

# Improving Sustained Attention to Print: Key Understandings for Reading Recovery Teachers

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*Note: Child's name is pseudonym.*

Throughout my educational career I have been interested in and worked with students who have difficulty sustaining attention. I was a special education teacher for 16 years prior to becoming a Reading Recovery teacher 10 years ago. As a teacher leader, I have the privilege and opportunity to observe hundreds of Reading Recovery lessons and students throughout the course of the year. Through these observations and in talking with many Reading Recovery colleagues, I have found that many children experiencing difficulty with literacy learning also have issues with attention in general, and specifically have difficulty sustaining their attention to print.

Before I started teaching in Reading Recovery I was under the erroneous assumption that students either had the ability to attend or they did not. I assumed that attention was a static entity and that it either was or was not within the child's control. When I became a Reading Recovery teacher and studied in depth the process of learning to read, I began to realize that perhaps my teaching could either support or hinder a child's ability to attend to print. I have also come to understand that attention has a learned component (Lyons, 2003; Wood, 1998) which means that it can be improved. Over the past couple of years I have tried

to learn more about attention, how it impacts a child's learning, and what I as a teacher can do to help students increase their ability to attend.

The purpose of this article is to provide a general overview of the concept of attention and to look at specifically what we as Reading Recovery teachers can do to support and help students improve their ability to sustain attention to print during their series of lessons. I begin with a brief overview of the components of attention as described by Carol A. Lyons in her book, *Teaching Struggling Readers: How to Use Brain-based Research to Maximize Learning* (2003). I then go on to highlight some theoretical understandings and procedures that Marie Clay outlines in *Literacy Lessons Designed for Individuals Part One and Part Two* (2005a, 2005b) relating to the issue of attention. I hope this will give us an opportunity as Reading Recovery teachers to reflect on our teaching and help us understand what we can do to support a child's ability to increase his attention to print.

## Theoretical Understandings About the Brain's Attention System

Lyons defines attention as "...a mental act of keeping one's mind closely on something—mental concentration—which is the foundation of learning" (2003, p. 26). We have all had students who have difficulty

with this mental concentration or sustained attention. These are the students who can't keep their eyes on the text. They read a word or two and then look at the picture or look around the room. They constantly need to be redirected back to the text. Clay refers to these children as having a "wandering eye" (2001, p. 146, p. 155, p. 167) or as having "wandering attention" (2005b, p. 31). These are the children who, during writing, need to be constantly encouraged to get the next thing down on the writing page. I hear myself saying "What comes next?" to try to redirect their attention back to the task. These are also the children who engage you in conversation but quickly bounce from one topic to another.

For learning to take place, children must be attending and actively engaged in problem solving (Lyons, 2003). Clay writes, "If you have caught the child's attention he will, of course, notice, learn from, and soon engage in, some of the things he sees you do!" (2005a, p. 35). It is important to understand that motivation is key to engagement and active problem solving. Two ways to increase motivation are building on student strengths and interests and allowing for choice.

Lyons (2003) identifies particular aspects of our brain's attention system. The brain is constantly searching for something familiar and is

always making decisions about which incoming information is and is not important to attend to. Clay writes, “As the child looks at the blur of a page of print he scans for something to attend to” (2005b, p. 15). It is critical from day one of *Roaming Around the Known* that the child see something he knows on every page of text he is expected to read. If there is nothing to anchor on or recognize, there is nothing to draw the child’s attention to the page. Clay states, “It is very important in early learning for the learner to discover something he knows in different settings or contexts” (2005a, p. 35).

The Reading Recovery teacher must provide the child with massive opportunities to see and use known information early on in a series of lessons. This is what will capture and sustain the child’s attention. Once the child’s attention has been captured, then the child must be encouraged and shown how to be an active problem solver from the very start. This problem solving provides positive feedback to the child in the form of learning and thus increases the child’s ability to attend in the future.

