Learning Disabilities: A Contemporary Journal 5(1), 1–20, 2007

Self-Regulated Strategy Development: A Validated Model to Support Students Who Struggle with Writing

Tanya Santangelo[1]
Rowan University
Karen R. Harris and Steve Graham
Vanderbilt University

Many students find writing extremely difficult and frustrating because they are not able to learn and apply the strategies used by skilled writers. Self-Regulated Strategy Development (SRSD) is a comprehensive, flexible model that explicitly helps students learn to manage the writing process. An extensive body of research has documented that SRSD consistently increases content knowledge, writing quality, strategic behavior, self-regulation skills, self-efficacy, and motivation among students of varying ages and ability levels, but especially those with learning disabilities. Further, these improvements are maintained over time and generalized across settings, genres, people, and media. In this article, common challenges with writing are reviewed, the SRSD model is presented, and an illustration of how a persuasive writing strategy was taught to a small group of fifth- and sixth-grade students is offered.

Key Words: Inclusive Practices, Strategy Instruction, Writing Instruction, Learning Disabilities, Self-Regulation

Writing is an extremely powerful tool in our culture because it facilitates communication across distance and time, makes it possible to gather and preserve information, allows knowledge about a topic to be refined and extended, and provides a flexible medium for artistic, political, spiritual, and self-expression (Applebee, 1984; Diamond, 1999; Durst & Newell, 1989; Graham & Harris, 2000a). However, even expert writers frequently lament the difficult and complex aspects of planning, composing, evaluating, and revising (Zimmerman & Reisemberg, 1997) that are necessary for effective communication. Therefore, it is not surprising that many students, especially those with learning disabilities, experience difficulty with writing (Graham, 1990; McCutchen, 1988; Scardamalia & Bereiter, 1986; Thomas, Englert, & Gregg, 1987). For example, results of recent evaluations conducted as part of the National Assessment of Education suggest that only one out of every five high school seniors acquired the required writing knowledge and skills (Greenwald, Persky, Ambell, & Mazzeo, 1999; Persky, Daane, & Jin, 2003).

1. Please address correspondence to: Tanya Santangelo, Rowan University, Department of Special Education, 201 Mullica Hill Road, Glassboro, NJ 08028; E-mail: Santangelo@rowan.edu

Clearly, many students would benefit from high-quality instruction that explicitly teaches the strategies used by highly skilled writers. Self-Regulated Strategy Development (SRSD) is an evidence-based model that has been shown to consistently achieve that goal (Graham & Harris, 2005; Harris & Graham, 1996). Over the last 20 years, more than 25 studies have documented that SRSD improves writing knowledge, strategic behaviors, self-regulation skills, and motivation with many different populations of students, including those with learning disabilities (Danoff, Harris, & Graham, 1993; De La Paz, 1999; Graham & Harris, 1989a).

In this article, an overview of SRSD is presented. First, the basic definition of a strategy is offered. Then, the most common difficulties students experience with writing are reviewed. Next, the stages and components of SRSD instruction are described, and a classroom illustration is provided. (Expanded descriptions of these topics and other writing strategies may be found in *Writing Better: Effective Strategies for Teaching Students with Learning Difficulties* Graham & Harris, 2005 and at http://kc.vanderbilt.edu/casl/srsd.html)

An Introduction to Writing Strategies

A strategy can be generically defined as a set of operations or actions that a person consciously undertakes to accomplish a desired goal (Alexander, Graham, & Harris, 1998). Central to that definition are the tenants that a strategy involves (a) purposeful behavior, including a conscious decision about a plan of action; (b) procedural knowledge required to implement the plan; and (c) willingness, effort, and persistence to achieve the desired goal. All these elements contribute to the power and benefit of utilizing strategies within the context of writing (Graham & Harris, 2005; Harris & Graham, 1996).

First, writing strategies, such as those taught with the SRSD model, help simplify and organize the myriad complex tasks required throughout the writing process. Second, they define a course of action for successfully completing all, or part, of a writing assignment. Third, they make the mental operations that occur during planning, composing, evaluating, and revising visible and concrete. This is particularly salient because contemporary approaches to writing instruction (e.g., Writer's Workshop) encourage students to plan, draft, edit, revise, and publish their written work, yet surprisingly little attention is devoted to explicitly teaching these processes (Graham & Harris, 1997a). Finally, strategies effectively enhance students' knowledge about writing genres and devices, the writing process, and their capabilities as writers (Graham & Harris, 2005; Harris & Graham, 1996). To fully understand the necessity of and rationale underlying the use and benefit of SRSD instruction, it is critical to first understand why writing is such a difficult task for many students.

Common Challenges with Writing

Writing is an extremely challenging process for many students, especially those with learning disabilities. In most cases, this is due to difficulties acquiring, utilizing, and managing the strategies that are used by skilled writers (De La Paz, Swanson, & Graham, 1998; Graham & Harris, 1996, 2000b; Harris & Graham, 1999; Zimmerman & Reisemberg, 1997). Specifically, many students (a) have limited knowledge of writing, (b) utilize an ineffective writing approach, (c) do not engage

in advance planning, (d) have difficulty generating content, (e) rarely make meaningful revisions, (f) struggle with transcription, (g) evidence minimal persistence, and (h) have an unrealistic sense of self efficacy (Graham & Harris, 2005; Harris & Graham, 1996). In the next section, each of these challenges will be discussed.

Knowledge of Writing

Skilled writers have extensive knowledge about writing genres, devices, and conventions, and they are intimately familiar with the elements and characteristics associated with good writing (Graham & Harris, 2005; Harris & Graham, 1996). In contrast, many students who struggle with writing, especially those with learning disabilities, lack contextual knowledge and believe good writing is related to form and mechanics, rather than substance or process (Englert, Raphael, Fear, & Anderson, 1988; Graham, Schwartz, & MacArthur, 1993; Wong, Wong, & Blenkinsop, 1989). For example, when asked to describe good writing, students with learning disabilities responded, "Spell every word right," "Write as neat as you can," "Put your date and name on there," and "Be sure to hold your pencil right." When asked to describe what should be included in a story, a typical response is, "... Main character, a subject, predicate, and main idea." Unfortunately, this incomplete knowledge is directly reflected in students' writing, as basic story elements are frequently omitted (Graham & Harris, 1989a).

This pattern is illustrated by one student who took great care and effort to neatly rewrite her essay about summer vacation, but clearly did not understand how to logically or completely describe her experiences.

