

The Right to Literacy

We somewhat hesitantly begin this book by mentioning the difficulties of struggling readers. Classroom teachers want a book of effective practices for working with young children, and we don't want to start on a negative note. However, as teachers, our frustrations originated because of the difficulties we were experiencing with our problem readers.

Research indicates that if children do not become successful readers by the end of third grade, it is very difficult for them to catch up with their peers in later years. Clay (1993) explains that inappropriate reading habits can be a real stumbling block to higher levels of understanding. The probability that a child who is a poor reader in the first grade will remain a poor reader at the end of the fourth grade is 88 percent (Juel 1988). This alarming figure is emphasized in the extensive work of Barr and Parrett (1995), who stress that all children need to learn to read successfully before the end of third grade. The role of the classroom teacher is a critical factor in ensuring the success of struggling readers. In *Unfulfilled Expectations* (1991), Snow and her research

team clearly document the relationship between high-quality classroom instruction and the success of at-risk students. Yet we all know that simply immersing children in literacy-rich environments is not enough to offset the difficulties of struggling readers. For children to become successful learners, they need us, as their teachers, to be knowledgeable about the literacy process and to provide them with constructive reading and writing opportunities that guarantee their right to literacy. From what conceptual framework can we do that?

Sociocognitive Processes in Teaching and Learning

Literacy is no longer regarded as simply a cognitive skill to be learned. Rather, it is viewed as a complex interactive and interpretative process whose development is determined by the social and cultural context (Bruner 1967; Luria 1982; Vygotsky 1978). As adults and children engage in interactive oral discussions about written language, children acquire important tools for the mind (Bodrova and Leong 1996).

During these literate events, the adult as the more knowledgeable person carefully monitors the child's interpretation of the situation and provides timely support that enables the child to achieve the greatest levels of understanding.

According to Vygotsky, cognitive development and social interaction are perceived as complementary processes that work together to promote the child's intellectual growth. So an influential force in the child's learning is the teaching that occurs around the literacy event. From a Vygotskian perspective, mental development, teaching, and learning share reciprocal relationships that cannot be discussed separately. We believe that in order to promote higher-level literacy development in young children, teachers must:

- Carefully observe young children in the process of learning.
- Design instructional interactions that involve children in using their personal knowledge as a foundation for constructing new learning.
- Monitor children's progress in the new situation and be prepared to make spontaneous adjustments in their levels of support to ensure that children continue to learn.
- Use their observations of children's learning to evaluate and plan new instructional interactions that validate old knowledge and activate new learning.

The complementary actions of *validation* and *activation* lead the child to a higher level of cognitive development: (a) the teacher praises (acknowledges) what the child knows and (b) the teacher uses the known information as a bridge to activate new problem-solving. From research on brain theory, we have learned the importance of connecting individual sources

of knowledge to a larger network of information. When we ask young learners to use something they know to learn something new, they make an important discovery—their knowledge can be generalized. This is a lesson that many at-risk readers have not yet learned; instead, they view each learning experience as a new experience. These children need us, as their teachers, to structure literacy events and informative dialogues that emphasize the constructive and generative value of their own learning.

Observation and responsive teaching play critical roles in the literacy development of young children. Wells and Chang-Wells (1992) describe this process as “leading from behind,” which implies that teachers must have a good understanding of what children know in order to guide them toward higher levels of development. During shared experiences, the teacher listens carefully to the child and is prepared to make spontaneous adjustments in her contributions that reflect the child's current ability. Language is a powerful tool with which to negotiate and regulate responsibility for completing the task at hand. In the following example, the balance of control shifts between the teacher and the child as they both use language to negotiate an appropriate ending for the story:

Allen and Janie, his teacher, are completing the writing of a story based on eating M&M candies. Janie asks, “Now what are we going to call this book?” Allen turns to a blank page at the end of the book and remarks, “Hey, we got one more!” Janie responds, “Oh, yeah, we need to put something on that last page.” Then, Janie attempts to link Allen's story to a similar story entitled *The Chocolate Cake* (Melser 1990), which has a repeated pattern of “mmm” on each page. She asks, “What do we say when something tastes really good? Do we say ‘mmm’?”

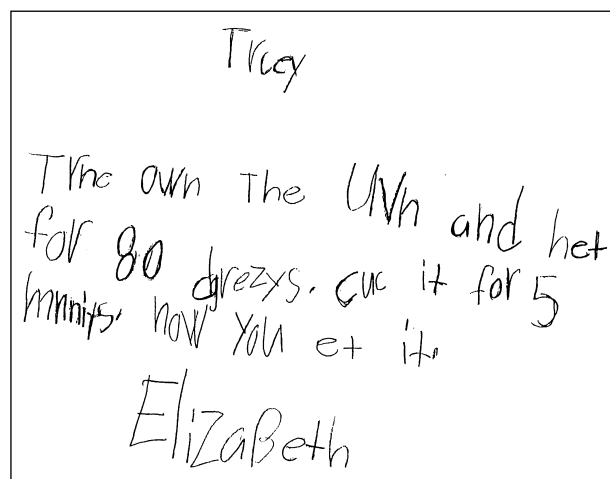
In response, Allen expands on Janie's intentions and initiates his own ending, "We can write 'It's all gone.'" Janie acknowledges Allen's contribution as an appropriate ending for the story as she exclaims, "It's all gone! That's a great way to end your story!" (Dorn 1996, pp. 31–32)

