Contextualized Language Intervention

Scaffolding PreK–12 Literacy Achievement

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Editor

Teaching students with language impairments the language needed for academic success through scaffolding explicit skills in purposeful contexts

Assisting Students in Becoming Self-Regulated Writers

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Introduction

> The key, of course, is to define our goals, our results, in a way that is simple enough to grasp easily, and specific enough to be actionable. (Lencioni, 2002, p. 78)

This seems so simple, so self-evident. But for many students with learning disabilities, such task management is far from easy, as this high school student, Jack, expresses:

> Even if I know what I have to do, I don't always know how to do it or get there. It's just too much for me to think about and do. I get so overwhelmed and feel so lost, I just walk away or put it off until it's too late.

How very common it is for students like Jack to speak this way about completing their assignments. We hear these comments often from students when they are given an assignment that requires them to internally control, monitor, and select behaviors that will help them achieve a specific goal (e.g., write an essay, read a social studies text, do an experiment, complete a math problem, or design a project). These students try but are defeated. They seem unable to understand the task and cannot set a clear goal for the assignment. They fail to access and use the strategies and abilities needed for reaching their goal. Their chosen approach is not effective or efficient given the task at hand. They lose the motivation necessary to stay with the work and believe that they do not have what it takes to succeed. They find themselves in a dangerous cycle of perceived helplessness. These students present a considerable challenge to educators, families, and themselves.

In school, much of students' efforts are expected to be self-directed and goal-oriented. As is illustrated by Westby in Chapter 8, this transition to independence occurs gradually during the elementary grades. However, by middle school, students are expected to take a degree of partnership in the learning process, regulating and sustaining their learning. Over time, the average student learns and internalizes the processes needed for planning and setting attainable goals as well as selecting and applying strategies and taking actions that allow them to complete a task successfully (Bronson, 2000). Throughout their academic activities, with teacher guidance (and some external motivation such as grades and rewards), students maintain and facilitate their motivation, enhance their sense of self-efficacy, and regulate the range of feelings and emotions they experience during the course of their work. However, students like Jack do not follow this developmental course and, thus, lack the ability to regulate their own learning.

No single factor explains the difficulties these students encounter in setting and achieving their goals, but it is clear that they are not self-regulated learners, and they lack executive functions necessary for efficient learning. Cognitive, linguistic, metacognitive, affective, and motivational factors interact to constrain their performance. The influence of each of these factors varies across different learning contexts and demands (e.g., from writing a journal entry to developing a research paper, from participating in a book discussion group to presenting a response to an argument, from reading a novel to understanding a social studies text), but all pose problems for these students.

The purpose of this chapter is to consider self-regulated learning and executive functioning as they relate to contextually based language intervention. First, we examine these concepts and their influence on learning. We then explore the importance of accounting for these concepts within language intervention. In doing so, we present a strategic written language intervention approach that specifically supports students who have language-learning disabilities, executive function disorders, and/or self-regulatory difficulties.

Self-Regulated Learning: Knowing What to Do When and How

Teachers and speech-language pathologists (SLPs) share a common goal for their students, namely that they become independent and self-regulated learners. Buttrill, Nizawa, Biemer, Takahashi, and Hearn (1989) reported, from teacher surveys and classroom observations, that the most frequent requirement of older students is to work independently. Teachers expect students to organize their time, complete assignments, do independent seatwork, and study on their own at home. In addition, they must be able to listen and take independent notes from lectures, the most common form of teacher communication. Whether in intervention or classroom settings, there is the hope that students will become learners capable of making wise choices that support their academic achievement and personal sense of success.

General Definition

A number of theoretical perspectives explain self-regulated learning. These perspectives vary widely from each other and include operant theory, phenomenological points of view, social cognitive theory, information processing approaches, volitional and Vygotskian views, and constructivist orientations

(Zimmerman & Schunk, 2001). Such a range of perspectives often results in different explanations of what constitutes a self-regulated learner (e.g., motivation, key processes, self-awareness).

Self-regulated learning is not yet clearly differentiated from such terms as self-control, self-management, self-change, and self-directed behavior (Creer, 2000; Zeider, Boekaerts, & Pintrich, 2000) or from metacognition, volition, self-monitoring, and planning (De Corte, Verschaffel, & Op't Eynde, 2002; Demetriou, 2002). Zimmerman (2002) points out that self-regulation for learning is "not a mental ability or an academic performance skill" (p. 65) per se. He notes that self-regulation is a proactive, self-directed process in which students "transform their mental abilities into academic skills" (p. 65). Pintrich (2000) adds that self-regulated students are "active constructive meaning makers as they go about tasks" (p. 452.). Accordingly, self-regulated learners are metacognitively, motivationally, and behaviorally active participants in their own learning processes (Zimmerman, 1986). Self-regulated learning, therefore, "refers to self-generated thoughts, feelings, and actions that are planned and systematically adapted as needed to affect one's learning and motivation" (Schunk & Ertmer, 2000, p. 631).

Components of Self-Regulated Learning

Pintrich (2000), Puustinen and Pulkkinen (2001), and Zimmerman (1994, 2001) point out that, across different perspectives, there are common elements that define self-regulated learners. It is generally agreed that self-regulated learners engage in the following characteristic behaviors.

- **Establish Attainable Goals**—Self-regulated learners set attainable goals and are aware of the specific processes that can ease and improve their achievement of these goals. As such, self-regulated learners are proactive and internally directed. They invoke and manage the thoughts, feelings, and actions necessary for supporting goal attainment.

- **Use Effective Strategies to Achieve Goals**—Self-regulated learners use effective, task-specific learning strategies. Weinstein and Mayer (1986) suggest that effective strategy use is associated with product (or outcome) goals (e.g., use a mnemonic device, decode a word, use conversational strategies) and with process goals (e.g., planning and organizing a task, managing time, monitoring and managing feelings and attitudes). Successful academic outcomes are associated with the use of different strategies that are orchestrated in a smooth, flexible, and integrated

manner. Indeed, work on specific metacognitive strategies is shown to facilitate, for example, reading comprehension (Pressley, 1998; Pressley, et al., 1992) and composing (De La Paz & Graham, 2002; Graham & Harris, 1993; Troia & Graham, 2002). This is especially true when students are taught within meaningful contexts that provide them with an understanding of what a strategy is and how, when, and why to use it to facilitate their academic performance.

- **Self-Monitor and Evaluate**—Self-regulated learners monitor and evaluate their academic work. They use self-appraisal and feedback from others to determine the degree to which a given approach supports them with achieving their goals. New realizations about themselves as learners and doers arise from their attention to and use of internal and external feedback.