> One day, I was running in the field. It was very hot and leaves was falling. There are lots of hills and nice green grass. There are huge trees that are full of leaves. There were lots of flowers in the garden. It was a bit of shade. Lots of bushes that has leaves on it. And the summer was nice.

Approach to Writing

Skilled writers apply a multidimensional writing approach that involves planning, composing, evaluating, and revising (Graham & Harris, 2005; Harris & Graham, 1996). In contrast, many students who struggle with writing, especially those with learning disabilities, focus solely on generating content (Graham, 1990; Thomas et al., 1987). Such a unidimensional approach, aptly named "knowledge-telling," involves writing down all information that is perceived to be somewhat topic-related. Each preceding phrase of a sentence is used to spawn the next and minimal attempts are made to evaluate ideas, reorganize the text, or consider constraints imposed by the topic or audience (McCutchen, 1988). Consequently, students' papers typically contain of a list of ideas, rather than a well-organized, comprehensive discussion of the topic. The following two examples illustrate the "knowledge-telling" approach.

> Lack of vitamin A is not as bad as lack of vitamin B which in turn will not have so many bad effects as will the lack of vitamin C and so on down the alphabet.
>
> People are composed of girls and boys, also men and women. Boys are no good at all until they grow up and get married. Men who don't get married are no good either. Boys are an awful brother. They want everything they see except soap.

Planning in Advance

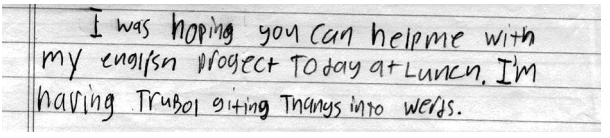
Prior to creating a draft, skilled writers devote a significant amount of time to planning and developing goals that subsequently guide what they say and do. In contrast, students who struggle with writing, especially those with learning disabilities, rarely utilize advance planning strategies (Graham & Harris, 2005; Harris & Graham, 1996). Even when specifically directed to plan in advance, they devote little time or effort to this phase of the writing process (MacArthur & Graham, 1987). Instead, their thought processes are spontaneously episodic, with each preceding idea serving as the stimulus for the following (Graham & Harris, 1989b). The plans they develop often resemble a first draft, consisting of a series of sentences that are just rewritten in subsequent phases of the writing process. The approach of a fifth-grade student to writing a report on forest fires clearly illustrates this pattern. Even after being instructed to "take your time to gather information and plan your paper," the student quickly glanced through one book and did not make any notes related to organization or content. Within just a few minutes she created the following draft that included two facts she happened to remember (i.e., "Some forest fires were good... Yellow Stone Park was a place where lots of fires occurred").

> What I know about forest fires is that they began by lightning or by somebody throwing match and forget to put it out. Sometimes because they throw cigarettes or they forget to put the camping fire out. And I thought that forest fires were all bad for forest. What I didn't know was that some forest fires were good for the forest and that Yellow Stone Park was a place where lots of forest fires occurred.

Generating Content

During the initial phases of writing, skilled writers frequently generate more content than they need and then eliminate superfluous ideas or information through the revision process (Graham & Harris, 2005; Harris & Graham, 1996). In contrast, students who struggle with writing, especially those with learning disabilities, frequently produce inordinately short stories that contain little elaboration or detail (Graham, Harris, MacArthur, & Schwartz, 1991). Most likely, this occurs because students have difficulty retrieving information from memory, utilizing outside sources, and translating their ideas into written form (Graham, 1990). The note an 11th-grade student with a learning disability left on the desk of a special education teacher poignantly illustrates this challenge (see Figure 1).

Figure 1. Note written by an 11th-grade student with a learning disability.



Revising

Skilled writers engage in extensive evaluation and revision processes that iteratively improve their compositions (Graham & Harris, 2005; Harris & Graham, 1996). In contrast, many students who struggle with writing, especially those with learning disabilities, experience difficulty evaluating and revising their text (Fitzgerald, 1987; MacArthur, Graham, & Harris, 2004). Specifically, less than 20% of the revisions made by struggling writers represent substantive changes to the original text; they primarily involve making word substitutions, correcting spelling and usage errors, and rewriting the paper to make it look neater (MacArthur & Graham, 1987; MacArthur, Graham, & Schwartz, 1991). Furthermore, although many students can articulate appropriate and beneficial revisions, approximately two thirds of the changes that do alter the text have a neutral or negative effect (Graham, 1997; MacArthur et al., 1991; MacArthur & Graham, 1987). The following "revised" paragraph illustrates how seemingly evident errors remain unnoticed.

> George Washington is one of my favorites like when he didn't let the British know he was out of bulits [sic] and kept firing. I read many things on him in a book. It was a brown one for 14 days. I am glad he comes but once a year.

Transcription Skills

Many students who struggle with writing, especially those with learning disabilities, have difficulty transcribing their thoughts into written form (Graham & Harris, 2005; Harris & Graham, 1996). They routinely misspell words, have difficulty with capitalization and punctuation, and produce letters very slowly (Graham et al., 1991). This leads to fluency rates that are nearly half those of their peers who are successful writers (Weintraub & Graham, 1998). Because students devote so much attention and effort to transcription, writing content becomes minimized or forgotten, and many aspects of the writing process are compromised (Graham, 1999; Scardamalia, Bereiter, & Goleman, 1982). Transcription difficulties also make it challenging for anyone, including the author, to read the paper.

Persistence

Whereas skilled writers devote significant time and effort to composing, many students who struggle with writing, especially those with learning disabilities, put minimal time and effort into the writing process (Graham & Harris, 2005; Harris & Graham, 1996). For example, when 10- to 12-year-old students with learning disabilities were asked to write an essay expressing their opinions on a topic, they typically spent 6 minutes or less writing their papers (Graham, 1990). Their compositions began with either "yes" or "no," included one or two brief reasons, and abruptly ended without a resolution or concluding statement. This pattern is illustrated by one student's response to the essay prompt, "Should children have to go to school in the summer?"

> No because it will be too hot. And you will miss fun things and going swimming.

Because students with learning disabilities also evidence difficulty producing multiple statements about familiar subjects, the absence of content should not be solely attributed to a lack of motivation (Graham & Harris, 2005).