These ideas are supported by the work of Rogoff (1990), who emphasizes the importance of social interaction for stimulating children's cognitive growth through guided participation in structured literacy activities. Rogoff views children as apprentices in learning who acquire a diverse collection of skills and knowledge under the guidance and support of more knowledgeable persons. In the beginning, the adult assumes responsibility for structuring the learning task and guiding the interaction, but as the child acquires higher-level understanding, there is a noticeable transfer of responsibility from the adult to the child.

During socially constructed events, language is used to communicate a useful (i.e., meaningful) message to another person. In an apprenticeship setting, adults model the significance of written language as an important tool for documenting and communicating information. For example, Cathy and her daughter Elizabeth are preparing to cook Thanksgiving dinner. As Cathy prepares the turkey, Elizabeth creates a recipe for cooking it (see Figure 1.1). During this social moment, Elizabeth learns an important lesson about the functional role of written language in planning and organizing information for everyday experiences. These literate opportunities provide young children with a strong foundation for success in reading and writing.

Waterland applies apprenticeship to reading in the primary grades. She describes how the adult has three parts to play in helping the child learn to read:

Figure 1.1 Elizabeth's turkey recipe. ("Turn on the oven and heat for 80 degrees. Cook it for 5 minutes. Now you eat it.")



- The adult chooses kinds of text that enable the child to learn about reading.
- The adult reads the parts of the story that the child is unable to read while hesitating at appropriate places to encourage the child to contribute the parts he or she knows.
- The adult ensures that the child will be successful by eliminating any negative or competitive aspects of the situation. (1985, pp. 13–14)

Wood, Bruner, and Ross (1976) use the term *scaffolding* to describe a support system for helping children achieve success on a task that would be too difficult for them to accomplish on their own. In an apprenticeship approach, the teacher and child work together in constructing a meaningful interaction around a common literacy event. The teacher analyzes the child's level of independent functioning on the new task, discovers the child's intentions for solving the task, and supports the child with appropriate comments.

Scaffolding is portrayed in the following example. Mrs. Reed and Nicholas have just finished reading a simple book about moms and their jobs. Mrs. Reed asks Nicholas, “What does your mom do?” Nicholas responds, “She works at Burger King.” Then Mrs. Reed asks Nicholas if he would like to write a story about his mom and her job. Nicholas picks up his marker and writes an *m* on his page. The balance of support changes with Nicholas’s developing control for accomplishing the writing task:

Response	Analysis
Mrs. Reed: That’s great that you knew <i>my</i> started with <i>m</i> .	Provides explicit feedback.
Just let me put that <i>y</i> on the end of <i>my</i> .	Supplies unknown information.
Now, what is that word?	Increases word accessibility.
Nicholas: My.	Accesses word information.
Mrs. Reed: What is your next word?	Prompts for new action.
Nicholas: Mom (<i>Making no attempt to write it</i>).	
Mrs. Reed: It starts like <i>my</i> . Say <i>my</i> and <i>mom</i> . What did your mouth do?	Increases letter-sound accessibility.
Nicholas: <i>M...m...m... It didn’t open. M...m...y... m...m...m...o...m...m...</i>	Accesses sensory information.
Mrs. Reed: Yes, did you feel your mouth close at the beginning and at the end of <i>mom</i> ?	Provides informative feedback.
Nicholas: (<i>Picks up the marker, writes m, skips a space, adds another m for mom, then hands the marker to Mrs. Reed to add the middle letter.</i>)	Initiates new action.

In this short episode, we see how Mrs. Reed uses her observations of Nicholas to guide her levels of support. According to Wood (1980, 1988), the critical part of scaffolding is the adult’s ability to determine the child’s zone of proximal development, thus providing appropriate instructional strategies that create a shift in the child’s level of cognitive functioning.

Where Is the Zone of Proximal Development?

In our work with classroom teachers, the question most often asked is, How do we help young children—particularly low-achieving children—learn faster? The answer lies in the zone of proximal development. Typically in education we have focused our attention on the child’s actual development as indicated by particular assessments. From Vygotsky’s perspective, advanced learning does *not* occur at the actual level of development; rather, it occurs in the zone of proximal development, “the distance between the actual developmental level as determined by individual problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky 1978, p. 86). Adults work within this zone to support and scaffold a child until he or she can function independently, thus enabling the child to move to a higher level in cognitive functioning. Basically, behavior development occurs on two levels:

1. *Zone of actual development (ZAD)*. The child’s independent level of performance, what the child knows and can do alone.
2. *Zone of proximal development (ZPD)*. The maximum level of development the child can reach with assistance. Varying

degrees of partially assisted performance lie within the ZPD.