- **Maintain Motivation**—Self-regulated learners are motivated to resolve problems and complete academic tasks. Theoretical perspectives differ with respect to understanding motivation and its origins. For some, motivation is a reinforced outcome of task accomplishment (operant perspectives), while for others motivation emerges from the development of self-efficacy and the continued use of regulatory processes to attain goals (social-cognitive perspectives). In addition, motivation also has its basis in how students positively or negatively regard themselves as learners (attributional processes). Across all theories of self-regulated learning, the motivation to succeed is a driving force behind everything a student does.

- **Use Supports**—Self-regulated learners are sensitive to and use social supports effectively. Newman (1994) indicates that self-regulated learners seek assistance from those around them who can help them achieve their goals. Models and mentors lead them gradually to incorporate the regulatory processes essential within a given academic domain.

- **Mediate Performance with Language**—Self-regulated learners use language as a major mediating process that internally guides them toward successful task completion. From adults, students learn what to say to themselves to regulate their own thinking and guide their participation in academic activities (Englert & Dunsmore, 2004; Wertsch, 1998). Differing theoretical perspectives all share the notion that self-regulated learners are actively and internally engaged.

In summary, self-regulated learners are proactive in the learning process and in accomplishing their academic goals. To achieve their goals, students act intentionally (i.e., in a manner that has purpose and direction) and in so doing "attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the environment" (Pintrich, 2000, p. 453).

Executive Functions: The Central Supervisory System

General Definition

The key components of self-regulated learning are often confused with aspects of executive functioning. However, these terms do in fact refer to distinct, yet complementary, concepts. At the most basic level, the term *executive functions* encompasses a range of control processes necessary to carry out purposeful and goal-directed behavior that students self-regulate. While executive functions are defined differently across disciplines, several processes and associated neurological constructs are generally agreed upon. Stuss and Alexander (2000) argue that there is no single executive function (i.e., no single process that defines executive functioning). Rather, executive functions are a *collection* of distinct but related processes that are activated when one must control behavior within novel contexts that evoke competing responses (Denckla, 1996; Hayes, Gifford, & Ruckstuhl, 1996; Lezak, 1995; Pennington & Ozonoff, 1996; Stuss & Alexander; Stuss & Benson, 1986). Accordingly, executive functions interact to serve as a supervisory system for behavior (Shallice, 1988).

Executive Function Components

Though real differences exist about the components of executive functioning, the following are generally accepted to be components (Barkley, 1995, 1997; Eslinger, 1996; Pennington, Bennetto, McAleer, & Roberts, 1996; Pennington & Ozonoff, 1996; Roberts & Pennington, 1996; Stuss & Alexander, 2000):

- **Inhibition**—Inhibitory processes are at the heart of the executive functioning. In the face of a novel task, students must inhibit prepotent (i.e., incorrect) responses in order to determine the correct course of action. Irrelevant thoughts, comments, and behaviors must be inhibited so that

an effective response can occur. Inhibition, then, supports one's ability to maintain attention to a task.

- **Working Memory**—To respond to a new task, students must hold their ultimate goal in mind long enough to choose what they must do or say to reach that goal successfully (Barkley, 1997; Roberts & Pennington, 1996). This requires them to remember and, in the moment, process information needed to complete the task (e.g., remember facts and information while writing a paragraph; recall and organize thoughts simultaneously to develop an argument). Working memory, then, allows the student to maintain a "mental set" while engaging hindsight (i.e., what have I done so far?) and foresight (i.e., what do I need to do next to get to my goal?) in the service of completing a task (Barkley). These processes are fundamental to a student's ability to estimate how much time and work will be necessary to reach academic goals.

- **Plan and Organize**—As Scholnick and Friedman (1993) note, planning involves "the construction of an effective way to meet a future goal" (p. 145). Planning and organizing are intricately related processes and are central to completing any task. Allen's (2001) natural planning model suggests that planning first requires students to envision *what* needs to be done (e.g., write a five paragraph essay). Comparing their vision of something that has yet to happen with what is happening at that moment generates cognitive dissonance, which the student resolves by brainstorming numerous options for what they might need to do (e.g., look at the last essay I wrote, go to the library, talk to my teacher, make an outline). This begins to move students from planning *what* to do to organizing *how* they will do it. In order to organize, students must select the action steps they need to take to complete a task and sequence those actions so that they ultimately achieve their envisioned goal. The ability to plan and organize improves with development; not all components of planning and organization develop in synchrony (Bronson, 2000; Scholnick & Friedman).

- **Manage Affect**—All learners bring a memory of past experiences with them to novel tasks. Prior success creates a "mental template" for how to accomplish a new, but similar, task (Helmus, 2004). Also, prior success creates a positive or negative outlook on one's ability to effectively meet new, but similar, task demands. For example, when Jack sits to write an essay, he immediately recalls the difficulty he always has with

writing. This then leads him to feel anxious in the face of a new writing assignment, which limits his ability to effectively engage his executive functions. Alternatively, Jack, recalling his prior success with writing, may approach a newly assigned essay with confidence.

At its core, then, the term *executive functions* refers to a set of supervisory processes that overarch "all contexts and content domains" (Denckla & Reader, 1993, p. 433). These processes allow one to hold a goal in mind in order to plan, organize, and perform a novel task while inhibiting intrusions and diversions. As a supervisory system, executive functions are "the sum of the processes recruited at any moment, for any task" (Stuss & Alexander, 2000; p. 296). Collectively, these processes support one's ability to prepare, act, and sustain attention to a task long enough to complete it. Executive functions develop through childhood into adulthood with noticeable advances around the age of 10, in mid-adolescence, and in the 20s (Anderson, Anderson, Northam, Jacobs, & Catroppa 2001; Denckla, 1996; Denckla & Reader, 1993; Klenberg, Korkman, & Lahti-Nuuttila, 2001).

Most attribute executive functioning to cortical structures in the frontal and prefrontal lobes, subcortical structures, and structures in the limbic system (Denckla, 1996; Helmus, 2004; Lesaca, 2001; Pennington & Ozonoff, 1996; Roberts & Pennington, 1996; Stuss, 1992). Executive function disorders can arise from disruptions in neural networks rather than one brain region (Stuss; Stuss & Alexander, 2000). Executive functions are distinct from domain-specific processes, such as sensation, perception, and many aspects of language and memory (Pennington & Ozonoff). By virtue of their neurological connections to frontal and subcortical structures, language and executive functions influence and constrain one another. For example, language disorders can degrade the degree to which inner speech guides planning and control of behavior (Pennington & Ozonoff; Stuss & Alexander; Vygotsky, 1962). As well, executive function disorders can degrade one's ability to plan and organize oral and written language as well as use strategies to support language processing within relevant contexts (Singer & Bashir, 1999).