Our brain’s attention system also decides how much and what kind of sensory information is needed to complete a task (Lyons, 2003). The brain can only attend to so much information at once. The more novel the situation or task, the more attention it requires. Clay (2005a, 2005b) warns us repeatedly about “too much teacher talk.” When a child is reading or writing, it is important that we allow the child time to attend, think about, and process the information coming into the brain. Too many interruptions and too much teacher talk can interfere with the child’s processing of text. If the child is attend-

ing to what we are saying, there may not be enough attention left over to attend to the print.

Lyons states that our brain’s attention system “allocates varied amounts of mental energy depending on task demands” (2003, p. 27). Again, the more novel the task, the more attention it requires. There are many Reading Recovery students who have difficulty with this. This is why Clay (2005b) stresses the importance of text selection. We can help students learn to sustain their attention more if we select books for them that they will want to read and if we introduce them in a way that ensures successful reading and enjoyment.

Lyons (2003) also points out that the brain’s attention system will determine if and when a task will be completed. I think about the student who begins reading one book and then wants to move on to another one before he is through the first one. I also think about those students who you have a genuine conversation with before writing but then when you say “What do you want to write about that?” change the topic completely. These students have difficulty sustaining their attention to complete a task.

Lyons also writes that “Our brain’s attention system persists in tasks long enough to finish them despite distractions” (2003, p. 27). This makes me think of the writing activity. Is the child able to remember his story as he problem solves on the work page and then return to the writing of the message, or does the distraction of problem solving cause him to forget his message?

The final aspect of attention that Lyons describes is that our attention system will disengage from a task when something more important

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comes up. If the child is hungry, upset about something, or is dealing with an emotional issue, this will take precedence or will become more important than the task at hand. What the child views as most important will capture his attention.

### Components Within the Attention System and Their Relevance for Reading Recovery Teaching and Learning

Lyons (2003, p. 27) goes on to describe four distinct components within the attention system: arousal, motor orientation, novelty detection/reward, and executive organization. It is important for Reading Recovery teachers to understand how each of these components contributes to sustained attention. With this knowledge we can become more effective in our support and more specific in our teaching during our series of lessons with students. I will very briefly describe each component and then relate them to learning during Reading Recovery.

*Arousal* is the ability to suddenly increase alertness. “Arousal is critical to becoming literate. Emergent readers and writers must know what

to pay attention to and how to focus their attention” (Lyons, 2003, p. 29). Children have to decide what is relevant to the task at hand and what is not relevant. Clay reminds us to “choose the new book very carefully” (2005b, p. 89). When selecting books for students it is important to think about what book will arouse the child’s attention. Clay also writes, “Start up a conversation, guided by all you know about this child. Talk about something that you feel sure he would be interested in” (2005b, p. 55). Before writing a message we arouse the child’s attention by having a conversation that we know will be of interest to the child.

*Motor orientation* facilitates and maintains arousal. The motor centers enable us to physically reorient our bodies so that we can immediately direct our senses and attention. Clay writes, “As something interesting or relevant comes into the field of vision the observer makes an orienting movement to bring the image into clear focus” (2001, p. 158). One example of this is during the orientation to the new book. The teacher brings out the new book that has been carefully chosen for that particular child. The child’s attention is aroused and the introduction or orientation to the story before reading is what facilitates the child’s ability to maintain the arousal.

I also think about the use of Elkonin boxes for hearing and recording sounds. A good example of motor orientation is when the child brings his finger up to the work page to run it under the Elkonin boxes as he slowly articulates the word. The finger is helping to facilitate and maintain arousal.

The third component of the brain’s attention system is *novelty detection*

and *reward*. This component is found within the limbic system of the brain. The interesting thing to note is that the limbic system does not respond to reason. Telling a child to pay attention does not work. Lyons writes,

The limbic system provides emotional overtones and motivation for learning...two critical functions for focusing and sustaining individual’s attention. (2003, p. 30)

We know that choice is critical to motivation as is building on student strengths and interests.