Higher levels of understanding occur as a result of assisted performance in the zone of proximal development. What the child was able to accomplish with assistance yesterday becomes the independent level today, moving the child to a higher level of intellectual development.

According to Vygotsky, through adult-assisted performance, “learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers” (1978, p. 90). In a cognitive apprenticeship approach, a teacher considers the mediating influence of the social situation (i.e., the literacy event) for helping the child develop a conscious awareness of specific knowledge. This theory places an importance on explicit demonstrations and active engagements that are capable of awakening and guiding the child’s literacy development to a higher level.

Let’s apply this theory of assisted learning to two examples taken from a writing conference between Mrs. Rogers and Allison, a first grader. The first example illustrates how Mrs. Rogers uses language to help Allison construct a story based on a personal experience. In the second example, Mrs. Rogers uses language to direct Allison’s attention to problem-solving strategies for helping herself during the actual writing.

Mrs. Rogers observes that Allison is having difficulty starting her story. She sits beside Allison and asks, “Did you do anything special this weekend?” Allison responds, “I went to the zoo.” Mrs. Rogers smiles and says, “Well, that sounds like fun. I haven’t been to the zoo in a long time. Can you tell me more about it?” As the conversa-

tion continues, Allison tells Mrs. Rogers about the monkey, the bear, and the elephant at the zoo. She concludes with a warning that “you can’t feed the animals because it will make them sick.” After responding enthusiastically to Allison’s story, Mrs. Rogers encourages her to rehearse the story for writing: “That is a great story. Let’s put it all together, so we can listen to how it will sound to your readers.” Mrs. Rogers’s final statement has three intentions:

- To provide Allison with a verbal model of the story that Allison can use to monitor her written version.
- To direct Allison’s attention to the importance of reflection as a tool for evaluating her own work.
- To emphasize that the reason for writing is to communicate a coherent and meaningful message to a particular audience.

Next Mrs. Rogers uses language to direct Allison to productive strategies for helping herself write the story:

Teacher/Child Language	Intention of Language
Mrs. Rogers: How would you start to write <i>went</i> ?	Prompt child to constructive activity.
Allison: I don’t know.	Seek help.
Mrs. Rogers: Say it slowly and listen to what you can hear. <i>W—e—n—t</i> .	Prompt the child to use slow articulation to hear sounds in sequence.
Allison: <i>W—e—n—t</i> . I hear a <i>t</i> .	Apply process of slow articulation and analyze final sequence of sound.
Mrs. Rogers: There is a <i>t</i> . Where do you hear it?	Confirm child’s knowledge and prompt for further analysis.
Allison: <i>W—e—n—t</i> . At the end.	Use strategy in new problem-solving activity.

Mrs. Rogers: Yes, it is at the end. Say it again and listen to the beginning. Confirm child's knowledge and prompt for further analysis

Allison: *W—e—n—t*. I hear a *w*. Analyze beginning sequence.

Mrs. Rogers: Yes, that's good listening. You heard the *w* at the beginning and the *t* at the end. I'll write the other letters for now. This is the way *went* looks in books. Use your checking finger to see if it looks right. Provide explicit feedback and direct child's attention to new confirming activity.

Now reread your story and think of what comes next. Prompt for rereading to anticipate text response.

Allison: I went to... Reread and anticipate the next word.

Mrs. Rogers: You can write *to*. Activate old knowledge for application to a new situation.

Now you know some ways to help yourself. Say your words slowly and write what you can hear. Don't forget to reread each time to help you think of the next word in your story. I'll be back in a few minutes and you can show me what you've written. Prompt child to use strategies for independent problem-solving.

Mrs. Rogers uses the writing situation as an instructional tool for helping Allison acquire important learning in several areas. Her teaching priorities are revealed in her closing comments:

- Words can be analyzed according to their sequence of sounds.
- Rereading helps a writer predict the next word.

The role of the adult in helping children acquire higher level knowledge cannot be understated. Observant teachers collect important data for making informed decisions that keep children working at the cutting edge of their development (i.e., the zone of proximal development). Because new learning is both generative and recursive, the teacher must adjust his or her support in compliance with how the child is responding to the task at hand.

Progressing Through the Zone of Proximal Development

As children progress through the zone of proximal development, it is important that teachers value the ups and downs of new learning and are able to provide adjustable support that accommodates this learning. Tharp and Gallimore (1988, pp. 33–39) describe the learner's progression through the ZPD and the role of the adult in guiding the child to a higher level of cognitive activity. It may be helpful to apply this theory to the previous example with Allison and Mrs. Rogers. We will begin with stage 1 (i.e., Allison's present stage) and make predictions for her progression through the ZPD that reflect a movement from teacher-regulated activity to child-regulated activity.