Variation in the complexity of a given task can alter the interaction between executive and language systems, thereby influencing performance (Singer & Bashir, 1999; Stuss & Alexander, 2000). Additionally, one's memory of previous failures (e.g., with writing, explaining, studying) can lead to anticipatory anxiety in the face of similar tasks, which then degrades one's ability to mindfully approach them using specific strategies that will lead to success (Helmus, 2004).

Executive Function and Self-Regulation: Subtle Distinctions

The difficulty differentiating executive functions and self-regulation arises in part due to the lack of agreement on what exactly constitutes the two activities and in part due to the different theoretical perspectives from which these terms have emerged (Stuss & Alexander, 2000). While this may be a matter of semantics for some, it does contribute significantly to the different understanding of what constitutes executive functioning and, thereby, clouds both assessment and intervention. The result is a blurring of the distinctions between executive functions and self-regulated learning. With this comes a loss of the subtle, yet unique, contributions each makes when students must act in deliberate and intentional ways (e.g., write a term paper).

In this chapter, we see executive functions as distinct from, but central to and supportive of, self-regulated learning. Table 13.1 on page 574 presents the core components of executive functions and self-regulation. As used in this paper, then, executive functions are the processes invoked in the face of a novel and complex task. At their fundamental level, executive functions are directly involved with planning, organization, attention, inhibition, and working memory (Denckla, 1996). These processes are influenced by long term memory (of success and failure), which is tied to one's emotional history within any given task. As such, executive functions are basic to allowing for goal attainment and the emotional set that influences success with intentional action (Helmus, 2004).

In contrast, we see self-regulation for learning as characterized by students' proactive engagement with their own learning success. Self-regulated learners are aware of how and when to use specific strategies and see these as useful for completing a specific academic goal. Consequently, their process is an active process, and they monitor the effectiveness of the methods and strategies they employ for learning. Students use feedback from their own experiences as well as from teachers, therapists, and peers to develop, shape, and adapt their behavior. For this to happen, students must be self-reflective, which is essential for developing and refining self-knowing and self-valuing. This leads, in turn, to overt changes in behaviors and the timely use of strategies within academic tasks. Finally, students are motivated to stay with a task in spite of its challenges. They select and use the skills and strategies necessary for success. In addition, they monitor their performance as they work toward a goal. Success in reaching that goal fuels, once again, motivation and further intentional action.

Characteristics and Components of Self-Regulation and Executive Functions

Table 13.1

Self-Regulation for Learning	Executive Functions
Establish attainable goals.	Inhibit incorrect responses in the face of a novel, complex task.
Use effective strategies to achieve academic goals.	Engage working memory to hold plans and action sequences in mind long enough to execute a task.
Self-monitor and self-evaluate performance.	Plan task approach and behavior for completing the task.
Maintain motivation to achieve goals.	Organize and sequence behaviors needed for task completion.
Use social and environmental supports proactively.	Maintain mental set and attention while performing a task.
Mediate performance with language.	Manage affective responses associated with recall of prior success or failure with a given task.

Supporting Self-Regulation and Executive Functions within Intervention

We encounter students who are discouraged about learning due to their seeming inability to initiate and apply processes that allow them to control their learning and learning outcomes. The difficulties that they encounter are not explained solely on the basis of their language disorders or attention deficits (Singer & Bashir, 1999). These students hold negative beliefs about their ability to understand and gain control over their school performance. They have difficulty planning; organizing their behavior; directing and sustaining their

attention; and remembering what they want to do long enough to get it done without getting distracted or pulled off task.

Happily for these students, well-designed instruction can accommodate and support the development of self-regulated learning and executive functions across different situations. For example, individuals with chronic illnesses (e.g., asthma, arthritis, diabetes) can self-manage and self-regulate their care (Creer, 2000; Zimmerman, Bonner, Evans, & Mellins, 1999). In addition, students can learn to use strategies to enhance performance in many academic domains, such as mathematics, reading comprehension, and writing (Dawson & Guare, 2004; Harris & Graham, 1996; Marlowe, 2000; Pressley, 1998; Singer & Bashir, 2004a; Westby, 2004; Zimmerman, Bonner, & Kovach, 1996). The following two studies demonstrate that it is possible to support executive control and self-regulated learning. These have important benefits for self-efficacy, strategy learning, and effective communication.

Cleary and Zimmerman (2004) developed the *self-regulation empowerment program* (SREP) as a means of helping students develop self-motivational beliefs and use academic strategies. The SREP uses microanalysis of behavior as a diagnostic method. For example, authentic interviews assess students' attitudes toward themselves as learners and determine specific behaviors associated with goal setting and achievement. In addition, the approach engages students in teaching strategies directly through the use of cognitive modeling, coaching, and structured practice.

Cleary and Zimmerman (2004) present the case of Anna who struggles in science and mathematics with goal setting, self-efficacy, the use of effective strategies, and self-reflection. Using the assessment and intervention approach of the SREP, Cleary and Zimmerman demonstrate that Anna (and other students) can become a self-directed problem solver by becoming proactive in goal setting, selecting effective approaches to the task at hand, and reflecting on her performance and choices as a means for adjusting and elaborating her behaviors. Cleary and Zimmerman demonstrate that it is possible to enhance students' beliefs about themselves as learners and teach them effective strategies to address the academic content or task-specific challenges presented in school.

Similarly, Singer and Bashir (1999) explored the reciprocal influence of executive functions and self-regulation on language production. Using assessment information from standardized tests and interviews that identified challenging communication tasks and contexts, Singer and Bashir developed a systematic approach to treating an adolescent, George, with language production deficits.

This approach was designed to address the executive and regulatory problems he had in addition to his communication disorders. Using dialogue as both the object and the medium of direct and explicit intervention, Singer and Bashir assisted George with managing both his speech and his language production. The central goal of intervention was to help George develop the regulatory process of self-observation, self-judgment, and self-reaction (Zimmerman, 1989), while developing a reflective speaking approach. This allowed him to use specific strategies to plan, organize, monitor, and pace his oral and written discourse. Questions, such as those in Table 13.2, were used as an intervention framework intended to support George's ability to self-regulate his expression.

General questions and strategic responses like these were carefully discussed with George. The use of these strategies to organize thinking and language was modeled by the SLP as talk-alouds, and practiced in activities that approximated George's real-life situations. The interventions focused on an understanding of the processes involved in thinking and producing language. George was guided to use those strategies that facilitated his communicative performance flexibly. As a result, George developed new approaches to effectively managing his communication. His increased effectiveness resulted from the use of active problem-solving strategies supported by self-reflection (i.e., self-monitoring, self-evaluation, and behavioral adjustments). His explicit use of strategies allowed for the development of new approaches for regulating his thinking, communication, and problem solving that ultimately promoted his independence as a speaker.