Self-Efficacy

Research suggests that some students with learning disabilities are overly confident about their writing abilities (Graham & Harris, 2005; Harris & Graham, 1996). For example, Graham et al. (1993) found that students with and without learning disabilities were equally confident about their ability to get and organize ideas for writing, transcribe ideas into sentences, sustain their writing effort, and correct mistakes on their papers. This level of confidence may reflect the fact that students had not developed the skills necessary to accurately assess their abilities. It may also be the result of their desire to project a sense of confidence to cover up embarrassment about their difficulties with writing (Alvarez & Adelman, 1986; Graham, Harris, & Mason, 2005). In one respect, unrealistically high self-assessments may protect students' self-esteem. However, there is also the risk that students will fail to allocate the necessary time and effort to improve their writing skills; they believe good writers, like themselves, do not need to plan or exert much effort to write well (Sawyer, Graham, & Harris, 1992).

Teaching Writing Strategies

The remainder of this article will focus on how to effectively teach writing strategies. First, the SRSD model will be introduced and the six instructional stages will be briefly described. Next, considerations related to maintenance, generalization, and evaluation will be presented. Then, the essential characteristics related to instructional practices and environments will be discussed. Following that, an example of how a strategy for planning and writing a persuasive essay was taught to fifth- and sixth-grade students is presented.

The ancient Chinese proverb "I hear and I forget. I see and I remember, I do and I understand" eloquently characterizes the ideal process for teaching writing strategies (Graham & Harris, 2005). Describing how to use a strategy and discussing why it is effective is essential, but it is only the start. Students need to have the strategy modeled and they need to be provided with supported opportunities to practice using the strategy. This systematic and structured approach is especially important for students with learning disabilities, who typically require more intense and explicit instruction to successfully master strategy usage (Brown & Campione, 1990; Reeve & Brown, 1985; Wong, 1994).

It is also critical to consider issues related to motivation and attitude. For example, students who have relied on a knowledge-telling writing approach must be convinced that the new strategy is beneficial. Achieving this goal can be especially challenging if students have previously experienced some success using the knowledge-telling approach to complete certain types of writing assignments (e.g., a personal narrative) (Ellis, 1986). However, this incongruence should be directly addressed to ensure students enter instruction believing the new strategy is both valuable and realistic for them to learn and use (Salomon & Globerson, 1987).

The SRSD Instructional Model

Self-Regulated Strategy Development is a flexible instructional model used to teach writing strategies and a variety of self-regulation techniques (e.g., goal setting, progress monitoring, self-instructions, self-statements) (Graham & Harris,

2005; Harris & Graham, 1996). SRSD can be effectively implemented by one teacher, but is adaptable enough to be implemented by multiple adults in a variety of instructional environments (e.g., small group, whole class). Research on nearly 20 different strategies targeting various writing processes and genres has shown that SRSD consistently increases content knowledge, strategic behaviors, self-regulation skills, self-efficacy, and motivation among students of varying ages and ability levels (Graham & Harris, 2003; Harris & Graham, 1999). In addition, SRSD has been found to be especially effective for students with learning disabilities because the instructional procedures and writing strategies specifically target the most common difficulties experienced by this population of students (Ellis, 1986; Graham & Harris, 1997b, 2003; Harris, Graham, & Deshler, 1998; Wong, 1994).

Instructional Stages

The SRSD instructional framework includes six stages that guide students' acquisition and application of a writing strategy and the corresponding self-regulation procedures (Graham & Harris, 2005; Harris & Graham, 1996). The stages provide general guidelines for teaching writing strategies, but can (and should) be reordered, combined, modified, and repeated to meet the needs of teachers(s) and student(s). Table 1 provides an overview of the six SRSD stages.

Table 1
Stages of Instruction in the Self-Regulated Strategy Development Model (Graham & Harris, 2005; Harris & Graham, 1996)

Stage	Description
1. Develop Background Knowledge	Students are taught any background knowledge or skills needed to use the strategy successfully.
2. Discuss It	Students examine their current writing performance and discuss the purpose and benefits of the new strategy.
3. Model It	The teacher models how to use the strategy and self-regulation techniques.
4. Memorize It	Students memorize the steps of the strategy.
5. Support It	Students practice using the strategy with fading levels of teacher support and scaffolding.
6. Independent Performance	Students use the strategy with little or no support.

Note. These stages are designed to be flexible and should be combined, repeated, or reordered, as needed.

Stage one: Develop background knowledge. The focus during the introductory stage is on ensuring that students have the knowledge and skills to successfully understand, learn, and apply the strategy and self-regulation techniques. Underlying this goal is the teacher's ability to identify and assess these prerequisites.

Stage two: Discuss it. During the beginning of this stage, the teacher and students examine and discuss current writing performance, any existing strategies being used, and students' perceptions of the writing process. Next, the new strategy is introduced and its purpose, benefit, and use are explored. Students are then asked to make a commitment to learn the strategy and act as collaborative partners in this

endeavor. Throughout this stage, special attention should be given to examining students' maladaptive beliefs and behaviors and ways to reverse those negative effects should be introduced. This is also the perfect time to introduce the concept of progress monitoring and begin discussing the techniques that will be used to evaluate the strategy.

Stage three: Model it. This stage focuses on demonstrating how to effectively use the strategy and accompanying self-regulation procedures. "Think-aloud" techniques and visual aids have been found to enhance the modeling process. It is also critical to explicitly highlight the benefits of using self-instructions (e.g., "Okay, now I need to ask myself ...") and self-talk (e.g., "I'm doing a great job with listing my reasons ..."). After the teacher has modeled how to use the strategy, the benefits and challenges should be discussed and suggestions about how the strategy might be modified to make it more appropriate, effective, or efficient can be considered.

This is also an ideal time for each student to develop and record the personal self-statements he or she plans to use to regulate strategy use, the writing task, or other interfering behavior (e.g., "I can do this!"). Finally, the concept of goal setting should be introduced, and each student should develop individual performance goals for improving his or her writing (e.g., "I will include all the story parts"). Depending on how quickly students grasp the key concepts, teachers may choose to provide additional models of how to use the strategy and self-regulation techniques.

Stage four: Memorize it. During this stage, students memorize the steps of the strategy, relevant mnemonic devices, and their personalized self-statements. Within that context, it is acceptable for students to paraphrase the information, as long as the original meaning is maintained. If necessary, instructional aids may be used to help students memorize the strategy and self-regulation procedures (e.g., a poster with the strategy steps or index cards that list self-statements).