In stage 1 of the ZPD, Allison requires a great deal of support in accomplishing a particular task. The responsibility for regulating her participation in the task rests primarily with the teacher, who is constantly adjusting support to ensure that Allison is successful. For instance, Mrs. Rogers bases her teaching priorities on knowledge of the learning process (the role of phonology in reading and writing development) and her observations of Allison's current abilities (saying words slowly as a way to analyze sounds in words). Wells

and Chang-Wells (1992) describe how instructional interactions must be based on the child's current ability and the adult's pedagogical intentions and how the adult must be prepared at any moment to modify the level of instructional support in light of feedback from the child. This suggests that clear models and guided participation are critical elements of a successful interaction that has the potential for supporting new learning. In an apprenticeship setting, Allison will learn how to use teacher-demonstrated models for guiding her own learning to a higher level.

During stage 2, Allison will display the capacity to assist her own learning process. During the previous writing activity, Mrs. Rogers gave Allison an opportunity to learn how to use problem-solving strategies. As Mrs. Rogers left the writing conference, she reminded Allison of two important strategies that she must now use to help herself. At stage 2, external prompts (e.g., teacher's language) are no longer needed because the child provides her own support system through self-directed speech. In the case of analyzing sounds in words, we expect Allison independently to initiate the action of slow articulation and use this strategy for matching sounds to letters. Through repeated practice, Allison's knowledge about letters and sounds will become more automatic.

In stage 3, assistance from the adult or the self is no longer needed, because the behavior has been internalized. At this stage, Allison will be able to write words fluently and flexibly in different places and for varied purposes. The behavior (i.e., analyzing letters and sounds) places no new demands on the brain. The goal of instruction has been reached when Allison becomes a self-regulated learner with the capacity to use her knowledge for monitoring, guiding, and regulating her own learning activity.

During Stage 4, an internalized behavior can be temporarily disrupted by a variety of influences, such as environmental changes, new cognitive demands, or physical trauma. When this occurs, the goal of instruction is to guide the learner back through the ZPD, providing the necessary levels of support to regain automatization. For instance, there may be times when Allison will have to slow down and attend to certain features of print. Also, there may be times when Allison's writing will reflect a regressive behavior in regard to a known sound, and Mrs. Rogers will have to issue a gentle reminder about how to access this information ("Say the word slowly and listen to the middle."). It is important to keep in mind that new learning is somewhat fragile and may be temporarily thrown off track when the brain becomes absorbed with new problem-solving activity. With a little self-help or teacher-help, the learner will regain automatic control of the behavior.

According to Vygotsky, instruction is a major contributor to children's growing consciousness and the regulation of their own cognitive processes. As children engage in literacy conversations with more knowledgeable persons, basic cognitive processes are transformed into higher intellectual functions. Vygotsky describes how each intellectual function must appear two times: first on a social, external plane between two or more people, and next on a personal, internal plane within the child.

This theory is important for education because it emphasizes the interaction between teacher and student as integral to independent problem-solving. Vygotskian theory maintains that children move from other-regulatory (external) to self-regulatory (internal) behavior through interactions with individuals in their environment. The child's ability to organize and monitor his or her own thinking occurs as

a result of demonstrations during social exchanges with others. Mediated learning experiences with more literate individuals demonstrate the language needed to guide the child toward regulating his or her own thinking. The end point of teaching is a self-regulated learner who exhibits the potential to use his or her knowledge for varied purposes and in different situations (Diaz et al. 1990; Luria 1973).

Promoting Conscious Awareness of Literate Knowledge

Children develop a conscious awareness of their own mental functions as they engage in literate activities with their teacher. In her book *Children's Minds*, Donaldson (1978) establishes the link between the growth of consciousness and the growth of the intellect: "If the intellectual powers are to develop, the child must gain a measure of control over his own thinking and he cannot control while he remains unaware of it" (p. 129). Consciousness is constructed through the child's interactions with the world. The more literate person represents the consciousness of the child, thus enabling the child to experience the behavior vicariously (Bruner 1986), but coming to control the behavior as self-awareness leads to internalization.

The research on metalinguistic awareness emphasizes the importance of helping young children acquire a conscious awareness of the structure and function of written language. This awareness does not develop as an isolated skill; instead, it is naturally woven into the literacy process. During interactive events, teachers use explicit language as an important tool to help children acquire higher-level understanding about literacy concepts. For instance:

- Language is used to activate the child's awareness of specific concepts about print (e.g., before the teacher reads one page, she remarks, "I'm going to use my finger to read this page because it helps me match my words.>").
- Language is used to promote the child's self-reflective activity (e.g., the teacher invites the child to "show me on this page where you put your nicest space between your words").
- Language is used to provide the child with explicit feedback that acknowledges his use of a particular concept about print (e.g., the child says a word slowly and the teacher remarks, "I like the way you are saying the word slowly. That helps you to hear the sounds, doesn't it?").
- Language is used to help the child develop a more conscious awareness of the importance of a particular concept of print (e.g., after the child writes a capital letter at the beginning of the sentence, the teacher remarks, "How did you know to write a capital letter there?").