George was able to learn to pause, reflect, and move his narratives and expositions forward by carefully planning, organizing, and monitoring his discourse. George was taught to make use of self-talk to help him self-regulate his language productions (Harris, 1990) and monitor his speaking behaviors. The use of self-talk helped him develop self-guidance (e.g., What do I want to say? How should I organize it? I'm getting lost; what do I want to say and how do I get back on track?). In addition, internalized speech provided George with the verbal mediation needed to control and regulate his communication. Once George was able to manage and control his speech production and spoken and written discourse formulation, noticeable changes occurred in other aspects of his language that were not treated directly. For example, George successfully used more diverse and specific vocabulary, increasingly complex syntax, and a broader range of cohesive devices.

In each of the approaches noted above, teaching the self-regulatory and executive processes required for strategy use, speaking, and writing proceeds in

Examples of Guiding Questions for Self-Monitoring, Self-Evaluation, and Behavioral Adjustments

Table 13.2

Guiding Questions	Examples of Self-Talk
What do I want to say?	I want to compare the characters of Jay Gatsby and Nick Carraway in *The Great Gatsby*.
What kinds of thinking do I need to do?	I need to describe the characters, and I need to tell how they are alike and how they are different from each other.
What can I do to help myself plan and organize the material?	Using my graphic, I need to visualize the structure of my speech and decide how to organize the information about the characters.
How will I monitor my speech during my presentation?	I'm speaking too fast. Use my pacing strategy to slow down so that I have more time to explain myself. I'm not saying what I want to…I'm getting lost…What am I trying to say?
What changes can I make so that I am sure to be understood?	What I need to do is change how I'm talking by slowing down my rate and pausing to give myself time to come up with the right words. I can buy time by saying, "Wait. I need to say that again…" Or, "By that I mean…"

a systematic manner and is embedded within a meaningful and authentic learning context (e.g., Singer & Bashir, 1999). In all of these approaches, the teacher, SLP, and student exercise considerable flexibility over how they go about attaining their goals. Their instruction, intervention, and learning goals are selected on the basis of specific academic or assignment demands.

Composing: Integrating Self-Regulatory and Executive Function Processes

Writing is a deliberate act. As such, it requires intentional effort on the part of writers during the composing process. Singer and Bashir (2004a) have proposed a model of writing that accounts for the integration of self-regulatory and executive functions into the writing process. As can be seen in Figure 13.1, written language involves both writing processes and writing foundations. In order to compose, writers must recruit, manage, coordinate, and monitor multiple processes simultaneously. Much as a juggler keeps several balls in the air, writers must juggle all of the component systems of writing. The key to the juggler's success is keeping all the balls moving along smoothly; this the juggler accomplishes by understanding and mastering the many foundation skills required for juggling. The same principle holds for writing (Flower & Hayes, 1980; Singer & Bashir, 2004a, 2004b).
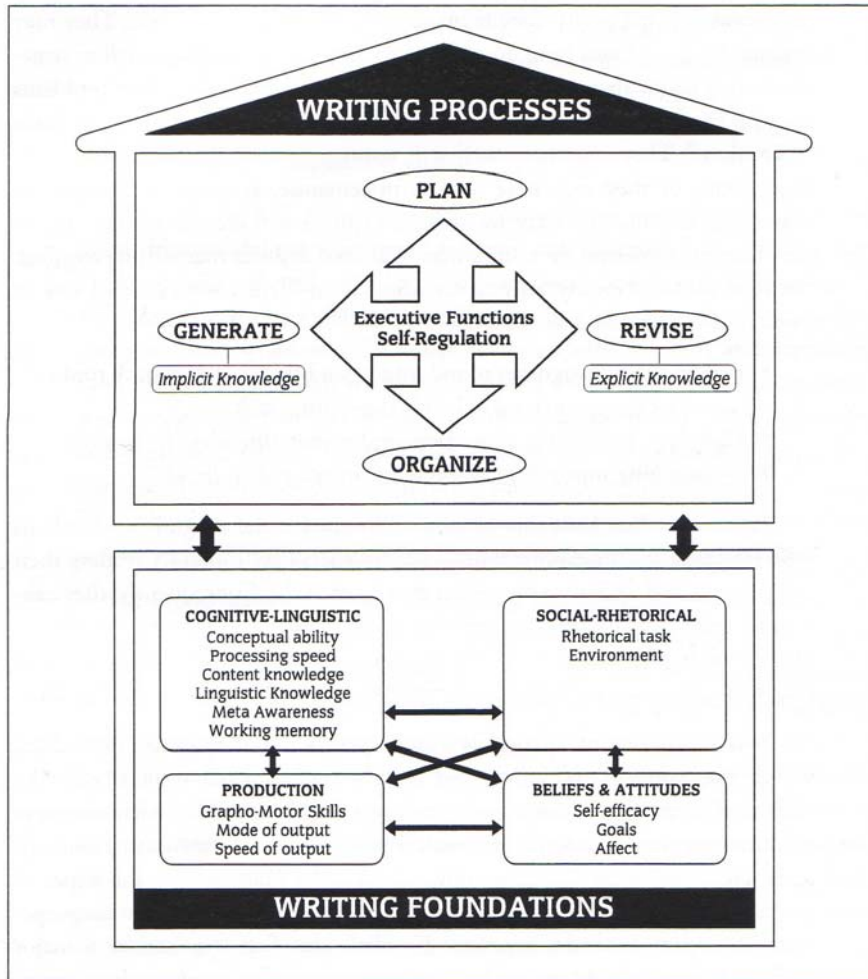
> By acknowledging the basic processes that must be recruited for composing and the numerous variables that control and constrain those processes, we can begin to understand why writers might struggle one day and generate text with ease the next. (Singer & Bashir, 2004a, p. 561)

Well-developed writers have control over the writing process, yet are capable of self-regulating the process as the content, goals, and outcome requirements change. They flexibly adapt the writing process to each writing task, calling upon specific planning and organizing strategies, selecting appropriate text and linguistic structures, monitoring and evaluating the text as it evolves, and revising it accordingly. They manage motivation and the variety of emotions that arise during the composing process. Faced with many different options for expression, writers choose wisely among them, inhibiting those responses that are irrelevant or off topic and maintaining a forward focus to the composing process. They keep the topic and content of the paper in mind to develop a coherent text. All of these processes are coordinated in real time and are facilitated by working memory and other executive and self-regulatory functions. They use both internal and external resources to achieve the goal of a well-formed text that communicates ideas clearly and meaningfully to an unseen reader. It is difficult work, but they stick with it to get the job done.

