
Chapter 1

Strategic Learning in the Classroom

I feel like a bottle of ginger ale—I need the fizzle to settle before I can do what I need to do.

—Chris, 5th grader

My mind was like a cloud of gas of different little molecules, speeding around, colliding with each other with no structure. The strategies I learned provided boundaries and parameters to these whizzing dots so that I could make sense of them.

—Brandon, 20 years old

Students such as Chris and Brandon present a special challenge to their parents and teachers because of the inconsistencies in their reasoning, problem-solving, and basic skills, and their overall academic performance. They often show remarkable talents in areas that require reasoning and problem solving, yet they struggle with rote skills such as memorization of multiplication tables, spelling, and decoding. Although they may obtain excellent grades on classroom assignments, they perform poorly in more formal test situations. Because the majority of these students are now integrated into general education classrooms, every teacher must deal with the challenge of addressing the needs of children who learn differently. Furthermore, because each student has a unique learning style, teachers are required to address a broad range of learning needs within the classroom.

Strategies for Success provides realistic and accessible teaching techniques for teachers, special educators, and other professionals working with students at the late elementary, middle, and early high school levels. These strategies can help teachers to understand the diverse learning profiles of their students and create classroom environments that encourage all students to

succeed. Classrooms that encourage effort, persistence, strategy use, goal orientation, and risk taking can often break the negative cycle of failure experienced by students such as Chris and Brandon, thus reducing their feelings of vulnerability and helplessness. Minor modifications in the classroom culture can often provide opportunities for students to realize their academic and social potential, as well as alleviate a great deal of misery and unnecessary frustration. Effective strategy use can enhance motivation, persistence, and self-concept and can consequently promote academic success and independent learning.

In these first two key chapters of this book, we provide an overview of the principles underlying strategy instruction. Chapter 1 addresses the following questions:

- Why should learning strategies be taught?
- What are the overall principles of classroom-based strategy instruction?
- How can strategies be taught most effectively?
- Do students need ongoing strategy instruction?
- How can teachers promote self-awareness and metacognition in the classroom?
- How can teachers recognize and understand different learning profiles?
- How can teachers recognize and understand students with learning and attentional difficulties?

Why Should Learning Strategies Be Taught?

Terms such as *learning strategies*, *teaching strategies*, and *strategic learning* are used widely to imply that learners can choose specific procedures for accomplishing particular tasks. These strategies can help students improve their reading, writing, math, and problem-solving performance. The importance of strategic learning has been demonstrated in work showing that successful learners use effective strategies to process information (Brown & Campione, 1986; Harris & Graham, 1992; Harris, Graham, & Mason, 2002; Meltzer, 1993b; Meltzer, Katzir, Miller, Reddy, & Roditi, 2004; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989). Effective learning occurs when students' application of specific learning strategies interacts with a wide range of other processes, including automatic retrieval of basic skills, appropriate attention in the learning situation, self-awareness, motivation, and self-concept.

As shown in Figure 1.1, strategy instruction accomplishes the following goals:

- Students learn *how* to learn rather than only *what* to learn. In other words, students learn strategies that they can generalize across different content areas and different tasks.