In cognitive apprenticeship, the adult guides the child toward a meaningful interaction with her, making adjustments in her support based on constant feedback received from the child. Through these personal communications, the child begins to internalize the actions and the language of the adult and begins to use these tools as internal devices to guide and monitor his own processing behavior. Vygotskian theory proposes that once an externalized activity becomes an internalized function, the structure and the organization of the brain is changed, moving the child to a higher intellectual level (Diaz et al. 1990; Luria 1982; Vygotsky 1978).

Establishing Organizational Systems for Learning

Using Vygotsky's point of view, we must get the brain organized to learn how to think so that learning can be generalized to new areas. When sensory information becomes integrated in the brain, it triggers a series of coordinated movements that provide personal feedback for each other. For instance, when a child constructs a form (tactile) for the sound he hears (auditory) and checks it with his eyes (visual), the child receives feedback from each sensory system. It is as though the brain is checking each sense against the other and confirming its identity. Slywester (1995) describes it this way: "When objects and events are registered by several senses (e.g., seeing, hearing, and touching), they can be stored in several interrelated memory networks. A memory stored in this way becomes more accessible and powerful than a memory stored in just one sensory area, because each sensory memory checks and extends the others" (p. 14). So there must be a smooth coordination of behavior if the child is to receive the maximum feedback from each sensory category.

Language and action work together to help children develop conscious awareness of their literacy. The following example illustrates how the teacher combines language and physical actions in order to focus the child's perceptual attention on the features of an unknown word from the story. Jeff is having difficulty with the word *here* in his new book. So that Jeff can finish the story with its meaning relatively intact, Mrs. Watson tells him the word. Afterward she turns back to the difficult page and asks Jeff to locate the "problem word." Without hesitation, Jeff locates the word *here*. Mrs. Watson then uses the word *here* to help Jeff learn how to integrate multiple sources of sensory information:

Teacher Prompt	Sensory Systems	Materials
Check the word with your finger and see if it looks like <i>here</i> .	Visual, tactile.	Magnetic letters.
Say the word as you check it.	Auditory, visual, tactile.	Magnetic letters.
Write the word and say the word as you write it.	Tactile, visual, auditory.	Paper and pencil.
Find the word in your story.	Visual.	Text.
Check to see if the word in your story looks like the word you just made.	Visual.	Text, paper, and pencil.
Read that page again.	Visual, auditory.	Text.

In the early stages of development, the word is represented through external, concrete, and manipulative tools that eventually become internalized as mental tools that can exist without external support. For Jeff, the magnetic letters are a temporary tool for learning how to attend to the visual features of an unknown word in his story. This momentary scaffold gives Jeff a perceptual model that can be checked against other sources of information from the text. For example, when the teacher first asks Jeff to locate the word, Jeff is able to do it based on the meaning and structural pattern of the story. The teacher's final prompt brings Jeff back to the story for integration and confirmation of all sources. The teacher's language plays an important role in guiding the child through the perceptual process. The goal of instruction is that Jeff will

internalize the external models into an internal model that can be used flexibly to monitor and plan his behavior during various literacy events. The table below illustrates the continuum of teacher/child control in the development of self-regulated activity:

Teacher-Regulated Behavior (External Tools)	Child-Regulated Behavior (Internal Tools)
Clear and concrete demonstrations	Internal manipulations
Explicit and redundant speech	Self-directed speech
Teacher control	Internal control

Developing Self-Regulated Learners

A self-regulated reader is one who uses his knowledge to advance his own learning. Self-regulation is defined as “the child’s capacity to plan, guide, and monitor his or her behavior from within and flexibly according to changing circumstances” (Diaz et al. 1990, p. 130). This definition implies a network of strategies working together toward a common goal. During instructional interactions, students acquire strategies for remembering, comparing, searching, checking, and confirming relationships.

In *Becoming Literate*, Clay (1991) describes a reading system that comprises a network of interrelated strategies that work together to ensure the reader will have a meaningful and self-extending experience. The characteristics of a self-extending system include the child’s capacity to:

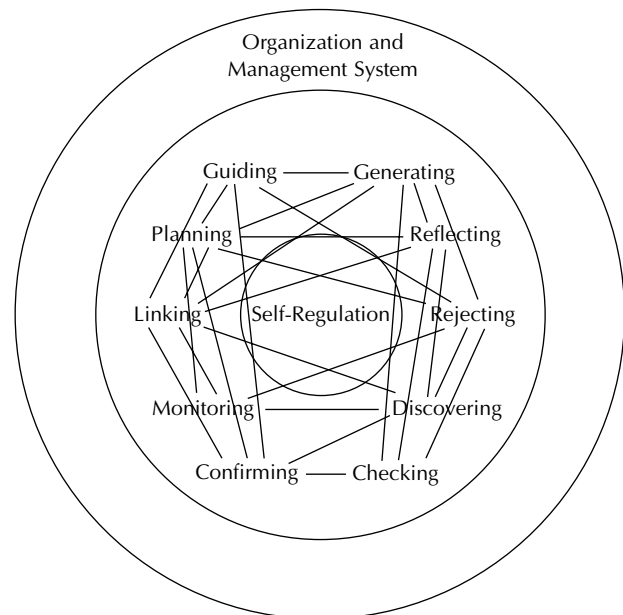
- Monitor reading and writing.
- Search for cues in word sequences, in meaning, in letter sequences.