For students with language-learning and/or executive function disabilities, writing can be a life-long challenge (Singer & Bashir, 2004b). Why? Because writing demands the integration and coordination of diverse cognitive, executive,

Figure 13.1   **A Model of Text Production**

WRITING PROCESSES

PLAN

Executive Functions
Self-Regulation

GENERATE   REVISE

Implicit Knowledge   Explicit Knowledge

ORGANIZE

COGNITIVE-LINGUISTIC
Conceptual ability
Processing speed
Content knowledge
Linguistic Knowledge
Meta Awareness
Working memory

SOCIAL-RHETORICAL
Rhetorical task
Environment

PRODUCTION
Grapho-Motor Skills
Mode of output
Speed of output

BELIEFS & ATTITUDES
Self-efficacy
Goals
Affect

WRITING FOUNDATIONS

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memory, linguistic, spatial, motor, and affective systems (Singer & Bashir, 2004a). Each of these systems makes its own contribution to the writing process and the text that is written. Students may struggle with virtually all of the skills that support written expression. If they are not self-regulated and cannot inhibit the intrusion of irrelevant ideas, and if they cannot keep ideas and

goals in mind as they write, they are ineffective and inefficient writers (Singer & Bashir, 2004a). They may devote precious cognitive resources to managing only some of what needs to be managed in order to produce a text. They may become frustrated and have diminished feelings of self-worth as well as negative beliefs about their ability to manage the task successfully. Their problems may be confounded by a poor command of language, which renders them "speechless." They may lack sufficient content knowledge to complete the assignment, or they may have deficits in semantic, syntactic, pragmatic, or phonological skills necessary for written expression. Like the novice juggler, they have yet to master the component skills and abilities that writing requires. We have seen this clearly in students who have difficulty with keeping one or more of the following balls in the air:

- Reading their assignments and understanding what they have to do
- Knowing how to get started with the writing task
- Planning, organizing, expressing, and elaborating ideas in writing
- Maintaining motivation and interest in the task at hand

One of the first balls that often gets dropped is the assignment. Students with language and/or executive function disorders have difficulty reading their assignments and understanding what they have to do. Consequently, they cannot set goals, make plans, or organize their approach to writing. As Khema (1987) notes, "Unless we know the direction we are going, it's highly unlikely that we'll get to our destination. We have to know which way to go" (p. 24).

Successful assignment analysis requires insight about language. Embedded within the words of an assignment are clues about what topic(s) must be addressed in the paper, what genre the teacher is looking for, what resources must be recruited to address the topic thoroughly (e.g., curriculum content, texts, etc.), and what discourse moves need to be made within the paper to communicate effectively with the unseen reader. For students with language-learning and/or executive function disorders, this first step can be a major roadblock to success. Many students, faced with a *wall of words* on their assignment sheet, give up before even trying. Rereading the assignment doesn't help because, without strategies to weed the relevant from the irrelevant details, the wall remains impenetrable. Even if students are able to identify the key words that define the writing task, the language of the assignment can, in and of itself, pose another barrier to success.

Consider, for example, the experience of Harry, an intellectually gifted 9th grade student with severe attention and executive function deficits. Harry received the following assignment for homework.

In *Great Expectations* by Charles Dickens, Pip's foster father, Joe, comes to visit Pip in the city. They are distant and Pip is embarrassed by Joe, even though he realizes all that he has done for him. Analyze a time in your own life when you were embarrassed by a family member. How did it make you feel before, during, and after the incident? Do you think Pip was justified in feeling this way?

Though he had demonstrated in conversation great insight about the novel, Harry's ability to complete this task was thwarted from the very start because he did not understand all of the linguistic elements in the assignment. Therefore, he was not able to identify what he needed to do to initiate and complete the task successfully. Harry struggled with planning and organizing both his approach to this writing assignment and his ideas. He also struggled with recognizing how the language of the assignment directed his planning and organizing efforts. His difficulty making the link between language and purposeful action is evident within the transcript provided in Box 13.1 on page 582, where he is working with his clinician to determine the structural elements required in this paper based on the wording of the assignment.

In Harry, we see a perfect example of the inseparable links among language, executive functions, and self-regulation. Harry was not able to self-regulate writing his paper because he could not plan and organize his approach to this novel task. He immediately recalled the numerous times he has failed with writing due to his disorganization, which left him emotionally vulnerable from the start. He did not believe things would go any differently for him this time, and this made him anxious and fearful of yet another failure. Because he was motivated to (but did not know how to) succeed, Harry sought out and used a mentor. With her guidance, he was able to inhibit the sabotaging inclination to give up without trying, conclude that he is indeed stupid, or divert his attention to his Game Boy.

Instead, Harry employed a specific strategy to figure out the demands of the assignment and how those demands directed his approach with this writing task. In doing so, however, he quickly encountered difficulty. He didn't understand what the language of the assignment was asking him to do in his writing, nor did he understand how the language helped him frame the task at hand (i.e., to analyze). The key action he had to take in the paper—*analyze*—did not evoke an approach to organizing his thinking, a specific text structure, or a set of discourse moves associated with that text structure. No goal for the writing assignment can be set in the absence of understanding the key tasks involved

Box 13.1

Transcript of Harry and His Clinician
Analyzing a 9th Grade Writing Assignment

Harry: This one's hard. It sounds like something my English teacher would give me with all these questions!

SLP: Yeah, so do the questions make it hard?

Harry: Well, I don't know. They just tell you to answer, but they don't tell you how to answer it really. I always wish they would simplify it. Well I could just look at it for what it is and take everything literally, but that doesn't always work. "Analyze a time in your own life when you were embarrassed by a family member…"

SLP: So would that be a part?

Harry: So, you have to think. What's analyze mean? Analyze means…what does analyze mean? Does it? Can you just? Would "analyze this" make any sense alone in the assignment, or is analyze a word that means, like, you have to look for analyze? Analyze is a word. But are there any?… Oh, I forget the word.

SLP: Synonyms?

Harry: No, not synonyms, um… like… things that… Are there any specific parts of the assignment that could change the meaning of the word analyze?

SLP: Yes. It depends on what comes after the word analyze.