Stage five: Support it. During this stage, students practice using the new strategy and self-regulatory techniques that were introduced (e.g., progress monitoring, goal setting, self-statements, and self-instructions). To meet the needs of individual students, teachers should offer scaffolded assistance. Examples of support students might require include direct instruction that targets how to use one step in a strategy, remodeling, reminders to use self-regulation techniques, additional opportunities to practice and receive corrective feedback, or extra positive reinforcement and praise. During this stage, students should be encouraged to work cooperatively, because peer support is a helpful way to initially learn and apply a strategy. The ultimate goal of this stage is to develop students' skill in applying the strategy, such that they no longer require assistance from the teacher, support from their peers, or instructional aids.

Stage six: Independent performance. During this stage, students independently use the writing strategy. After students demonstrate they can consistently use the strategy and self-regulation techniques, the teacher can consider whether it is appropriate to fade the use of goal-setting and progress monitoring processes.

Maintenance and Generalization

Ultimately, the goal of SRSD is for students to appropriately apply strategies over time, across settings, and with a variety of tasks. To promote generalization and maintenance, it is critical that teachers help students see exactly how the strate-

gy improves their writing and then use that context to prompt them to apply it over time. Similarly, students should be encouraged to identify other settings and tasks where the strategy would be beneficial and to consider ways to modify the strategy to increase its utility. Goal setting and progress monitoring can then be used.

Evaluation

Although there is a substantial research base documenting that the SRSD instructional model and strategies improve students' writing knowledge, performance, and self-efficacy, it is important to understand that there is never a one-size-fits-all answer in education (Graham & Harris, 2005). Strategies that are highly effective with some students may not be as effective with others. Strategies that are highly endorsed and successfully taught by one teacher may not be equally successful when taught by another teacher. Additionally, in some cases strategy instruction may have unintended consequences. For example, one teacher noticed that after she introduced the SCAN revision strategy, one student's first drafts became considerably shorter than they were prior to instruction (Graham & Harris, 2005). When questioned about the situation, the student explained, "SCAN makes me add more ideas later, so why write a lot the first time?" Fortunately, the teacher recognized this pattern and was able to understand and appropriately address the student's decision.

For these reasons, comprehensive evaluation is a critical component of strategy instruction. Not only does evaluation provide evidence that a particular writing strategy is successful, but it also gives teachers insight about the instructional process in order to make modifications that maximize student growth. This reflective practice is especially important because when teachers do not change ineffective practices, students tend to either devalue the strategy or interpret their lack of progress as a reflection of incompetence. The following six principles highlight ways to ensure that evaluation is comprehensive and effective.

Principle one: Evaluation reflects established efficacy. The breadth and depth of evaluation should directly reflect the established effectiveness of the strategy. In other words, an untested strategy or instructional technique requires more thorough and formal evaluation than strategies that have been documented as effective. Conversely, strategies and teaching methods that have been previously validated need less scrutiny. Teachers' levels of experience and effectiveness with strategy instruction should also be used to determine how much data to collect.

Principle two: Evaluation is a collaborative process. It is essential that students and teachers collaboratively evaluate writing strategies and the procedures used to teach them. For students, high levels of engagement provide concrete evidence that a strategy is beneficial and that their efforts are worthwhile. Active participation also increases students' levels of self-awareness and sense of ownership. For teachers, collaborative evaluation represents a practical way to reduce the amount of work involved in the evaluation process. One technique that helps achieve this goal is to have students assess changes to their written products. For example, after being taught a strategy to increase the number of revisions they make, students can count and record these data before, during, and after strategy instruction.

Students should also be encouraged to share their perceptions about a strategy and the instructional methods used to teach it. For example, at critical points in the writing process, they can complete a journal entry that reflects on top-

ics such as: Do you think the strategy is helpful? Are there parts of the strategy that you find difficult to use? and, Do you need help using the strategy? Similar topics may also be explored during a class discussion, if appropriate. Either way, the information can be used in conjunction with other data sources to help teachers determine appropriate levels of support and necessary instructional adaptations. After students gain experience using a strategy, they can reflect again on the process and outcomes. Relevant questions at this point might include: What did you like about the strategy that you learned? What did you not like about the strategy you learned? In what ways did the strategy help you write better? Will you continue to use the strategy? What did you like about the teaching procedures used to learn the strategy? and How could we change the teaching procedures to make them better? However, because students' evaluations are not always accurate, the information should be synthesized with data from other sources to understand the overall efficacy of the strategy.

Principle three: Evaluation is multidimensional. Clearly, evaluation should target changes in students' writing performance. However, there are two other areas that should also be assessed. First, it is important to evaluate students' strategic behaviors during each of the writing processes (e.g., Has the amount of time devoted to planning increased? and Are they making more meaningful revisions?). Second, it is critical to monitor students' levels of confidence as writers, their attitude during writing tasks, and their perceptions about the writing process.

Principle four: Evaluation is a continuous process. Evaluation should occur throughout the instructional process so responsive adjustments can be made based on students' day-to-day progress. One technique that helps teachers achieve this goal is to maintain a running record of informal observations. Such notes might reflect on the following: What went well during instruction? What aspects were problematic? and Which students have difficulty independently applying the strategy? Another technique is to have students keep the work they do during strategy instruction in a writing folder. Then, by reviewing each student's work, teachers can easily monitor student progress, identify areas of need, and determine which students have mastered the criteria necessary to move to the next stage of instruction.

Principle five: Evaluation targets how strategies are being used. It is also important to evaluate whether students are effectively using the strategies that they have been taught. Over time, some students intentionally modify a strategy or how they use it. For example, they might decide to eliminate a step that they deem to be too hard, too easy, or not beneficial. Other students may make unintentional changes, such as reordering steps or incorrectly using self-regulation techniques. Although some modifications may be useful and can be permitted, others are potentially counterproductive and must be addressed because they render the strategy ineffective. The most direct way to monitor how students use a strategy is to carefully and frequently observe what they do as they write.

Principle six: Evaluation promotes maintenance and generalization. It is also critical to evaluate whether students are successfully applying strategies over time and in new situations. For example, to assess if knowledge about a strategy is maintained, periodically ask students to explain the purpose of the strategy and reiterate its basic steps. If they cannot do this, it is unlikely they are using the strategy

effectively. Students can also be given a log and asked to document each time they use a strategy and record ways they modified it for new tasks. When students are taught a writing strategy that can be applied in several different content areas or classrooms, it is also extremely beneficial to involve other teachers in the evaluation process to determine if the strategy is being successfully generalized.

Ultimately, the goal is to offer additional support to students who need it (e.g., discussions about the purpose and importance of a strategy, targeted reminders to use a strategy with certain tasks and in certain situations).

