, simulation games, and other "major productions," incorporate more modest simulation activities into everyday instruction. For example, stimulate students to think about the motives of a literary author or scientific discoverer or to imagine themselves living in the historical time or geographical place under study.

19. *Incorporate game-like features into exercises.* Transform ordinary assignments into "test yourself" challenges, puzzles, or brain teasers that:

- require students to solve problems, avoid traps, or overcome obstacles to reach goals;
- call for students to explore and discover in order to identify the goal

itself in addition to developing a method for reaching it:

- involve elements of suspense or hidden information that emerges as the activity is completed (puzzles that convey a message or provide the answer to a question once they are filled in); or
- involve a degree of randomness or uncertainty about what the outcome of performance is likely to be on any given trial (e.g., knowledge games that cover assorted topics at a variety of difficulty levels and that are assigned according to some random method, such as in Trivial Pursuit).

Although many teachers associate "games" with team competitions, the term "game-like feature" has a much broader meaning; most of these features involve presenting intellectual challenges appropriate for use by individuals or by groups working cooperatively.

20. *Include higher-level objectives and divergent questions.* Most students soon become bored by a steady

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diet of knowledge- and comprehension-level questions. Therefore, include questions that address higher cognitive levels (application, analysis, synthesis, or evaluation) and encourage students to make sense of what they are learning by processing it actively, paraphrasing it, and relating it to their prior knowledge and experience. Also, ask questions that elicit divergent thinking (opinions, predictions, suggested courses of action, or solutions to problems) in order to generate student responses that are more personal and creative.

21. *Provide opportunities to interact with peers.* Students enjoy activities that allow interaction with their peers. Build such opportunities into whole-class activities by scheduling discussion, debate, role-play, or simulation. In addition, plan follow-up activities that permit students to work together in pairs or small groups to tutor one another, discuss issues, or develop suggested solutions to problems, or to work as a team preparing for a competition, participating in a simulation game, or producing some group product. Peer interactive activities are likely to be most effective if teachers: (1) make them worthwhile learning experiences rather than merely occasions for socializing by structuring them

around curriculum objectives; and (2) arrange conditions so that every student has a substantive role to play and must participate actively (Slavin 1983).

### **Strategies for Stimulating Student Motivation to Learn**

The strategies just described for capitalizing on intrinsic motivation should increase students’ enjoyment of classroom activities; however, these strategies will not directly increase students’ motivation to learn the content or skills being taught. The literature on motivation suggests that the following strategies will stimulate students to take academic activities seriously and to acquire the knowledge or skills that they were designed to develop. The first three strategies are general ones describing pervasive features of the learning environment that should be established in the classroom.

22. *Model interest in learning and motivation to learn.* Routinely model interest in learning by showing students that you value learning as a rewarding, self-actualizing activity that produces personal satisfaction and enriches your life. Share with students your interests in books, articles, TV programs, or movies on the subjects you teach. Mention applications of the subjects to everyday living, the local environment, or current events.

23. *Communicate desirable expectations and attributions about students’ motivation to learn.* Routinely project attitudes, beliefs, expectations, and attributions concerning reasons for students’ behavior which imply that you expect them to be curious, to want to understand concepts and master skills, and to see what they are learning as meaningful and applicable to their lives.



*Illustration by Lari Orendine*

24. *Minimize students' performance anxiety during learning activities.* Protect students from premature concern about performance adequacy by structuring most activities to promote learning rather than to evaluate performance. When activities do include test-like items, treat these as opportunities for students to apply the material rather than as a chance for you to see who does or doesn't know the material. Combat test anxiety by minimizing time pressures, by portraying tests as opportunities to assess progress rather than as measures of ability, by giving pretests to accustom students to "failure" and provide a basis for marking progress, and by teaching stress management and test-taking skills (Hill and Wigfield 1984).

In addition to fostering a supportive learning environment through these general strategies, use the following strategies to stimulate student motivation to learn during specific activities.

25. *Project intensity.* Project a level of intensity that tells students that the material deserves close attention either by saying so or by using rhetorical devices (slow pacing, step-by-step presentation with emphasis on key words, unusual voice modulations or exaggerated gestures, scanning the group intensely at each step to look for signs of understanding or confusion). Projecting intensity is especially useful when introducing new content, demonstrating skills, or giving instructions for assignments.

26. *Project enthusiasm.* Present topics or assignments in ways that suggest they are interesting or worthwhile by identifying your own reasons for finding the topic meaningful, and then communicate these reasons when teaching it.

27. *Induce task interest or appreciation.* Where relevant, elicit student appreciation for an activity by noting its connections with things that students already recognize as interesting or important, by mentioning applications of the knowledge or skills to be learned, or by specifying challenging or exotic aspects that the students can anticipate.

28. *Induce curiosity or suspense.* Put students into an active information-processing or problem-solving mode by posing questions or doing "set-ups" that introduce curiosity or suspense elements and motivate students to engage in the activity in order to answer some question, resolve an ambiguity, or fill in gaps in their knowledge.

29. *Induce dissonance or cognitive conflict.* When the topic is familiar, counter students' tendency to think that they already know everything there is to know about it by pointing out unexpected, incongruous, or paradoxical aspects; calling attention to unusual or exotic elements; noting exceptions to general rules; or challenging students to solve the "mystery" that underlies a paradox.

30. *Make abstract content more personal, concrete, or familiar.* Promote personal identification with content by relating experiences or telling anecdotes illustrating how the content applies to the lives of individuals (especially persons whom the students are interested in and likely to identify with). Make abstractions concrete by showing objects or pictures or by conducting demonstrations. Help students relate new or strange content to their existing knowledge by using examples or analogies referring to familiar concepts, objects, or events. Where a text is too abstract or sketchy, elaborate by filling in sufficient detail to enable students to visualize what is being described and explain it in their own words.

31. *Induce students to generate their own motivation to learn.* Do this by asking them to list their own interests in particular topics or activities, to identify questions that they would like to have answered, or to note things that they find surprising as they read.

32. *State learning objectives and provide advance organizers.* Stimulate motivation to learn when introducing activities by stating their objectives and by providing advance organizers. Prepare students to get more out of lectures, films, or reading assignments by clarifying what you want them to concentrate on as they process the infor-

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children by teachers who systematically socialize their students using the strategies listed here as part of a larger package of appropriate curriculum and instruction. Further research will undoubtedly identify additional strategies and qualifications on the use of ones described here. Nevertheless, the list provides a “starter set” of strategies to select from in planning motivational elements to include in instruction. In particular, these strategies remind us that students need not only incentives for applying themselves and activities they will enjoy but also motivation to learn the knowledge and skills being taught. □

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mation: distributing outlines or study guides; making suggestions about notetaking; or calling attention to structural features of the presentation that can help students to remember it in an organized way.

33. *Model task-related thinking and problem solving.* The information-processing and problem-solving strategies used when responding to academic tasks will be invisible to students unless teachers make them overt by showing students what to do and thinking out loud as they demonstrate. Such *cognitive modeling* is an important instructional device. It is also an effective way to stimulate student motivation to learn because, through modeling, teachers expose students to the beliefs and attitudes associated with such motivation (e.g., patience, confidence, persistence in seeking solutions through information processing and rational decision making, benefiting from the information supplied by mistakes rather than giving up in frustration).

**A Starter Set**

Although student motivation to learn cannot be taught as directly as a concept or a skill, it can be developed in

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