- Discover new things.
- Cross-check one source of cues with another.
- Repeat to confirm reading or writing.
- Self-correct, assuming the initiative for making cues match or getting words right.
- Solve new words by flexible and varied means.

The important thing here is that no action exists in isolation from another action. These internal processes that the child engages in are interlocking systems that tap into each other, providing feedback and feedforward assistance (Clay 1991) for making the reading process run smoothly and effortlessly. The learner grows intellectually as he uses his existing knowledge to regulate his own learning and guide it to a higher cognitive level.

The diagram in Figure 1.2 illustrates the complexity of self-regulated learning. As illustrated, behavior such as generating, monitoring, confirming, linking, planning, reflecting,

Figure 1.2 The interrelationship and organization of self-regulatory behavior.



and guiding depends on the reader's ability to activate information beyond the initial response and to use this personal form of feedback for problem-solving in the new situation. These problem-solving actions are organized into a complex system of internal activity that has one goal: to make sense of the incoming information.

Holdaway (1979) describes the importance of establishing self-regulation in the learner. "There is no better system to control the complexities and intricacies of each person's learning than that person's own system operating with genuine motivation and self-determination" (p. 170).

Teaching for Transfer

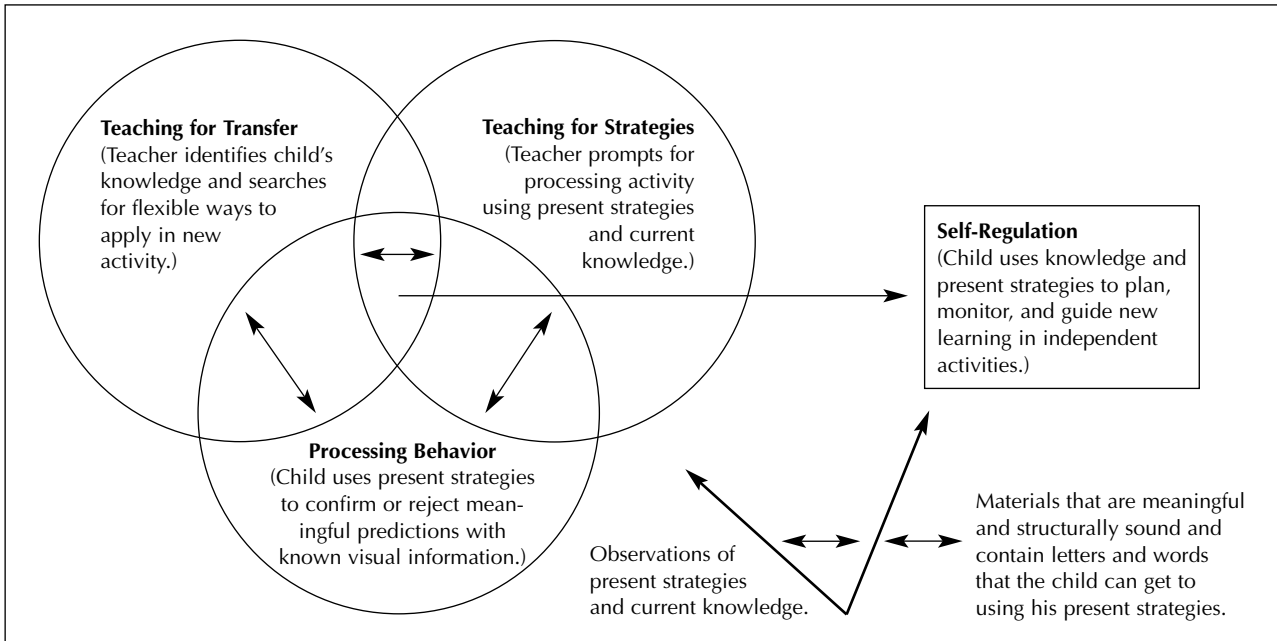
At this point, we need to discuss another important concept in self-regulatory learning—the role of teaching for transfer. The definition of self-regulation (see page 10) implies that the learner is engaged in reflective and metacognitive processing. Thus we believe we cannot talk about self-regulatory learning without also discussing its relationship to other interlocking behavior:

- *Teaching for Transfer.* When a teacher teaches for transfer, she must be aware of what the child knows. Therefore, the teacher designs instructional interactions that provide the learner with opportunities to transfer existing skills, strategies, and knowledge to new problem-solving activity across changing and varied situations.
- *Teaching for Strategies.* When a teacher teaches for strategies, she is prompting the child toward processing activity based on the child's existing knowledge and the ability to apply problem-solving strategies while working with unknown information.
- *Applying Processing Behavior.* When a child applies processing behavior, he taps into the brain's storehouse of information, notices relationships, and applies problem-solving strategies in order to construct meaning for the activity at hand.
- *Self-Regulation.* When a child becomes a self-regulated learner, he uses his current skills, strategies, and knowledge at a new level of cognitive activity; that is, he plans and guides new learning and uses existing knowledge for solving new problems in a variety of situations.