Lyons goes on to state:

The limbic system can either facilitate or shut down the processing system if it fails to find some kind of challenge (novelty detection) and personal and emotional connection (reward). (2003, p. 30)

This makes me think of the zone of proximal development (ZPD) as described by Vygotsky (Bodrova & Leong, 1996). This ZPD is the place where a person can learn when provided a scaffold from a more-experienced other. It is critical that we keep

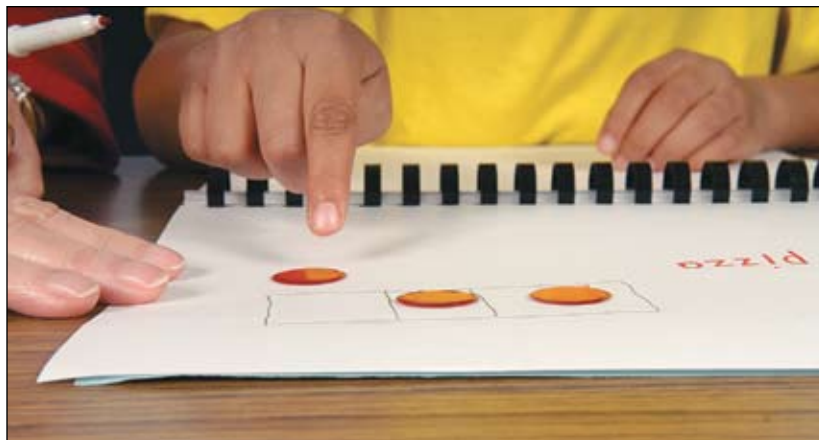
our teaching on the cutting edge of the child’s ZPD. If tasks are too easy, no new learning will take place. If tasks are too hard, then everything falls apart and there is no successful problem solving, which equals no reward for the child. Teaching within the child’s ZPD provides the child with novelty detection and reward. In other words, success provides the reward.

Clay (1991) writes:

The child who has learned how to use cues to work out new texts for himself shows considerable enthusiasm when he works out a new word successfully. He finds this activity rewarding and reinforcing. (p. 249)

It is critical that we allow students the opportunity to monitor their own reading and writing and then allow them to problem solve and self-correct. This successful problem solving provides the reward and motivates children to problem solve again in the future.

The final component of the brain’s attention system is *executive organization*. This directs attention and



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integrates the entire attention system. Lyons describes this as a shift from external to internal control of attention:

The executive function plays a major role in the ability to sustain attention by blocking out irrelevant information or stimuli. It allows you to ignore or tune out noise in a classroom or conversations of others while reading a book and to sustain attention even when the material is not terribly interesting. (2003, p. 32)

In other words, it allows the child to stay focused on the task at hand.

When I think about these four components of the brain's attention system, it makes me consider how the introduction and the reading of the new text encompasses all of these. Arousal occurs as the teacher presents a book that will interest the child. The component of orientation is present as the child takes over part of the orientation by holding the book and joining in a conversation around the book. Novelty detection and reward are occurring during the successful problem solving that takes place as the child reads the book for the first time. The executive organization component is present when the child problem solves and successfully reads the text, and then is able to converse about the text at the end.

### Sustaining Attention: Key Understandings for Reading Recovery Teaching

I conclude this article with some key understandings I have gained from Lyons and Clay. I specifically want to look at what Clay writes about helping Reading Recovery students sus-

tain their attention throughout their series of lessons. I will organize Clay's work under the following categories: teacher decision making, building on student strengths and interests, active problem solving, teacher talk/conversation, student motivation, and capturing the child's attention. Each of these is critical to helping students sustain attention to print.

#### *Teacher decision making*

The careful decisions that teachers make throughout their series of Reading Recovery lessons are critical. The decisions that are made day-by-day and moment-by-moment with students can either enhance or inhibit attention. Reflecting on our teaching and carefully thinking about the decisions we make is a critical component of Reading Recovery.

Clay encourages teachers to carefully select texts for each individual student. The text should be of interest to the child as well as provide the child with some opportunities to problem solve. The first reading of the text should be a successful one.

When I was choosing books for my student, Gavin, I knew that he loved animals and anything with an engine. He especially enjoyed books from which he could learn something about an animal. When he read *Lizard Loses His Tail* (Level 5) he was fascinated by the concept of the lizard being able to break off his own tail. This book had aroused his attention, and because he was so interested and motivated to learn about these lizards, his attention was sustained.