Essential Characteristics

The six instructional stages, the strategies for maintenance and generalization, and the principles that guide evaluation are all important elements of the SRSD model. However, eight essential characteristics related to instructional processes and environments significantly influence success with SRSD. These include (a) enthusiasm, (b) active collaboration, (c) individualization, (d) criterion-based instruction, (e) authentic writing tasks, (f) a supportive environment, (g) constructive feedback, and (h) predictability (Graham & Harris, 2005). Each of these essential characteristics will be briefly discussed.

Enthusiasm. Prior to SRSD instruction, many students who struggle with writing, especially those with learning disabilities, view the process as irrelevant, arduous, and frustrating (Graham & Harris, 2005; Harris & Graham, 1996). To help such students overcome these negative perceptions and reconceptualize writing as a powerful and essential form of communication, teachers should strive to be "contagiously enthusiastic" throughout all stages of SRSD instruction. Specifically, it is important to emphasize the value of writing and to focus on helping students see how their efforts will help them become good writers.

Active collaboration. Students should be actively involved during all stages of SRSD instruction (Graham & Harris, 2005; Harris & Graham, 1996). By assuming an active role in learning and applying the strategy being taught, students' motivation and sense of ownership in the writing process is increased, and they understand how effort and dedication improve writing performance. It is also essential that students have meaningful opportunities to collaborate with teachers and their peers.

Individualization. The SRSD instructional framework is specifically designed to be responsive to students' unique needs (Graham & Harris, 2005; Harris & Graham, 1996). Although the model consists of six stages, they are intended to be used as flexible guidelines and should be adjusted to ensure that every student's writing is improved. As previously noted, many students with learning disabilities require more intense, explicit, and individualized instruction to master strategy usage (Brown & Campione, 1990; Reeve & Brown, 1985; Wong, 1994). Examples of ways to meet students' unique needs include reteaching the prerequisite skills and processes needed to use the strategy effectively; offering additional explanations about the strategy; remodeling how to apply all, or part, of the strategy; developing instructional aids to help students remember the strategy steps and self-regulation techniques; and providing extended feedback and support while students practice using the strategy.

Criterion-based instruction. Effective SRSD instruction is based on performance criteria, rather than time (Graham & Harris, 2005; Harris & Graham, 1996). Students need to progress through each instructional stage at their own pace, advancing to the next stage only when they have met the criteria for doing so. In some instances, it will also be necessary to reorder, combine, or repeat stages to help students master the key concepts.

Authentic writing tasks. Involving students in authentic writing tasks that are aimed at real audiences is another effective way to increase motivation and strategy usage (Graham & Harris, 1997a, 1997b). For example, the writing performance, self-regulation skills, and attitudes among fourth-grade students were significantly improved when they assumed responsibility for cleaning up a local stream. As part of this project, students used SRSD planning and revising strategies as they learned to write letters to local politicians and influential citizens, to write an article in the local newspaper, and to write a grant that ultimately helped fund their project. Because the tasks were authentic, meaningful, and relevant, students' levels of interest flourished and their writing abilities improved dramatically.

Supportive environment. Classroom environments that are supportive, pleasant, and non-threatening develop students' passion for writing, and they also increase the likelihood that students will apply the strategies they have learned (Graham & Harris, 1994). This is particularly important for students who struggle with writing, many of whom need to overcome the lingering effects of previous experiences when they felt unsuccessful and frustrated throughout the writing process. Examples of strategies that help create an enjoyable and inspiring environment include establishing an exciting mood during writing time; encouraging students to take risks when writing; developing writing assignments that are compatible with students' interests; allowing students to select their own writing topics or modify assigned topics; providing opportunities for students to arrange their own writing space; encouraging students to help each other as they plan, write, revise, and edit their work; holding conferences with students about goals, advances, and setbacks on current projects; asking students to share works in progress and completed papers with each other; praising students for their accomplishments, effort, and use of writing strategies; reinforcing students' efforts and accomplishments by "showcasing" work in prominent places; and consistently modeling and promoting an "I can do this" attitude.

Constructive feedback. It is also critical to understand that placing too much attention on students' writing errors can negatively impact performance, perceptions, and motivation (Graham, 1982). Circling every misspelled word and usage error in red pen and writing things such as "AWK" above every clumsy phrase or sentence can make students more aware of their limitations and less willing to write. Similarly, writing should never be used as a punishment because it only reinforces students' negative attitudes about the process (Graham & Harris, 2005).

Predictability. Finally, the role of predictability in successfully promoting the use of writing strategies should not be overlooked, nor underestimated (Graham & Harris, 2005). Establishing a consistent writing routine where students plan, draft, revise, edit, and publish their work is a very powerful technique for three reasons. First, it provides students with plenty of opportunities to apply the various strategies

they have been taught. Second, it creates the flexibility needed for teachers to individualize and differentiate instruction. Finally, a predictable writing routine continually reminds students that writing is a highly prioritized, meaningful activity.

Teaching the Three-Step Strategy with TREE

To illustrate one of the many ways SRSD can be implemented, a description of how a special education teacher taught a persuasive writing strategy to a small group of fifth- and sixth-grade students with learning disabilities is now offered (Sexton, Harris, & Graham, 1998). The three-step strategy with TREE is designed to help students identify what they want to accomplish, generate an outline that includes all the basic parts of an essay, consider the quality of their evidence, and modify their outline as they draft (see Table 2). In Step 1, students establish their purpose for writing by identifying their audience and their goal for writing the paper. In Step 2, they use a series of genre-specific prompts to generate, evaluate, and organize reasons that support their argument. The mnemonic TREE reminds them to outline ideas related to each essay element (i.e., a topic sentence that states your opinion, supporting reasons for that opinion, and ending). It also encourages them to freely brainstorm ideas and then "examine each reason;" crossing out those that would be less convincing to a reader. Next, they organize their notes by numbering which idea they plan to introduce first, second, third, and so forth. Finally, in Step 3, students use this plan as a guide to "write and say more."

Table 2
Three-Step Strategy with TREE (as Presented in Graham & Harris, 2005)

Step 1:	Think.	
		Who will read my paper?
		Why am I writing this paper?
Step 2:	Plan what to say using TREE.	
		Note Topic Sentence
		Note Reasons
		Examine Each Reason- Will My Reader Buy It?
		Note Ending
	Number which idea will go first, second, third, and so on.	
Step 3:	Write and say more.	