Harry: Does a word whose verb is analyze ever make sense on its own …or…in a clause?

in the directive *analyze*. Though he read *Great Expectations* and had an understanding of the novel, he could not show what he knew within an academic task that required him to harness his executive functions (to plan, organize, attend, inhibit, and hold plans, actions, and academic content in mind long enough to write the paper) so that he could regulate his performance (which requires goal setting, selecting strategic approaches, monitoring and reflecting

on the work both as it develops and as a whole, evaluating what he has written, maintaining motivation, and adjusting his thinking, language, and actions while he works).

Intervention: Case Study

Over several years, Singer and Bashir (2004b) developed an instruction and intervention approach to teaching expository writing called EmPOWER. Based on the work of Englert and her colleagues (Englert, et al., 1988), EmPOWER evolved into a uniquely different approach to teaching expository writing and intervening with students who exhibit language-learning disabilities and executive function disorders. Similarly, general education students who are simply struggling with self-regulating their writing find the use of EmPOWER an effective strategy for developing expository text.

EmPOWER is a highly explicit, systematic, strategic routine designed for use by both teachers and students to support all aspects of the writing process and expository text development. Specifically, it is designed to teach struggling writers how to coordinate and manage the multiple processes necessary to develop a written text. SLPs and teachers alike will find this approach highly useful for supporting the thinking and linguistic underpinnings of written expression. In addition, they will find that it supports the executive and self-regulatory processes needed for text production. Consequently, the use of EmPOWER allows a close collaboration between teachers and SLPs in teaching writing within highly contextualized settings (Singer & Bashir, 2004b).

Briefly, EmPOWER represents a six-stage writing process: evaluate, make a plan, organize, work, evaluate, rework. Within each stage, specific strategies are taught explicitly to support the numerous cognitive and linguistic subprocesses of writing. A detailed explanation of the EmPOWER approach may be found in Singer and Bashir (2004b). Its elements are illustrated here via the case of Amy, a 7th grade student with coexisting speech, language, and executive function disorders.

Amy: Initial Referral

Amy was referred for language intervention in 4th grade because she was not able to write more than a single sentence without maximum support from a special educator. At that time, she was receiving occupational therapy services in school to address motor planning difficulties that affected her handwriting

(dysgraphia). She also had low muscle tone that affected trunk support and manual dexterity. A neuropsychological evaluation in third grade revealed a diagnosis of attention-deficit/hyperactivity disorder and associated executive function deficits affecting planning, organization, sustained attention, and cognitive flexibility. By parental report, she had shown improvement in her ability to sustain her attention with medication, but she continued to demonstrate and experience day-to-day fluctuations.

Upon meeting Amy, it was apparent that she was challenged in many of the systems required for writing. In addition to the aforementioned difficulties, she also presented with markedly impaired speech production (dyspraxia) as well as imprecise articulation associated with her low muscle tone (dysarthria). Reduced executive controls for planning and organizing language also were evident. For example, Amy struggled to formulate her thoughts in an organized way, which rendered her oral narratives difficult to follow. In addition, she had difficulty monitoring "two things at once" when she spoke. Amy's speech articulation became increasingly unintelligible within contexts that placed demands on verbal planning, organization, and formulation (e.g., telling about complex events or explaining what she knew about a topic or how to do something). In contrast to her relative weaknesses with speech and language production, Amy's reading and oral language comprehension abilities were grade appropriate.

Amy: Intervention Using EmPOWER

The EmPOWER strategy formed the backbone of Amy's written language intervention, for it provided a framework for explicitly supporting the range of executive function and self-regulatory systems necessary for writing. In using EmPOWER, the clinician provided Amy with a strategy that helped her to adopt the "internal script" needed to "talk herself through" all of the stages of the writing process. Using EmPOWER, the clinician acted as a mentor. In so doing, the clinician explicitly modeled and instructed Amy how and when to employ strategies designed to support specific cognitive, memory, and linguistic processes within each stage of the writing process. Over time, this resulted in Amy's gradual internalization of language, executive, and self-regulatory processes necessary for writing.

Evaluate

Too often, students do not know how to read a writing assignment to make sense of the information they are provided. Thus, they cannot determine what

it is they have to do. Like Harry and Jack, they are often self-defeated from the beginning. The *E* step of EmPOWER—*evaluate*—provided Amy with strategies that helped her to dissect and evaluate the assignment. This allowed her to approach the task and begin to understand what it was asking her to do. She was taught strategies for identifying the "action words" (i.e., words within the assignment that tell her what to do). Based on that evaluation, she was taught to determine how many parts her text would need to include. For example, consider one of Amy's assignments:

> When kids go away for the summer they have all kinds of adventures. Write two paragraphs about an adventure you had this summer. Tell what you did and why you liked it.

In this assignment, Amy identified two action words telling her to do something: *write* and *tell*. She then determined what directives were associated with those words. Finally, she determined that her text would have two parts—one part needed to tell the reader what she did on her vacation, and one part needed to explain why she enjoyed it.

Make a Plan

Even when students read and understand their assignments, they sometimes cannot initiate the writing task. These students lack the planning required to move from direction to action. Like Harry, they may recognize that they must *analyze*, but may not know how that word helps to direct and structure their thinking. With a conscious awareness of her writing goal(s) established within the evaluate step of EmPOWER, Amy was then guided through several prompts to *make a plan* for how she would accomplish the demands of the assignment. These included defining her discourse purpose (i.e., retell, describe, give information, and give her opinion), identifying how she wanted to think about her topic and, given what she knew already, determining whether or not she required additional information.

Organize

The *organize* step of EmPOWER prompts students to display their ideas on paper graphically. Graphic organizers are commonly used to support the planning stages of writing. Typically, these consist of premade graphics students fill in with ideas. Too often, graphics are used that do not look like any specific text structure or any specific thinking process. And all too often, one graphic is used for multiple purposes (e.g., semantic webs are frequently used interchangeably for eliciting brainstormed ideas, categorizing ideas, and/or describing qualities

or attributes). As a result, students often find themselves wondering which of the many graphics they have seen would be appropriate for use with a given task. Alternatively, not having found the "one size fits all" graphic helpful, they choose not to use them to support their writing.

Within the organize step of EmPOWER, Amy was taught a set of graphics called Brain Frames (Singer, in press). These evolved from the work of Hyerle (1996, 2000), who identified eight fundamental thinking processes that could be represented visually. Whereas language and cognition are inextricably intertwined (Vygotsky, 1962), Brain Frames were developed to represent the patterns of discourse that share a relationship with fundamental cognitive processes. Each of the Brain Frames depicts a specific cognitive-linguistic process (e.g., *compare/contrast, categorize, sequence*) within a graphic that *looks like* the cognitive-linguistic process it represents and *shows* the spatial/linguistic patterns associated with it (Singer & Heerde, 2004). Amy was not assigned a "graphic organizer" to fill in before writing. Rather, she was first taught to identify the type(s) of thinking and verbal expression that her writing task required. Then, just as an artist frames his artwork, Amy "framed" the words and ideas in her brain by drawing them by hand.