Clay also emphasized the importance of the decisions teachers make when children are reading texts. She refers to the "twin aims" of text reading. Teachers need to keep in mind what the purpose of the reading is as they

make decisions while the child is reading. During familiar reading, the child is learning to orchestrate the process of reading. The child is practicing the integration of all sources of information. The teacher should not interrupt this reading unless necessary. However, during the reading of the new text, the teacher actively supports the child as he problem solves. The teacher must decide when to step in and how much support to give.

An example of this decision making was when Gavin was reading *The Playground* (Level 4) for the first time. I had to decide what I would draw his attention to and what I would let go. The following is a transcript from one page of text.

Text—I like to go  
up the ladder.

Gavin: I like to go  
to the (stops reading and  
appeals to teacher)

Teacher: Where are they going? Look  
at the picture, then try that  
again.

Gavin: I like to go  
to the stairs/steps  
(appeals to teacher)  
I don't know that word.

Teacher: What makes sense and starts  
with /l/?

Gavin: Ladder

Teacher: Good. Now go back and  
put it all together.

Gavin reread the whole page with  
100% accuracy.

In his first attempt, Gavin monitored his reading but was unable to problem solve. I decided to prompt first for his strength, which was the use of meaning. When he reread, Gavin was able to read for meaning but he did not use the visual information

accurately. He read *to for up* and *stairs/steps* for *ladder*. I then prompted Gavin to integrate the visual information with meaning and structure. I also decided to increase my level of support by articulating the first sound in *ladder* for Gavin. I decided not to draw attention to the error of reading *to for up*. I did not want his attention going in too many different directions. When Gavin reread the page, he read accurately.

Clay also writes about teacher decision making during the writing component of the lesson. Unlike reading, where the text level guides the difficulty, during writing it is up to the teacher to govern the level of difficulty. The teacher constantly needs to make decisions based on her knowledge of what each individual child can write independently, what the child can write with support, and what the teacher will contribute.

One day Gavin wanted to write, "Father Bear climbed down the tree and went home." I had to think about which words Gavin could write independently, which words he could work on with support, and which words I would contribute to. Gavin copied *Father Bear* from the text he had just read (*Baby Bear's Hiding Place*, Level 10). I decided to write *climbed* because it was not a helpful word for Gavin to work on at this time. Gavin's last name is Brown, so when he came to the word *down*, I wrote *Brown* on the work page and he made the link to *down* independently and proceeded to write *down*. Gavin also wrote *the* quickly. We took the word *tree* to sound boxes and he could hear and record *t*, *r* and *e* from left to right. He independently wrote *and*. We took *went* to sound boxes. Gavin heard and recorded *w*, *n*, and *t* and put them in the correct

boxes. I articulated the *e* and linked it to his elephant picture in his ABC book. He was then able to record the *e*. In retrospect, I think it would have been entirely appropriate to take *went* to fluency since there was evidence that he knew quite a bit about this word. I wrote the word *home*. (See Figure 1.)

It is clear that the decisions teachers make before, during, and after a Reading Recovery lesson have a great impact on the child. These decisions and the manner in which a teacher interacts with a child can either foster or hinder that child's ability to increase his attention to print.

#### *Building on student strengths and interests*

Another way teachers can support a child's ability to sustain attention is to build on student strengths and interests. It is critical that we know what each individual student can do so that we can link new learning to the known. Building on the student's interest will help to sustain attention.