The six students who will be highlighted in this example were members of a combined fifth- and sixth-grade classroom in an inclusive school. Their writing class was team taught by Marva, a special education teacher, and John, a general education teacher. Students in this class were familiar with working in small groups led by either Marva or John because they were frequently regrouped for different periods, subjects, and topics. Marva and John collaboratively selected these six students for SRSD instruction because each had difficulties with persuasive writing, displayed a low level of motivation, and had maladaptive beliefs about the causes of writing success and failure. While receiving small-group instruction with Marva, the students continued to participate in the classroom's primary writing program, Writers' Workshop (Atwell, 1987).

Stage One: Develop Background Knowledge

Marva began SRSD instruction by having the students discuss what they already knew about writing persuasive essays. Because they were not familiar with the three basic elements required in an opinion paper (i.e., topic sentence, supporting reasons, and conclusion), she explicitly highlighted and explained each one. The students then located and discussed examples using books they had previously read and essays they had written. To further reinforce these concepts, Marva posed a number of hypothetical topics (e.g., "Do you think teachers should assign homework?") and had students collaboratively brainstorm ideas for each essay element. This was an especially important aspect of developing background knowledge because these concepts serve as prompts for generating content during Step 2 of the strategy.

Stage Two: Discuss It

Following that initial lesson, Marva held individual conferences to talk about each student's approach to writing and to introduce the new strategy they would be learning. They discussed how using the three-step strategy with TREE would help them improve their persuasive writing skills and established an overarching goal (e.g., "To write a better paper by having all the parts and using really, really convincing reasons."). Next, Marva introduced students to the concept of progress monitoring with self-assessment, by explaining they would be monitoring whether the strategy helped them write better essays. Each student selected at least two previously written essays from their portfolios and determined how many of the required elements were included. Marva demonstrated how to graph this information using an essay she had written, and then made sure each student was able to correctly locate and graph their own data. This self-regulation procedure not only helps students monitor the completeness of their stories, but also visually reinforces the benefits of using the strategy. Throughout these individual conferences, Marva emphasized how each student would actively collaborate with the teacher and his or her peers to learn the strategy and then practice using it to write opinion essays on "cool topics."

Marva then reconvened the small group and asked students to expand their previous discussion about what makes a good persuasive essay. Here again, she explicitly focused on the importance of including all elements of an essay and evaluating the relevance of reasons used to support an opinion. She then introduced the three-step strategy with TREE and gave each student a colorful index card that listed the steps and the mnemonic. She prompted them to explain why each step of the strategy would be important and rearticulate why and how the strategy could be used (e.g., "Any time you want to tell someone your opinion, like when you write a letter to the newspaper," "If you want someone, like your parents or teacher, to believe you have a good idea."). Building on what was discussed during the individual conferences, Marva reemphasized that successfully learning the strategy and improving their writing depended students' effort and active collaboration.

Stage Three: Model It

During the third lesson, Marva shared her own opinion on a topic and used the "think aloud" technique to model how to use the strategy to develop this idea into an essay. Students participated in this activity by helping her identify goals (i.e.,

"Write a great essay that includes all the parts and convinces my reader"), make a plan that includes notes reflecting each element, consider (and then accept or reject) possible ideas to support the premise, and write a first draft on large chart paper. Working together, the students accepted and rejected possible ideas to support Marva's premise. To emphasize the importance of allowing an essay to evolve and to improve it with new ideas, Marva purposefully had students help her make several changes to her initial plan as she wrote. Once the first draft was completed, Marva modeled how to make sure all the elements were included and had students collaboratively improve and elaborate on each of her ideas.

While modeling how to use the strategy, Marva explicitly used a variety of self-statements to guide her through the writing process. These included the following: "What do I need to do first?" (Problem definition); "First, I need to think of my topic sentence" (Planning); "Let my mind be free and take my time; good ideas will come to me" (Brainstorming); "Does this idea make sense?" (Self-evaluation); "What a great ending" (Self-reinforcement); and "I can do this!" (Coping). She also frequently verbalized attributions that associated success with writing to effort and using the strategy (e.g., "If I work hard and follow the steps, I'll write a great essay!"). After creating a final draft, Marva graphed the results and praised herself for achieving her goal by saying, "I included each story part because I worked hard and followed the strategy!" She also used this opportunity to have the students talk about how self-statements impact writing. They volunteered examples of positive and negative phrases they used before the strategy was introduced and they identified the ones Marva modeled. She listed all of the positive ideas on the board and each student recorded the ones they planned to use on another colorful index card (e.g., "How am I doing so far?," "I can do this if I try!," "Work hard-Write better!," and "Slow down and take my time.").

Stage Four: Memorize It

In the next mini-lesson, Marva explained that using the strategy would be easier if each student memorized the three steps, the mnemonic TREE, and his or her personalized self-statements. They accomplished this task by rehearsing the information individually and with partners, and then quizzing one another. Memorization was easy for most of the students, but Marva found she had to provide some students with extra practice opportunities and support.

Stage Five: Support It

Students then began practicing using the strategy, self-statements, and progress monitoring procedures to write opinion essays. Based on her previous experience, Marva anticipated that writing an outline (Step 2 of the strategy) would be the most difficult task for the students in her small group. Consequently, she assumed the role of lead collaborator when they began their first essay. As they planned together, Marva intentionally made a few errors (e.g., forgetting a strategy step) because it allowed students to identify and discuss the cause and impact of her mistakes. Marva also modeled how to make corrections and avoid frustration by using positive self-statements (e.g., "I need to try to follow all of the strategy steps, so I can write a good essay. I know I can do it!"). As students continued practicing with the strategy, Marva encouraged them to set a goal before writing each essay (i.e., include all the parts of TREE) and then monitor their progress by counting and

graphing the elements they included in their final draft. Students reviewed each other's papers and provided feedback on the strengths and weaknesses of the arguments. As students became comfortable using the strategy, Marva provided less intrusive, individualized assistance. For example, a few students needed help to effectively use their self-statements, some required additional modeling about how to carry out a process (e.g., generate more possible supporting reasons), some needed to revisit the underlying rationale for a particular step, and others were encouraged to expand and enhance the information they included in their first drafts. Reliance on the index cards listing the strategies and self-statements diminished over time.

Stage Six: Independent Performance

All six students were able to independently use the three-step strategy with TREE and the self-regulation procedures effectively after writing three or four essays. As students continued to use the strategy with new assignments, Marva provided positive and constructive feedback as needed. Marva also told students that they were no longer required to set goals or graph their progress, but encouraged them to do so as a way to ensure they continued to write persuasive essays that were interesting, convincing, and complete.

