February 2008

As you know, Reading Horizons has undergone some substantial staffing changes in the past six months. A new co-editor, a changing Editorial Review Board, and new production designer have all presented some exciting new horizons for us. With all of these changes, there are inevitable complexities which have caused delays in our usual production schedule. Consequently, we are producing volume 48 on a different schedule with the intention of having three issues (48.2, 48.3, and 48.4) to you within the next five months. We ask your patience as we work our way through these substantial changes and please know that starting in the fall of 2008 with volume 49, we will resume our quarterly production schedule.

Thank you for your understanding and please enjoy this and all upcoming issues of Reading Horizons.

Karen F. Thomas, co-editor
Allison L. Baer, co-editor
Reading Horizons
Kalamazoo, Michigan
History and Mission of Reading Horizons

Reading Horizons began in 1960 as a local newsletter and has developed into an international journal serving major colleges, universities, and individual subscribers across the United States and Canada as well as a host of other countries. The journal serves as a forum for ideas from many schools of thought dedicated to building upon the knowledge base of literacy through research, theoretical essays, opinion pieces, policy studies, and syntheses of best practices. Reading Horizons seeks to bring together school professionals, literacy researchers, teacher educators, parents, and community leaders as they work collaboratively to widen the horizons of literacy and the language arts.

Submitting Manuscripts

Manuscripts should be submitted electronically to Co-editors Karen F. Thomas and Allison L. Baer at allison.baer@wmich.edu. Please send one copy with full author(s) information, one clean copy with no identifying information, and an abstract. All bitmap image files used must be submitted as separate hi-resolution (300 dpi) files in jpg or tif format. Embedded images in articles accepted for publication will be deleted from the final publication unless submitted in this manner. Manuscripts should be approximately 25 pages in length, not counting references and figures, double-spaced, and using 1.25” margins and 12 point font. Manuscripts will be acknowledged within two weeks of receipt. Manuscripts must follow the Publication Manual of the American Psychological Association (APA), 5th Edition. Manuscripts not written in this style will be returned without review.

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After in-house review by the editors, and if accepted for review, manuscripts will be sent to three members of our Editorial Review Board for blind review. Author(s) will be informed of our decision within two to three months of submission. Criteria used for evaluating and reviewing manuscripts are significance of the contribution to literacy/language arts research and instruction, clarity of writing, and sound methodology process used.
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Author(s) will receive three copies of the journal in which the article appears.

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Behavioral Issues, Self-Esteem Struggles, Retention, and More: The Portrayal of Book Characters with Dyslexia

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Abstract
This study examined children’s and adolescent trade books portraying school-age characters with dyslexia. All of the books are contemporary realistic fiction, geared to elementary and adolescent readers, and published in the United States between 1993 and 2003. After an extensive search, seventy-two books were located. An analysis of the characters’ strengths and difficulties is discussed. Also behavioral characteristics and self-esteem struggles are noted. Furthermore, the article addresses the issue of grade retention and the history of characters’ family members with dyslexia.

The power of literature has been a topic of discussion with educators at conferences and in professional publications for years. In fact, it has been suggested by numerous researchers that using children’s literature containing characters with disabilities can influence attitudes and feelings toward disabilities (Andrews, 1998; Favazza & Odom, 1997; Radencich, 1986). Also literature can be used as bibliotherapy material to help children and adolescents work through issues with which they may be struggling (Sridhar & Vaughn, 2000). In one study, Monson and Shurtleff (1979) found that children had positive attitudinal change toward dis-
abilities if they either read literature portraying the disability or had the literature read to them by others.

These studies have also led to many practitioner-oriented pieces encouraging the use of children’s and adolescent literature to help people better understand disabilities (e.g., Andrews, 1998; Blaska & Lynch, 1998; Hopkins, 1980). Since many theorists and researchers in the field of literacy are encouraging the use of literature to influence attitudes, impact values, and develop a better understanding of others, it is imperative that there be an awareness of how characters are being portrayed in the texts.

Fictional stories, which take place in the world as we know it, are referred to as contemporary realistic fiction (Norton & Norton, 2002). Everything that happens in contemporary realistic fiction could happen in the world today. There are no elements of fantasy in these stories, and the stories do not take place in a historical time period. Therefore, in this genre, children often read about real issues they may experience and situations they may encounter. According to Hancock (2004), contemporary realistic fiction is especially valuable because it allows readers to “gain insights into challenging situations they are facing or may face” (p. 130).

It seems only natural that if children and adolescents are reading these contemporary realistic fiction books, then studies would be conducted to examine the texts to determine exactly what is presented. Past research has done just that. In fact, analyzing characters who struggle with educational issues in books targeting children and adolescents is not new. A number of studies have examined the portrayal of characters with disabilities in general (Ayala, 1999), while others have looked at the portrayal of those with mental retardation (Prater, 1999), dealing with autism (Dyches, Cramer & Prater, 2001), and struggling with learning disabilities (Dyches & Prater, 2005). However, it is almost impossible to locate research which specifically examines the portrayal of characters with dyslexia. One recent study did examine book characters who were dealing with dyslexia. This quantitative study (Altieri, 2006) examined the issues facing characters with dyslexia and the gender of the character in order to determine if there was a statistically significant relationship between the gender of the character and the type of issues encountered. The extremely limited amount of research may be due to the fact that dyslexia is a very controversial subject in the educational community.