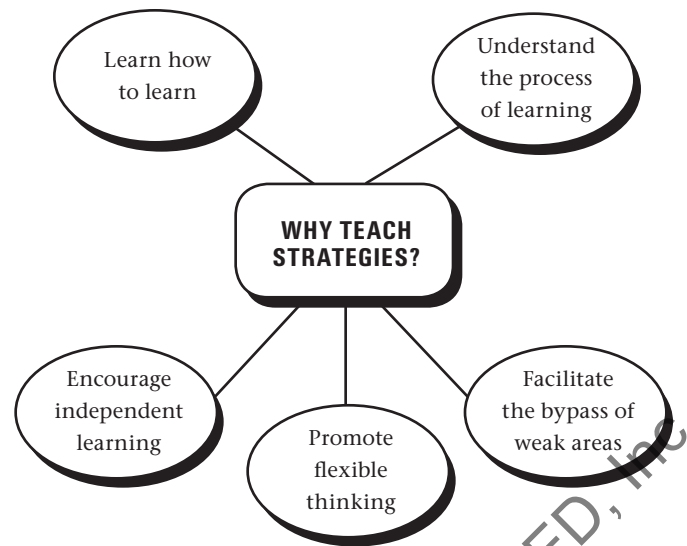
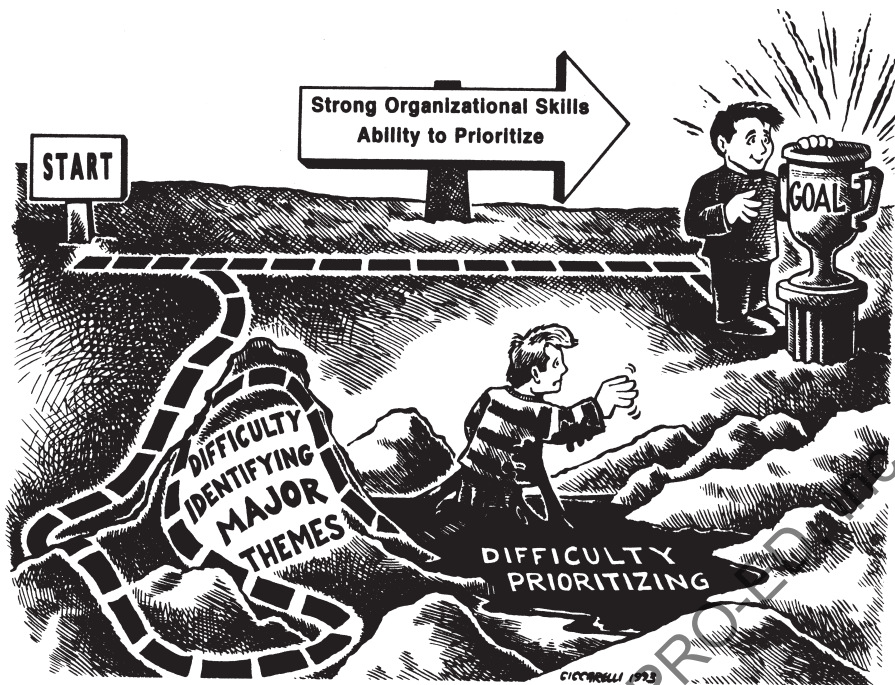


FIGURE 1.1. Goals of strategy instruction.

- Strategies help students begin to understand the process of learning.
- Strategies help students to bypass their areas of weakness and to perform at the level at which they are capable.
- Strategies promote flexible thinking and teach students the importance of shifting their approaches to different tasks.
- Strategies encourage independent learning.
- Strategy use helps students to become more efficient and more effective learners.

Learning strategies are particularly important for helping students to bypass their areas of weakness and to rely on their areas of competence. Students' willingness to apply strategies to their classwork and homework is therefore dependent on the extent to which they recognize the value of specific strategies. Students need to understand their own learning profiles and needs as learners and to recognize how and why strategies can help them attain academic success. Therefore, a critical ingredient for successful strategy instruction is each student's self-awareness of his or her profile of strengths and weaknesses, as well as the strategies that are most effective for his or her learning profile.

Students with learning difficulties are often inefficient as learners because they have difficulty prioritizing and identifying major themes. They frequently overfocus on details and show major organizational difficulties, which affect their rate and efficiency as learners. Although they may reach the same goals as their normally achieving peers, they often differ in how they get there, how fast they get there, and the frustration they experience en route. Just as a roundabout route to a destination can be frustrating because it



is very time consuming, so too can learning be frustrating when the process is long and arduous and the goal is not easily attainable.

How Can Strategies Be Taught Most Effectively?