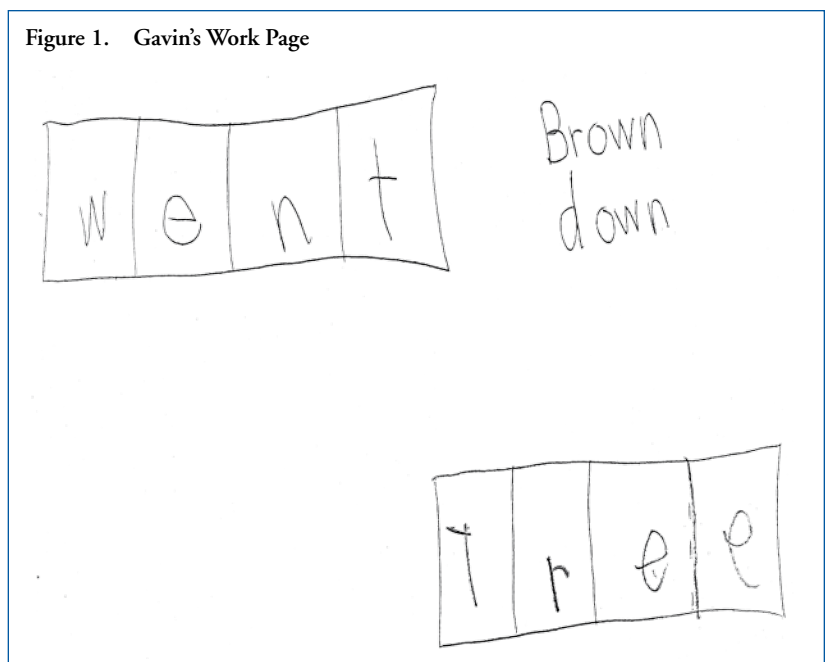
Roaming Around the Known is a very powerful period of time during Reading Recovery. During this 2-week period, a teacher can closely observe and talk with the student and learn about specific strengths and interests.

During early learning Clay encourages the teacher to help the child gain "footholds in print." As stated earlier in this article, it is critical that the child sees something he recognizes on every page of print he encounters from day one of Roaming Around the Known. This is what will capture and help to sustain the child's attention.

Clay reminds teachers:

Many of the child's early attempts to read are partially right and partially wrong, and, like parents talking to a little child, teachers need to make a facilitating response to the half-right, half-wrong response of the child at a particular moment in time. (2005a, p. 47)

Figure 1. Gavin's Work Page



It is clear that acknowledging partially correct responding and building on student strengths, even if limited, will facilitate the child's ability to attend. When children see something they know and recognize, it arouses their attention.

One example of praising the partially correct response was demonstrated when Gavin was reading the text, *Pete Little* (Level 12). On the first page he read *parrot* for *parakeet* three times. When he was done with the page I said, "You said *parrot*. That makes sense and the first part looks like that. Now look at the end of the word." Gavin was able to then correctly read *parakeet*.

#### **Active problem solving**

Active problem solving is another key to increasing attention (Clay, 2005a, 2005b); Lyons, 2003; Wood, 1998). Clay stresses the importance of helping students become active from the very first lessons. She warns teachers not to establish a pattern where the teacher is doing the work for the child. From day one, students need to be active and solve problems using what they know.

Clay writes about the importance of the child monitoring his own reading, searching for more information, and then self-correcting.

The important thing about the self-corrections is that the child initiates them because he sees that something is wrong and calls up his own resources for working on a solution."  
(2005b, p. 116)

The power is in the child noticing the error and then actively working to solve the problem. An example of active problem solving was dem-

onstrated when Gavin was reading, *Victor the Hero* (Level 13). On one page Gavin read *trash* for *garbage*, then changed to *can* and then back to *trash*. He then articulated /g/ and read *garbage*.

Clay reminds us that the child does not always need to come to a correct solution to the problem all the time. Being active in the process is more important than correct responding, at times, during our series of lessons. When students are active they are learning to sustain their attention.

#### **Teacher talk and conversation**

Another key understanding that Clay has drawn our attention to is teacher talk. It is important to know when teacher talk is helpful and when an "economy of words" or "speechless demonstration" would be the most beneficial way of interacting with the child.

Gavin loved to engage me in conversation and I had to be very careful about when to respond to him. When I established that we do not talk much when working with letters and words on the board, Gavin's progress improved. He was able to attend more to the task when the distraction of talk was eliminated.

On the other hand, conversations between a teacher and child can be a powerful tool to increase attention when used at the right time. The conversation before writing helps the child generate ideas and then organize those ideas to be able to compose a sentence or two. Through conversations with students, teachers are able to extend the child's oral language, capture the child's attention, and then increase the child's ability to sustain his attention.