Here we see an emphasis on observation and the teacher's role in prompting the child to use existing knowledge to solve new problems. In order for self-regulation to occur, the teacher must be a careful observer of the child's knowledge and must know how to present opportunities that enable the child to transfer this knowledge across changing circumstances. Also, children must have appropriate types of materials that enable them to apply existing skills and knowledge in flexible ways while simultaneously being presented with opportunities to use known information for solving new problems. Furthermore, the teacher must be able to select productive examples that create memorable experiences that the child will use later. Figure 1.3 illustrates the relationship between self-regulation, observation, and materials.

Campione, Shapiro, and Brown (1996) provide the following definition of transfer: "Transfer means understanding; and understanding is indexed by the ability of learners to explain the resources (knowledge and processes) they are acquiring and to make flexible use of them in the service of new and continued learning" (p. 39).

Now the question is, How does transfer happen? In support of Vygotsky's theory, the

Figure 1.3 Relationship between teaching and learning, observation, and materials.

heart of transfer lies with the adult, who must design instructional activities that enable learners to recognize the stability of their knowledge and its potential for working out new problems in different places. Children depend on adults to observe what they know and to select appropriate materials and activities that help them realize that learning is generalizable.

So the role of the teacher is to engage children in instructional interactions that will not only facilitate new learning but will also promote the transfer of acquired knowledge and strategies beyond the initial learning context to new situations and for different purposes (Lupart 1996). Again, we must stress the importance of an observant teacher who knows how to create instructional experiences with generative learning value.

We know from Tharp and Gallimore's recursive cycle that new learning is fragile and can be disrupted by new demands or changes in the environment. For that reason, the adult's

role in scaffolding the child at points of difficulty (that is, in the ZPD) is critical in enabling the child to acquire knowledge that is both stable and flexible. From a Vygotskian point of view, intellectual development occurs when the child recognizes the self-generative value of his own knowledge for guiding and monitoring new learning. Therefore, an important lesson for children is that their knowledge is stable regardless of the changing situations in which it occurs.

In later chapters, we will return to the transfer principle as we describe how the teacher designs opportunities (at both an assisted and independent level) for the child to learn how to manipulate his or her existing knowledge for different purposes and in different contexts. The following areas provide a framework for further discussions:

- The instructional and interactive dialogues of the teacher and children.

- The structure of the various (but related) literacy events.
- The processing behavior of the children across reading and writing events.

Processing Behavior Versus Items of Knowledge

The ability to solve a word provides the learner with an important tool for learning new words. Thus the emphasis needs to be placed on the problem-solving rather than on the word. The teacher plays a critical role in shaping children's processing behavior; but in order for this to happen, teachers must understand the skills and strategies that are used by good readers. In addition, teachers must be able to:

- Observe the knowledge, skills, and strategies used by their students when they read and write.
- Use supportive materials that enable their students to practice effective strategies across a range of reading and writing events.
- Use language prompts that direct students' attention to the processing activity rather than to the accuracy of the word.
- Be willing to accept some errors that do not interfere with meaning.

Apprenticeship requires that "the adult accept that the child will make mistakes (in fact, *must* make mistakes) and will need time to sort these out and permission to ignore them if they do not matter" (Waterland 1985, p. 15). Teachers who emphasize accuracy are depriving their students of opportunities to learn how to generalize problem-solving and confirming strategies to new situations.

An emphasis on problem-solving is illustrated in the following example with Stephanie

and her teacher. The previous day, the teacher had introduced a simple little book entitled *Nighttime* (Cowley 1990) to Stephanie. During the introduction, she exposed Stephanie to two new words, *stable* and *sty*. Stephanie used the specialized vocabulary as she related the pictures to these words. It is important to remember that Stephanie is a first-grade student from the city; these particular words had little meaning for her. Stephanie's running record on the following day provides an interesting analysis of the complexity of her problem-solving behavior:

✓ ✓ ✓✓ ✓ table
The horse is in the stable
✓ ✓ ✓✓ ✓ stable
The pig is in the sty.