Explicit strategy instruction is beneficial for all students, but it is essential for students with learning difficulties. Strategy instruction needs to be systematic, highly structured, and explicit, and should include opportunities for students to experience success as a result of using specific strategies. Strategy instruction is critical for teaching all students a broader range of strategies than they use spontaneously. Students need to be taught specific techniques for organizing and planning their work, and for memorizing, prioritizing, and self-checking (Institute for Learning and Development/ResearchILD and FableVision, 2001), which are all essential ingredients of academic success.

Several research-based strategy instruction methods have been shown to enhance learning for students with learning difficulties and can be easily incorporated into the general education classroom (Harris et al., 2002; Meltzer & Montague, 2001; Swanson, Hoskyn, & Lee, 1999). These methods include the following:

- Sequencing or breaking tasks into short activities and component tasks with step-by-step prompts that are gradually taken away

**Overall
Principles
of Classroom-
Based
Strategy
Instruction**

- Every student learns differently and has a unique learning profile.
- Every student needs to understand his or her own profile of strengths and weaknesses.
- Every student must understand the importance of using strategies.
- Every student needs to understand the importance of hard work, persistence, and strategy use for academic success.
- Every student needs to understand that strategies require more effort at first but result in accurate and efficient work over time.
- Every student should develop personalized learning goals and a plan for using specific strategies to attain these goals.
- Every student needs opportunities to succeed as a result of using specific strategies and to recognize the link between the use of specific strategies and academic improvement.
- Every student needs opportunities to express his or her strengths and to develop an “island of competence” (Brooks, 1991) while using strategies.
- All students need to feel supported and connected in school so that their classrooms and schools engender a sense of belonging to a community where they are valued.

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- Repetition, review, and practice in applying specific strategies
- Monitoring and adjusting the difficulty level and processing demands of the tasks
- Think-aloud modeling of successful task completion
- Creating small groups in the classroom for students to apply strategies and to discuss their successes and difficulties with their peers
- Involving special education teachers, tutors, and parents in strategy instruction
- Creating classroom climates in which all students value strategies and discuss novel strategies daily (e.g., creating a “Strategy-a-Day” board for students to add new strategies that they have used while doing homework)
- Providing students with frequent opportunities to practice the strategies they have learned and to apply these strategies to novel tasks
- Providing multistep grading systems so that students are graded for completion of different phases of their work and not only the final product (e.g., by breaking down a grade into component grades of the student’s notes, outlines, drafts of written work, and the final product)

Do Students Need Ongoing Strategy Instruction?

Every grade level heralds changes in the curriculum, the setting, the expectations, and each student's cognitive and social development. Students' learning profiles are not static, but often change as a function of the match or mismatch between the student's specific strengths and weaknesses and the demands of the classroom, the teacher, and the curriculum. Some students who exhibit no early school difficulties may suddenly flounder when the classroom demands change and require the coordination of many different subskills and strategies. As a result, previously unrecognized learning difficulties may become evident in the later grades, when previously successful compensatory strategies are no longer effective.

Critical transition times in the curriculum—first grade, fourth grade, middle school, high school, and college—can be particularly problematic for students. Each of these transitions corresponds to increased organizational demands and the introduction of tasks that require the coordination and integration of multiple skills and strategies (e.g., complex writing assignments, book reports, and multiple-choice tests). Classroom teachers can help students to cope more successfully by teaching effective strategies and, where necessary, modifying the classroom demands to accommodate students' varying rates and styles of learning.

How Can Teachers Promote Self-Awareness and Metacognition in the Classroom?

Strategy instruction can be successful only when students are willing and able to generate strategies and to value and take ownership of the strategies they are taught. Students need to understand how they learn and how specific strategies can help them to improve their accuracy and eventual efficiency. Self-awareness is therefore essential for successful strategy instruction, which depends on students' understanding of their learning profiles and their willingness to make the effort needed to apply particular strategies to different learning tasks. Self-awareness is also important because of the increased work time involved initially as students learn new approaches. This process is often slow, and students need success before they generalize the strategies they have learned to a variety of tasks and types of work.