#### **Student motivation**

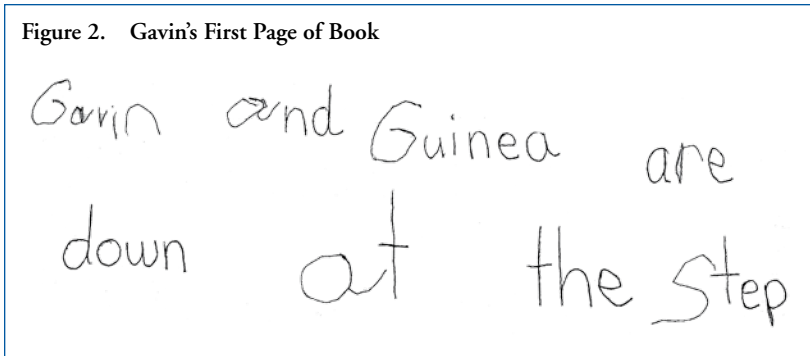
As stated throughout this article, motivation is critical to arousing and sustaining attention. The level of interest and motivation on the part of the child has a direct impact on the amount of learning that will take place. This process was made very evident to me with Gavin.

When he was in kindergarten, Gavin had a very difficult time during any kind of group situation. He was often disruptive and was frequently off task. He did not take direction well and at times was openly defiant. In September of Gavin's first-grade year, I assessed him on the tasks of Clay's *An Observation Survey of Early Literacy Achievement* (2002). He openly refused to complete some tasks and twice ran out of the room. His item knowledge was limited. He knew a few uppercase letters, could write his name, knew the sounds of *b*, *d*, *r*, and *k*, and demonstrated knowledge of 13 items on Concepts About Print. He could repeat a patterned text of one line. When he was selected as a Reading Recovery student, the school team suggested that I work with him!

I knew that my first order of business had to be to establish a working relationship with Gavin and to get him motivated to learn. Through my conversations with him during our first day of Roaming Around the Known, I discovered that he had a stuffed animal that was rarely out of his sight. He was very attached to his "Guinea" and brought it everywhere with him.

I decided that I would use Guinea to motivate Gavin to want to participate in reading and writing activities. The first thing we did was to make a book. We took some pictures of Gavin with his stuffed animal around

Figure 2. Gavin's First Page of Book



the school. For the next several days, we made a book titled *Gavin and Guinea*. One-by-one Gavin would choose a picture, I would ask him what he wanted to say, and we would write the message together.

This coconstructive activity was personal and motivating for Gavin. He became very engaged and attentive to his messages and to how those messages were written. He began to pay attention to the print both when he was writing as well as when reading his messages.

When we began the book, Gavin was able to write his name and a few letters. It was amazing how much more he was able to contribute by the end

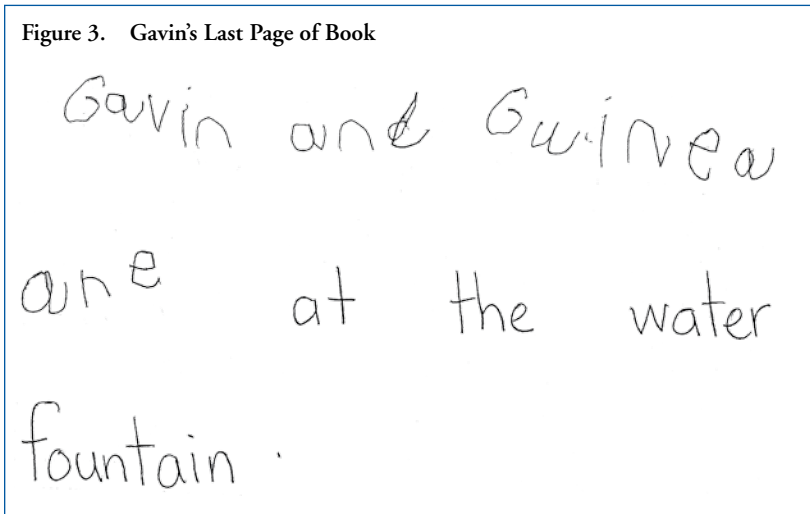
of the book, and it was so interesting to see which words he learned. On the first day the message was "Gavin and Guinea are down at the steps." Gavin wrote his name and heard and recorded the sounds of *a*, *G*, *r*, and *s*. The next four pages of his book are very similar. Gavin was able to write his name and heard and recorded a few sounds (Figure 2).