In using the Brain Frames, Amy was not restricted by a preset number of boxes or bubbles on a predrawn graphic. Instead, knowing what kind of thinking and communication she was embarking upon, Amy was empowered to draw as many boxes and bubbles necessary to represent all of her ideas. She arranged words and ideas within graphic patterns associated with a specific cognitive-linguistic process. The Brain Frames, then, supported her working memory by serving as "place holders" for her ideas. With her thinking, words, and ideas anchored on paper, she could step back from and appraise her graphic to determine whether she had retrieved relevant content knowledge for the writing assignment. For the writing assignment about her vacation presented above, Amy decided that she wanted to engage three cognitive-linguistic processes: *telling* (about her vacation), *describing* (her adventures with adjectives), and *showing causes and effects* (regarding her feelings about her adventures).

Work

The transition from planning and organizing using graphics to composing is not one that students with language and executive function disorders make easily. Many students find this transition daunting because composing involves more than just putting ideas into words. Though explicit support with the first three steps of the EmPOWER process was critical for Amy, she also needed assistance

with generating language and embedding that language within a text structure. Planning and organization difficulties permeated all aspects of her speech and language system. Thus, although she *knew* a lot about her writing topic, she was not necessarily able to *represent* that knowledge linguistically within age/grade-appropriate text and sentence structures. Therefore, Amy needed additional help with the *work* of writing.

After evaluating task demands, planning her approach to the task, and organizing her thinking, Amy was taught to identify how and where to translate her ideas into written language. In doing so, she used premade templates that represented the elements associated with different text structures. For example, the template for writing an elaborated paragraph elicited a topic sentence, supporting facts, reasons, examples, and details (which became known as FREDs), a place to "say more" about each FRED, and a closing sentence. The multi-paragraph template elicited a thesis statement, topic sentences for each supporting subtopic, FREDs to support each topic sentence, and a concluding statement. An example of Amy's template developed for a two-paragraph text on her summer vacation, is displayed in Figure 13.2 on page 588.

Templates used in the work step of EmPOWER supported various levels of executive functioning. As a place to "hold" Amy's ideas, they served as a stable, external scaffold for working memory. They also supported organizational processes, as they revealed and elicited all text structure elements. The combination of these two functions further supported Amy's organization, as she was able to make conscious choices about which idea to use first, second, third, and so on. Amy was taught to identify and organize the structure of her written discourse separately before drafting her text. By doing so, the burden placed on her to formulate language was supported explicitly.

Amy was now directed to use her completed template to draft her text. At this point, she was able to devote all of her cognitive resources to formulating language because she could refer to her template while she composed. Knowing where she was going with her text, she was free to choose words carefully, craft sentences, weave ideas together with transition words and phrases, and attend to such things as punctuation and spelling. The first draft of Amy's text about her summer vacation is presented in Box 13.2 on page 589.

Evaluate and Rework

At the heart of writing is the capacity to revise and edit, which requires the writer to set goals and adopt evaluative procedures (Bereiter & Scardamalia, 1987; Hayes, 2000). Providing students with procedural supports for evaluating their

Figure 13.2

Amy's Text Structure Template for Two-Paragraph Writing Assignment

MULTIPARAGRAPH TEMPLATE

My vacation was aswom

① Subtopic: The Activitys
The Activitus iditwers
① NY
② Caves
④ Geols
③ Gem Sifftin
⑤ rockwel Musem

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④ Cascgqwoth
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⑥ Bother 40 to t

I would Love to Go Buk

texts makes revising easier (De La Paz, Swanson, & Graham, 1998; Graham, 1997). The final steps of EmPOWER support the development of evaluative systems explicitly. Even though Amy followed her organized multiparagraph template while she drafted, her difficulty developing elaborated text is readily apparent in Box 13.2. The final two stages of EmPOWER then provided explicit scaffolds for her to *evaluate* and *rework* her text.

Amy was guided through these last two steps, using a rubric to self-appraise numerous aspects of her writing (e.g., topic relevance, organization of ideas, complexity and diversity of words and sentences, mechanics). This afforded an opportunity for context-specific intervention that focused on her use of language. For example, Amy was reminded that she needed to "say more" about each kernel idea on her template rather than simply use those kernel ideas to create simple paragraphs. Systematically, she then went through her paragraphs and elaborated key ideas. In addition, she was taught to use a word bank with transition words categorized according to their function (e.g.,

Box 13.2

First Draft of Amy's Text about Her Summer Vacation

Vacation

My vacation was awesome.

The activity's I did were fun. First of all going to NY was sweet. Next I just loved the caves. Then, we went gem sifting and got geodes. Lastly, we went to Rockwell museum.

There are some things I loved and other things I hated. First, at Howe Caverns, the caves were amazing. I loved going in the cold, cold pool. Then at the Secret Caverns it was wet and cheesy.

Some day I want to go back.

---

words that add an idea, tell a sequence, conclude, etc.). She was then guided to analyze the functional relationships between the sentences in her text and make necessary changes to cohesive devices. Amy's revised draft of this assignment is depicted in Box 13.3 on page 590.

While Amy made important changes from her initial draft to her revised draft, her writing still reflects her need for increasingly refined insights about written language. Indeed, appreciating the numerous revisions we routinely make to her writing, she commented that the approach "should be called EmPOWER-ER-ER-ER." After three years of language intervention, Amy still struggled with writing. However, the shifts in her performance in response to the highly explicit instruction EmPOWER offered were impressive. These gains were most pronounced when her teacher also began to use EmPOWER within the classroom, thereby providing her with a consistent strategy to use for writing across home and school contexts.

With a strategic instructional method that scaffolds the use of internal language to mediate the complex behaviors required for writing, Amy was able to recruit numerous skills and strategies to move through each stage of the writing process. Her success is even more impressive when one considers the numerous challenges she has across cognitive, executive function, speech, and language domains. The consistent nature of the EmPOWER approach (i.e.,

Box 13.3

Revised Draft of Amy's Text about Her Summer Vacation

Vacation

My vacation was awesome.

The activity's I did were fun. First of all going to NY was sweet. We went to the mountains in NY and we stayed at Howe Caverns. Howe Caverns motel is so peaceful and seeing the view was amazing. Also I just loved going into the caves at Howe Caverns. Being in the caves just leaves you in awe because of the natural beauty. We went gem sifting and also got geodes. To gem sift you buy a bag of gems get the sifter. Then put a small amount of dirt in the sifter. Next put the sifter in the water carefully and move it back and forth. Additionally we went to the Rockwell museum. The museum has all of Norman's arts. I had a great time.