Examining Stephanie's responses, we can make several assumptions about her processing activity. First, since *stable* was an unfamiliar concept (in spite of her introduction to the word on the previous day), we can understand how Stephanie may have mentally linked this strange new word to a known word that sounded like it. We can also assume that she activated the sound pattern, rather than the visual pattern, in response to the conceptual load of the text. This seems logical since Stephanie is an emergent reader with limited knowledge about visual patterns at this time. However, as Stephanie reads the next line, notice how she attaches the memory trace of *table* to the *st* chunk (which is a known source of visual information from her name) and responds with the word *stable* for *sty*. In the transcript below, the teacher emphasizes the processing activity behind the second error. First, the teacher rereads the line fluently and engages Stephanie in a brief dialogue about the "place where pigs live." Then she says:

Teacher: When you were reading that part of your story, you noticed something at the beginning of the word, didn't you? What did you notice?

Stephanie: *St*.

Teacher: That's right. Do you know another word that starts like that?

Stephanie: My name. Stephanie.

Teacher: Yes, *Stephanie* and *sty*. They do start the same, don't they? That's good that you were looking at the beginning of the word. That helps you when you're reading, doesn't it. Let's read that page together.

If the teacher had chosen to go to the word *stable* or *sty* and insisted that Stephanie sound out the letters for the sake of the word, the teaching would have focused on accuracy. In contrast, the teacher chose to emphasize two important processing strategies: (a) using first-letter cues and (b) searching for known chunks of visual information. From this perspective, the child acquires a tool that can be used to initiate new problem-solving activity on different texts.

We know that reading is a meaning-making process that is successful when a reader understands the author's intended message. When a story makes sense, the reader receives valuable feedback that confirms everything is proceeding reasonably and coherently. Confirmation feedback regarding meaning preserves the integrity of the story and enables the reader to anticipate the occurrence of new events almost before the next line is read or the page is turned.

If the reader misses the point of the story, the goal of reading (which is understanding) is jeopardized. In an apprenticeship approach, the teacher guides the child to apply checking and confirming strategies that are grounded in meaningful interactions with the text. Therefore, the teacher's role in responding to

the child's error is critical in helping the child build effective processing systems that lead to more complex reading activity.

Let's look at an example. Blake is reading a story about a little boy who lost his teddy bear. The pictures illustrate that the boy is searching in several places for the lost bear. Yet when Blake reads the text, he substitutes the word *here* [is the teddy bear] for *where* [is the teddy bear]. Since *here* and *where* are visually similar words, we can assume that Blake's response was influenced by visual information. However, a serious problem arises when Blake does not notice the effect that his substitution has created on the story's development. In the following transcript, the teacher focuses Blake's attention on checking for meaning:

Teacher: You said, "Here is the teddy bear."
Can you find the teddy bear in the picture?

Blake: He's not there.

Teacher: No, he's not. So, does it make sense to say "Here is the teddy bear"?

Blake: No.

Teacher: Well, if the boy is still looking for the teddy bear, what do you think he would say?

Blake: Where is the teddy bear?

Teacher: Read it and see if you are right.

Blake (Reading): "Where is the teddy bear?"

The success of children's reading and writing endeavors is largely determined by the adult/child interaction during literacy events. The child is encouraged to be an active participant, with his or her interpretation of the text validated by the acceptance of the adult (Wells and Chang-Wells 1992). As the adult supports the child at his or her present level of understanding, the child is gently pushed into thinking about literacy at a higher level.

Closing Thoughts

- Prevention of reading problems must begin in the early grades. If children are not reading on grade level by the end of third grade, their chance of success in later years is minimal. One significant characteristic of problem readers is their lack of literacy experiences during their preschool years. Schools must compensate by providing the children with rich literacy classroom programs and supplemental literacy services that focus on early intervention.
- Children acquire higher-level mental functions through social interactions with observant and responsive adults. Therefore, teachers should be trained in how to observe children's processing behavior and how to use this information in responding to children.
- School instruction should be aimed at children's potential level of development (i.e., the zone of proximal development). Teachers should use information about children as a basis for designing instructional situations that allow them to use existing knowledge as a scaffold for new problem-solving activity.
- An apprenticeship approach to literacy emphasizes the role of the adult in supporting children's developing control of literacy knowledge. In this model, the teacher provides clear demonstrations, engages children appropriately, monitors their level of understanding, makes necessary accommodations to ensure they are successful, and withdraws support as they exhibit greater control. A critical factor is the teacher's ability to remove the support in accordance with children's higher levels of understanding.
- In the early years, we must get the brain organized for learning how to learn. Schools must provide children with massive opportunities to make connections, establish relationships, and manipulate their knowledge across a wide range of literacy experiences.
- The goal of teaching is to develop self-regulated learners—children with the capacity to use their knowledge for guiding, monitoring, and planning new cognitive activity. During instructional interactions, teachers give children opportunities to tap into existing knowledge and to apply problem-solving strategies to novel information.
- Teachers structure literacy opportunities that promote the flexible transfer of knowledge, skills, and strategies to different situations. In the process, children learn the stability of knowledge and the power strategies have to be generalized to new areas of learning.