At this time, Marva held a small-group conference to discuss and evaluate strategy use. All six students said they were glad they learned the three-step strategy with TREE because it significantly improved their persuasive writing skills and their perceptions of the writing process. For example, one student explained that he now told himself "to try harder" when writing, and that allowed him to write essays that were longer and more convincing. Another said she learned how to improve her papers by asking herself, "Is my paper good enough?" This student's positive perceptions are validated by comparing writing samples completed before and after SRSD instruction. Prior to learning the three-step strategy with TREE, she was given the prompt, "Should students have to go to school during the summer?," and wrote "No, because we went to for 180 and we need to have fun in the summer, and rest our brains before we start school again." After only a few sessions of SRSD instruction, she was given the prompt "Should there be rules in school?," and used the three-step strategy with TREE to produce the following paragraph.

> I think school rules are necessary. If there were no rules, people would be doing whatever they want. Not listening to the teacher and eating gum, and screaming, and jumping on furniture. That is why we have rules. So the kids can obey them and we will have a nice school. So that is why I think rules are necessary.

Final Thoughts

SRSD leads to significant and meaningful improvements in writing knowledge and skills because students learn strategies that help manage the writing process (Graham & Harris, 2003; Harris & Graham, 1999). SRSD also leads to increased motivation and self-regulation (Harris, Graham, Reid, McElroy, & Hamby, 1994; Sexton et al., 1998). This occurs for several reasons. First, students' active collaboration throughout instruction enhances their sense of ownership over the strategy and allows them to understand why strategy use is beneficial. Second, infusing

self-regulation techniques into instruction helps students see how their efforts and attitudes influence learning. Finally, enthusiastic teaching, promoting an "I can do this..." attitude, and offering frequent praise foster students' belief in their ability to improve (Graham & Harris, 2005).

Achieving positive outcomes with SRSD requires teachers to devote time and effort to learning the model and implementing it with integrity. This investment is consistently described as worthwhile (De La Paz, Owen, Harris, & Graham, 2000; Graham, Harris, & Troia, 1998; Mason, Harris, & Graham, 2002; Sexton et al., 1998). For example, a fifth-grade special education teacher explained that she saw "light bulbs going on" after she co-taught a story grammar strategy in an inclusive classroom. Similarly, a seventh-grade teacher reflected, "I think this is a good example of what strategy instruction can do for a student who would otherwise be overwhelmed and reluctant to tackle a five-paragraph essay assignment." SRSD also receives social validation from students who offer comments such as "[this writing] strategy really builds up your resources," "*Now*, this writing stuff makes sense," and "[SRSD] should be taught to all schools in the country."

References

Alexander, P., Graham, S., & Harris, K. R. (1998). A perspective on strategy research: Progress and prospect. *Educational Psychology Review, 10,* 129-154.

Alvarez, V., & Adelman, H. (1996). Over-statements of self-evaluation by students with psychoeducational problems. *Journal of Learning Disabilities, 18,* 567-571.

Applebee, A. (1984). Writing and reasoning. *Review of Educational Research, 54,* 577-596.

Atwell, N. (1987). *In the middle: Writing, reading, and learning with adolescents.* Portsmouth, NH: Heinemann.

Brown, A., & Campione, J. (1990). Interactive learning environments and the teaching of science and mathematics. In M. Garner, J. Green, F. Reif, A. Schenfield, A. DiSessa, & E. Stage (Eds.), *Towards a scientific practice of science education* (pp. 112-139). Mahwah, NJ: Lawrence Erlbaum Associates.

Danoff, B., Harris, K. R., & Graham, S. (1993). Incorporating strategy instruction within the writing process in the regular classroom: Effects on the writing of students with and without learning disabilities. *Journal of Reading Behavior, 25,* 304-311.

De La Paz, S. (1999). Self-regulated strategy instruction in regular education settings: Improving outcomes for students with and without learning disabilities. *Learning Disabilities Research & Practice, 14,* 92-106.

De La Paz, S., Owen, B., Harris, K. R., & Graham, S. (2000). Riding Elvis' motorcycle: Using Self-Regulated Strategy Development to PLAN and WRITE for a state writing exam. *Learning Disabilities Research & Practice, 15,* 101-109.

De La Paz, S., Swanson, P., & Graham, S. (1998). The contribution of executive control to the revising by student with writing and learning difficulties. *Journal of Educational Psychology, 90,* 448-460.

Diamond, J. (1999). *Guns, germs, and steel: The fates of human societies.* New York: Norton.

Durst, R., & Newell, G. (1989). The uses of function: James Britton's category system and research on writing. *Review of Educational Research, 59,* 375-394.

Ellis, E. (1986). The role of motivation and pedagogy on the generalization of cognitive training by the mildly handicapped. *Journal of Learning Disabilities, 19,* 66-70.

Englert, C., Raphael, T., Fear, K., & Anderson, L. (1988). Students' metacognitive knowledge about how to write informational text. *Learning Disability Quarterly, 11,* 18-46.

Fitzgerald, J. (1987). Research on revision in writing. *Review of Educational Research, 57,* 481-506.

Graham, S. (1982). Composition research and practice: A unified approach. *Focus on Exceptional Children, 14,* 1-16.

Graham, S. (1990). The role of production factors in learning disabled students' compositions. *Journal of Educational Psychology, 82,* 781-791.

Graham, S. (1997). Executive control in the revising of students with learning and writing difficulties. *Journal of Educational Psychology, 89,* 223-234.

Graham, S. (1999). Handwriting and spelling instruction for students with learning disabilities: A review. *Learning Disability Quarterly, 22,* 78-98.

Graham, S., & Harris, K. R. (1989a). A component analysis of cognitive strategy instruction: Effects on learning disabled students' compositions and self-efficacy. *Journal of Educational Psychology, 81,* 353-361.

Graham, S., & Harris, K. R. (1989b). Cognitive training implications in written language. In J. Hughes & R. Hall (Eds.), *Cognitive-behavioral psychology in the schools: A comprehensive handbook* (pp. 247-279). New York: Guilford Press.

Graham, S., & Harris, K. R. (1994). The role and development of self-regulation in the writing process. In D. Schunk & B. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational implications* (pp. 203-228). Mahwah, NJ: Lawrence Erlbaum Associates.