There are some things I loved and other things I hated. To begin with I loved going in the cold, cold pool at Howe Caverns. My body got use to the water fast. Also at Howe Caverns the caves were amazing. It was beautiful compared to the Secret Caverns which were yuck. Instead at the Secret Caverns it was wet and cheesy. Also being in these caverns did not feel safe. It was originally used as a bomb shelter but is now used for tours. They said you can touch all the rocks but you can't touch the bats, the lights, and the tour guide. Howe Caverns was my favorite.

Someday I want to go back.

the unchanging script for what to say to herself as she sits to write any text) scaffolded Amy's executive function and linguistic processes explicitly so she was able to self-regulate her writing. Over time, the EmPOWER stages, associated visual strategies for representing thinking, language, and text structure, and task-specific linguistic strategies became internalized, thereby affording Amy increased efficiency, success, and independence as a writer. Her successful

internalization of the processes and subprocesses of writing can be seen in the spontaneous and independently produced composition summarizing her field trip to see A Christmas Carol, presented in Box 13.4.

Written Language Intervention Guidelines

Many students like George, Harry, and Amy can be found in classrooms across the country. The question for teachers and SLPs then becomes: what do we do to help them develop executive functions and self-regulatory processes for writing? The following are guidelines to assist students in this process:

Box 13.4

Amy's Independently Produced Composition about a Field Trip

A Christmas Carol Review

I loved this play a lot. I had a ton of fun.

Today, the 7th grade saw A Christmas Carol. To get there we took coach buses which have TVs, comfy chairs, and a toilet. It took us one hour to get to the North Shore Music Theater. On the way home we watched a movie The Little Rascals.

The theater was the shape of a hexagon. The theater was so beautiful because the scenery was amazing. The scenery was set up all around the stage and on the ceiling. The clocks looked so real just like the city out line on the ceiling.

I was in the fourth seat of our aisle. The characters looked so amazing. They came in the audience at the beginning of the play. Their costumes looked so, so old. Also, the costumes were lovely. Marley's costume was my favorite because it left an indent in my mind his costume had lights on it.

A few things scared me a lot. First was the sound of the thunder when a ghost appeared. Next was the first shot of flames from the floor. Also when Marley's ghost was in midair the flames shot down from the ceiling. I loved how the Ghost of Christmas present's torch would burst in to flames and give off a good smell. Lastly, I was scared when a grave burst into flames while the Ghost of Christmas yet to come was on the top part of the grave.

All of the actors played their parts greatly. The man who played Marley was so good at acting because he could change his emotion fast. Who ever played Scrooge really fulfilled his part because he was never happy.

I would love to go back soon. The Christmas Carol was so fun to watch. Next time I want to sit in the front row. My opinion is go see this play. Also, if you bring someone who is younger hold their hand because they may be scared.

- Understand that different academic tasks demand varying amounts and kinds of executive, self-regulatory, and linguistic control. Accordingly, interventions must be designed flexibly to address the range of academic demands within any given assignment, as well as across grades and curriculum content areas.

- Avoid decontextualized interventions. Situate intervention within authentic learning contexts. Then create goals to address demands that are constraining student performance in that context.

- Use systematic, explicit, and conversational teaching methods to support students' understanding of where, when, why, and how to use strategies to regulate all aspects of the writing process.

- Provide extensive modeling. Modeling involves the SLP demonstrating and talking through the thought process aloud.

- Provide repeated opportunities for apprenticeship. Offer numerous opportunities to practice newly learned skills and strategies within authentic learning contexts, allowing the student to gradually internalize the clinician's models and guidance.

To provide support to students who struggle with writing, teachers and clinicians can:

- Jointly talk through, evaluate, and reflect on student performance. Decide together how best to address difficulties arising within specific writing tasks.

- Help students learn about writing through reading and analyzing texts written by other authors.

- Teach various written language genres and their structural and rhetorical elements directly.

- Help students acquire mindful (not mindless) problem-solving approaches to writing through mentoring, modeling, coaching, and structuring self-evaluations that foster their growth from naive to informed learners.

- Teach students explicit strategies to analyze the language of assignments and, based on that analysis, create action plans that will fulfill assignment goals.

- Teach specific strategies that address the critical components and subprocesses of each stage of the writing process (assignment analysis, planning, organizing, drafting, revising, and editing strategies).

- Use verbal mediation that demonstrates self-talk and provides strategic guidance to students to support executive functions and self-regulation of the writing process.

- Use only graphics that visually represent the structure of text and the patterns of thinking and language that support text development.

- Collaborate with teachers to address relevant student needs, thereby supporting the seamless integration of language intervention and classroom instruction across the curriculum.

Conclusion

Writing requires intentional action. Therefore, learning to write is a difficult task for all students. Writing is supported and constrained by many systems, which must be recruited and coordinated to support fluent production. Among these are: cognitive, linguistic, motoric, affective, social, rhetorical, executive function, and self-regulatory systems (Singer & Bashir, 2004a). Language-learning disabilities alone do not explain all of the problems students may encounter with writing.

SLPs are advised to take into account the interaction of language and executive function disorders and the ways in which they influence self-regulation for learning. When students exhibit executive function disorders and a domain-specific disorder (e.g., language), the result is a failure to compensate for that domain-specific disorder (Denckla, 1996). In other words, students with both language and executive function disorders may have difficulty regulating their language (e.g., oral and written comprehension and production) because the very systems that would allow them to recognize the need to use a strategy in any given context are impaired. Given this, it is no wonder that many students with language-learning disabilities have difficulty becoming self-regulated writers.

For these students, intervention becomes a mentored process that supports students' learning within authentic contexts (i.e., listening, speaking, reading, and writing in school). In writing, for example, students must be supported as they learn to manage the skills and abilities necessary to produce written text. EmPOWER, a strategic approach to teaching and learning writing, was presented as an example of an intervention that guides and scaffolds young writers. EmPOWER offers a framework for teaching students explicitly about all that writing requires. It guides students in assessing writing assignments, planning

and organizing their approach to completing those assignments, setting appropriate goals, using language effectively to express their ideas, self-evaluating their writing and language use, and making appropriate changes. Throughout the writing process, students are supported to mindfully choose and use strategies effectively and efficiently. This framework provides a structure in which clinicians can have important conversations with students about writing and address their language needs directly within authentic learning contexts. The overall goal is the development of a writer who integrates executive, linguistic, and self-regulatory processes smoothly throughout the writing process.

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