Then on the fifth page he was able to write *Gu* in *Guinea*, and *an* in *and*. On the sixth page he realized that he could copy the name *Guinea* from the previous page. The next day he was able to write *Guni* for *Guinea*. Even though the *n* and *i* were reversed, I was not concerned. I

knew he was noticing the letters and remembering them. The order would come. On the next couple of pages Gavin continued to write his name and some sounds, and he increased his memory for the word *Guinea*. By the ninth page Gavin was able to write *Guinea* all by himself. Then on the last couple of pages he was not only able to write *Guinea* but able to write the words *and* and *are*, because they had been used on every page (Figure 3).

What is so remarkable to me is that the first new word Gavin learned was *Guinea*. In my opinion it is probably the hardest word in the book. He learned this word despite the difficulty because it was of such high interest to him, and he was extremely motivated to learn how to write his stuffed animal's name. I think that sometimes teachers—with their teacher thinking—stress learning some of the shorter, high-frequency words because they think shorter is easier. As Gavin demonstrated, this is not necessarily true. Gavin was focused on learning *Guinea* because of its importance to him; length wasn't a factor. He was able to learn a very difficult word simply because of the motivational factor.

Figure 3. Gavin's Last Page of Book



*Arousing the child's attention*

Clay also addresses the need for teachers to capture the child's attention, or arouse the child's attention, before learning can take place. As stated earlier, learning takes place when the child is attending. We need to think about how to capture each individual child's attention throughout each component of our daily lessons with students. Clay writes, "Capture the child's attention, notice what the child is aware of" (2005b, p. 23). The need to know our stu-

dents as individuals is critical. As Reading Recovery teachers, we need to know what will arouse the child's attention, and by building on that we will assist the child in learning to sustain his attention.

## Summary

I strongly believe that the more we know about attention and the more we know about how attention impacts learning, the better we can reflect upon our teaching. As Reading Recovery teachers it is critical that we think about how we can support sustained attention in each of our students. The decisions and teaching moves we make can either facilitate or hinder a child's ability to sustain attention. It is our responsibility to reflect on each student daily, build on each student's strengths, and design lessons to maximize the child's ability to attend. These important understandings and teaching acts will maximize learning.

## References

- Bodrova, E., & Leong, D. J. (1996). *Tools of the mind: The Vygotskian approach to early childhood education*. Columbus, OH: Prentice Hall.
- Clay, M. M. (1991). *Becoming literate: The construction of inner control*. Auckland, NZ: Heinemann.
- Clay, M. M. (2001). *Change over time in children's literacy development*. Portsmouth, NH: Heinemann.
- Clay, M. M. (2002). *An observation survey of children's literacy achievement* (2nd ed.). Portsmouth, NH: Heinemann.
- Clay, M. M. (2005a). *Literacy lessons designed for individuals part one: Why? when? and how?* Portsmouth, NH: Heinemann.
- Clay, M. M. (2005b). *Literacy lessons designed for individuals part two: Teaching procedures*. Portsmouth, NH: Heinemann.
- Lyons, C. A. (2003). *Teaching struggling readers: How to use brain-based research to maximize learning*. Portsmouth, NH: Heinemann.
- Wood, D. (1998). *How children think and learn* (2nd ed.). Oxford, UK: Blackwell Publishers.

## Children's Texts Cited

- Dickey, L. (1998). *The playground*. North Amherst, MA: Pioneer Valley Educational Press.
- Randell, B. (1994). *Lizard loses his tail*. Barrington, IL: Rigby Education.
- Randell, B. (2001). *Baby Bear's hiding place*. Barrington, IL: Rigby PM Plus.
- Randell, B. (2006). *Pete little*. Austin, TX: Harcourt Achieve Inc.
- Rayner, S. (1989). *Victor the hero*. New York: Oxford University Press.

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