Graham, S., & Harris, K. R. (1996). Self regulation and strategy instruction for students who find writing and learning challenging. In M. Levy & S. Ransdell (Eds.), *The science of writing: Theories, methods, individual differences, and applications* (pp. 347-360). Mahwah, NJ: Lawrence Erlbaum Associates.

Graham, S., & Harris, K. R. (1997a). It can be taught, but it does not develop naturally: Myths and realities in writing instruction. *School Psychology Review, 26,* 414-424.

Graham, S., & Harris, K. R. (1997b). Self-regulation and writing: Where do we go from here? *Contemporary Educational Psychology, 22,* 170-182.

Graham, S., & Harris, K. R. (2000a). Writing development: Introduction to the special issue. *Educational Psychologist, 35,* 1.

Graham, S., & Harris, K. R. (2000b). The role of self-regulation and transcription skills in writing and writing development. *Educational Psychologist, 35,* 3-12.

Graham, S., & Harris, K. R. (2003). Students with learning disabilities and the process of writing: A meta-analysis of SRSD studies. In L. Swanson, K. R. Harris, & S. Graham (Eds.), *Handbook of learning disabilities* (pp. 323-344). New York: Guilford Press.

Graham, S., & Harris, K. R. (2005). *Writing better. Effective strategies for teaching students with learning difficulties.* Baltimore: Paul. H. Brookes Publishing Co.

Graham, S., Harris, K. R., MacArthur, C., & Schwartz, S. (1991). Writing and writing instruction with students with learning disabilities: A review of a program of research. *Learning Disability Quarterly, 14,* 89-114.

Graham, S., Harris, K. R., & Mason, L. (2005). Improving the writing performance, knowledge, and self-efficacy of struggling young writers: The effects of self-regulated strategy development. *Contemporary Educational Psychology*, *30,* 207-241.

Graham, S., Harris, K. R., & Troia, G. (1998). Writing and self-regulation: Cases from the Self-Regulated Strategy Development model. In D. Schunk & B. Zimmerman (Eds.), *Developing self-regulated learners: From teaching to self-reflective practices* (pp. 20-41). New York: Guilford Press.

Graham, S., Schwartz, S., & MacArthur, C. (1993). Knowledge of writing and the composing process, attitude towards writing, and self-efficacy for students with and without learning disabilities. *Journal of Learning Disabilities, 26,* 237-249.

Greenwald, E., Persky, H., Ambell, J., & Mazzeo, J. (1999). *National assessment of educational progress: 1998 report card for the nation and states.* Washington, DC: U.S. Department of Education.

Harris, K. R., & Graham, S. (1996). *Making the writing process work: Strategies for composition and self-regulation.* Cambridge, MA: Brookline Books.

Harris, K. R., & Graham, S. (1999). Problematic intervention research: Illustrations from the evolution of self-regulated strategy development. *Learning Disability Quarterly, 22,* 251-262.

Harris, K. R., Graham, S., & Deshler, D. (1998). *Teaching every child every day: Learning in diverse schools and classrooms.* Cambridge, MA: Brookline Books.

Harris, K. R., Graham, S., Reid, R., McElroy, K., & Hamby, R. (1994). Self-monitoring of attention versus self-monitoring of performance: Replication and cross-task comparison studies. *Learning Disabilities Quarterly, 17,* 121-139.

MacArthur, C., & Graham, S. (1987). Learning disabled students' composing with three methods: Handwriting, dictation, and word processing. *Journal of Special Education, 21,* 22-42.

MacArthur, C., Graham, S., & Harris, K. R. (2004). Insights from instructional research on revision with struggling writers. In L. Allal, L. Chanquoy, & P. Largy (Eds.), *Revision: Cognitive and instructional processes* (pp. 125-137). Boston: Kluwer Academic Publishers.

MacArthur, C., Graham, S., & Schwartz, S. (1991). Knowledge of revision and revision behavior among students with learning disabilities. *Learning Disability Quarterly, 14,* 61-74.

Mason, L., Harris, K. R., & Graham, S. (2002). Every child has a story to tell: Self-Regulated Strategy Development for story writing. *Education and Treatment of Children, 25,* 496-506.

McCutchen, D. (1988). "Functional automaticity" in children's writing: A problem of metacognitive control. *Written Communication, 5,* 306-324.

Persky, H., Daane, M., & Jin, Y. (2003). *The nation's report card: Writing.* Washington, DC: U.S. Department of Education.

Reeve, R., & Brown, A. (1985). Metacognition reconsidered: Implications for intervention research. *Journal of Abnormal Child Psychology, 13,* 343-356.

Salomon, G., & Globerson, T. (1987). Skill may not be enough: The role of mindfulness in learning and transfer. *International Journal of Educational Research, 11,* 623-637.

Sawyer, R., Graham, S., & Harris, K. R. (1992). Direct teaching, strategy instruction, and strategy instruction with explicit self-regulation: Effects on the composition skills and self-efficacy of students with learning disabilities. *Journal of Educational Psychology, 84,* 340-352.

Scardamalia, M., & Bereiter, C. (1986). Written composition. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 778-803). New York: Macmillan.

Scardamalia, M., Bereiter, C., & Goleman, H. (1982). The role of production factors in writing ability. In M. Nystrand (Ed.), *What writers know: The language, process, and structure of written discourse* (pp. 173-210). New York: Academic Press.

Sexton, M., Harris, K. R., & Graham, S. (1998). Self-Regulated Strategy Development and the writing process: Effects on essay writing and attributions. *Exceptional Children, 43,* 295-311.

Thomas, C., Englert, C., & Gregg, S. (1987). An analysis of errors and strategies in the expository writing of learning disabled students. *Remedial and Special Education, 8,* 21-30.

Weintraub, N., & Graham, S. (1998). Writing legibly and quickly: A study of children's ability to adjust their handwriting to meet common classroom demands. *Learning Disability Research & Practice, 13,* 146-152.

Wong, B. (1994). Instructional parameters promoting the transfer of learned strategies in students with learning disabilities. *Learning Disability Quarterly, 17,* 73-101.

Wong, B., Wong, R., & Blenkinsop, J. (1989). Cognitive and metacognitive aspects of learning disabled adolescents' composing problems. *Learning Disability Quarterly, 12,* 310-323.

Zimmerman, B., & Reisemberg, R. (1997). Becoming a self-regulated writer: A social cognitive perspective. *Contemporary Educational Psychology, 22,* 73-101.

Received May 1, 2006
Revised September 2, 2006
Accepted September 3, 2006