Although students achieve greater accuracy through the use of specific strategies, they may initially sacrifice speed and efficiency. Use of a systematic strategy, however, ensures that students become increasingly efficient over time, and this results in reduced work time (see Figure 1.2). For example, when students begin to use planning strategies to organize their written work, the time spent drawing maps and webs or developing three-column notes

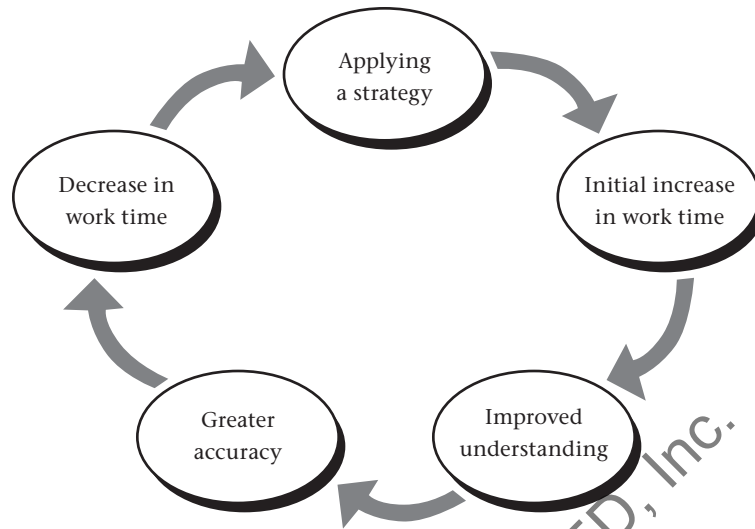


FIGURE 1.2. Applying a strategy.

may make students feel that they are spending more time on their written work; however, use of these strategies results in a written product that is more organized and requires less editing. As a result, written work eventually takes less time for students and results in better written products and higher grades. Therefore, a major challenge for teachers is to ensure that students who apply specific strategies achieve fairly rapid success. Classroom success increases students' willingness to use specific strategies and to make the effort to use the same strategies in different situations, the core component of generalization.

How Can Teachers Recognize and Understand Different Learning Profiles?

Teachers can use informal assessment methods to gain an understanding of why and how a particular student may be struggling. The idea of teachers as assessors is becoming increasingly popular as Assessment for Teaching methods are developed (Meltzer, 1993a, 1993b; Roditi, 1993). Both observations and a variety of classroom-based assessment methods can be used to evaluate how students learn the required material and how effectively they retain and access knowledge. Performance-based assessment techniques and portfolio assessment methods (Fuchs & Fuchs, 2002) have also become increasingly widespread for classroom assessment. A combination of these informal assessment methods can provide the skilled teacher with useful information about the strengths and weaknesses of most students.

Some students exhibit learning profiles that are difficult to understand without assessment information elicited from formal tests or classroom-based assessment measures. Formal neuropsychological and educational testing often provides essential information about a student's learning style and helps teachers to understand why a particular student is struggling in the classroom. However, these assessments cannot provide all the answers. It is important to recognize that assessments are limited when they provide only scores and grade-level equivalents. Furthermore, product-oriented tests do not clarify *how* the student is learning and *why* the student is experiencing difficulty. Assessments are most helpful when they are process oriented, focus on how the student learns, and provide specific educational recommendations that can be implemented in the classroom setting.

How Can Teachers Recognize and Understand Students with Learning and Attention Difficulties?

No single academic profile characterizes all students with learning difficulties who may have weaknesses in memory, language, auditory perception, visual perception, processing speed, or executive processes. Some are poor readers and spellers. Others have difficulty with written or oral expression. Still others cannot memorize math facts. Some students with learning difficulties may have weak organizational skills and may be erratic in their completion of homework assignments. Students with attention weaknesses may have both academic and social difficulties. The characteristic that all these students have in common is that, despite their average to above-average intellectual ability, they experience delays in reading, writing, mathematics, listening, and/or speaking skills. In other words, a significant discrepancy exists between ability and achievement. Most of these students have a combination of learning difficulties, the manifestation of which can vary enormously. Table 1.1 outlines the ways in which some students' learning difficulties may be exhibited in the classroom.

Many students with learning difficulties also experience attention difficulties and may show excessive impulsivity, distractibility, and motor activity. These students may experience organizational difficulties, have problems staying on task, and have difficulties concentrating in group situations. These behavioral characteristics often lead to a diagnosis of attention-deficit/hyperactivity disorder (ADHD).

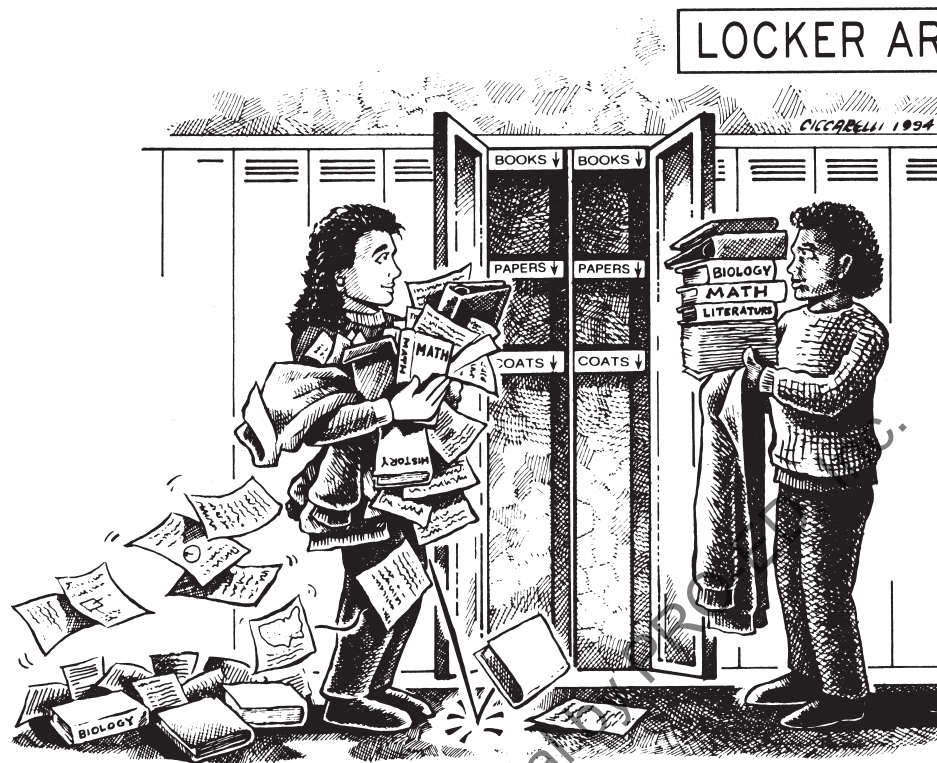
Most elusive and confusing to teachers are the students who show attention problems but are not overactive. These students are often distractible, disorganized, or impulsive, and show poor self-monitoring skills. At times, they focus only on the global themes and ignore the details. At other times,

TABLE 1.1

How Learning Difficulties Manifest in the Classroom

Learning Difficulties That Students Experience	How Students Demonstrate These Difficulties in the Classroom
<ul style="list-style-type: none"> • May process information in unique ways • May process information at very slow rates • May have language-processing weaknesses • May have difficulties remembering rote information due to weaknesses in automatic memory • May not develop efficient and effective strategies for completing work • May have difficulty shifting flexibly among different approaches • May not abandon strategies that are inefficient or ineffective • May struggle to prioritize and to focus on salient details • May be disorganized or may use different processing routes to organize information • May have difficulty coordinating the strategies needed to learn effectively • Unaware of the usefulness of specific planning and checking strategies • May be impulsive and may not spontaneously plan their work • May not spontaneously self-correct 	<ul style="list-style-type: none"> • Demonstrate discrepancies between in-class and test performance • Are slow to volunteer, have difficulty with timed tasks • Have difficulty following directions, appear inattentive • Struggle to remember letter formations, math facts, days of the week, months of the year • Seem to lag behind others and are slower at mastering strategies for learning; difficulties often mask the students' superior conceptual reasoning and problem solving • Have difficulty adjusting to new teachers and new situations • May consistently solve problems the same way despite instruction in alternate strategies • May talk around issues; cannot summarize; have poor study skills, poor outlining strategies, poor reading comprehension • Have messy book bags, have disorganized writing, are unprepared for classes • Demonstrate inconsistent task performance (e.g., score 100% on structured spelling tests with single dictated words, but misspell these same words in the context of creative writing) • Do not use prereading or prewriting strategies, do not edit • Are disorganized, have difficulty budgeting their time • Are careless with math, spelling, and writing

Note. Specific classroom management strategies for students with LD are listed throughout this book. This list includes only selected difficulties that students experience.



they overfocus on details and have difficulty identifying global issues. They consequently become confused when too much information is presented. They are also extremely distractible and may appear to daydream so that instructions often need to be repeated. As a result, tasks that require organization and prioritizing may be difficult for them. Because they do not have behavior problems and their difficulties are often subtle, they may be ignored or misdiagnosed. As a result, their academic problems may be incorrectly attributed to low motivation, lack of effort, or lowered intellectual ability rather than to their attention problems. Table 1.2 provides strategies for assisting students with ADHD in the classroom.

For students with learning and attention difficulties, strategy instruction needs to be explicit, structured, and recursive. Frequent use of strategies across content areas and in a variety of settings (e.g., home, school) allows for consolidation and generalization. Strategy use and practice should be required for in-class and homework assignments. Small-group instruction within the larger classroom can often provide opportunities for practice and mastery of strategies, whereas large-group classroom-based instruction ensures that generalization occurs. The goal is to ensure that students learn to use strategies flexibly in different domains and with different tasks.

TABLE 1.2
Strategies To Assist Students with Attention Problems in the Classroom

Difficulties Students with Attention Problems Experience	How Students Demonstrate These Difficulties in Classroom	Strategies To Assist Students with Attention Problems
Distractibility	Daydream (distracted by inner thoughts) or attend to extraneous sounds or visual stimuli in the classroom	Make eye contact with students; check in with students frequently
Impulsivity	Do not plan before beginning tasks Have social problems because of inappropriate comments Appear careless and inattentive to details	Provide preferential seating Teach planning and self-checking strategies (e.g., personalized checklists)
Disorganization	Lose work, forget homework, do not complete assignments	Teach organizational strategies (e.g., calendars, homework notebooks) Check homework regularly, ask parents to check homework
Difficulty sustaining attention	Have difficulty following through on long-term assignments Have difficulty concentrating during classes with lecture formats May struggle to focus	Break down long-term projects into manageable steps Provide hands-on projects Use cooperative learning Accompany oral presentations with visuals
Fidgetiness and motoric activity	Are fidgety, move around, fiddle with objects	Provide students with legitimate opportunities to move around (e.g., chalkboard monitor, messenger)
Inconsistent performance	Have inconsistent work quality across tasks, settings, and situations Repeat the same mistakes	Accept the variability in students' performance

Note. (a) Many, but not all, students with attentional problems are diagnosed with attention-deficit disorder. (b) This list includes only a few selected strategies; later chapters provide more detailed suggestions.