While debates surrounding the topic of dyslexia continue within literacy studies, there is one aspect on which most people agree. Dyslexia impacts language processing, but it is not due to low intelligence, lack of motivation, poor
instruction, vision or hearing problems, cultural disadvantages, or other extrinsic factors (Richards, 1999). This difficulty in developing expected literacy skills such as language processing has other ramifications on children impacted by dyslexia. Research has shown that children experiencing dyslexia often are self-conscious and feel something is wrong with them (McNulty, 2003). Children with dyslexia also have a great deal of self-doubt. Researchers have often stated that this is a result of school experiences (Riddick, 1995; Rubin, 2002). We cannot afford to have stereotypical literature, or literature inaccurately portraying characters with dyslexia, add to the problems experienced in school by children with dyslexia. Knowing this, it is important to closely examine the characters with dyslexia portrayed in literature. This study will specifically examine school-age characters with dyslexia so that we can better understand how these books portray the characters. We will look at the characters’ strengths and difficulties mentioned in the texts as well as behavioral characteristics and self-esteem struggles will be noted. Furthermore, the article addresses the issue of grade retention and the characters’ family members with dyslexia.

**Method**

**Materials**

Numerous sources were consulted in order to locate books portraying school-age children with dyslexia. Over a period of two years, the researcher searched two websites (www.dyslexia-parent.com, and www.interdys.com), three internet bookstores (www.amazon.com, www.barnesandnoble.com, and www.specialneeds.com), and the electronic version of *Books in Print*. These sources were searched repeatedly during that time as recently published books did not show up immediately on the websites. Two media specialists also supplied lists of books they had located on the topic. Articles containing lists of books portraying characters with dyslexia were also examined. The realization that there were far more books published than had been expected made me decide to narrow the range of books examined.

As previously discussed, only contemporary realistic fiction, or books which take place in the world as we know it (Norton & Norton, 2002), were used in the current study. However, it was also determined that all of the books selected for the study would contain a school-age central character with dyslexia. Some of the original books had older adults who had dyslexia but the researcher wanted to focus solely on characters with dyslexia who were children and adolescents since that was
the target audience for all the books. It was determined that all books had to be originally published in the United States, and that they must be published relatively recently, between 1993 and 2003. After examining all of the above sources, a total of seventy-two books were included in the study. A grant received by the author allowed the purchase of all of the books. Specific texts mentioned in this article, as well as selected books portraying school-age characters with dyslexia published since this study, are listed in an annotated bibliography at the end of this article.

Procedures

Each book was read and analyzed multiple times. Passages were copied, and charted for each text. On each chart, the researcher listed the title of book, age and gender of character, and format of book. Noted in detail was the following information: strengths, difficulties, behavioral issues, self-esteem issues, grade retention, and family members with dyslexia.

Results and Discussion

Overall Findings

Out of 72 books included in this study, there were 55 female characters with dyslexia and 17 male. While the total number of books appeared to be significant, that was due in large part to one particular series geared toward young girls. The largest series included in this study was Betancourt’s *Pony Pal* books. These chapter books contain a female character, Anna, who has dyslexia. Forty-two of the books in the study were from that series. There were even more books in the series that were not used in the study because the texts did not fall within the publication date specified for the research. While there were other series in the study, including ones by Goodman, Baglio, Rue, and Winkler, the largest number of individual series books included by these authors was three. None of those series were near the size of the *Pony Pal* series. Thus, while it was evident that there is a disproportionate number of female characters in the books with dyslexia, this is due to the fact that many of the books were part of a larger series. It is important to note the gender imbalance as research has shown that children tend to prefer to read about characters of their own gender (Bleakley, 1988). It is therefore evident that male readers will have far fewer texts to select from with male characters who are dyslexic. If one were to examine the books used in the study, and only counted each book
character with dyslexia once, one would find that there were a total of 26 unique characters with dyslexia. Of these, 12 are female and 14 are male.

Along with gender, another issue to consider is the age of the characters portrayed with dyslexia in the books. 78% of the books portrayed children in fifth grade or lower. Therefore, while younger readers may have a number of books to read, the book choice is limited for older children. Middle school adolescents have very few books portraying characters with dyslexia in their age range. Unless older children choose to read about younger characters, they will be much less apt to read about a character who experiences dyslexia.

The format of the texts were also examined. It was determined that four of the books were picture books, or books where pictures are as important as the text in conveying meaning. One of those books was even quite lengthy and would probably not be read with very young children. While this is unfortunate, it is not surprising as research has shown similarly low percentages for picture books portraying learning disabilities (Prater, 2003).

When Prater (1999) examined the percentage of books portraying characters with mental retardation, the number of picture books was much higher. However, mental retardation is often diagnosed quite young which is not true with many other disabilities. Dyslexia, like most learning disabilities, is normally not diagnosed at an extremely young age rather it is regularly not formally tested until school age. That may account in part to why there are so few picture books with characters who have dyslexia. However, picture books could still portray school age children, older siblings, etc. with dyslexia to broaden the reading experiences for very young children.

One finding was particularly interesting. Recent research on learning disabilities (Prater, 2003) looked at a large number of books and found that the term “dyslexia” was rarely used in children’s books. The author would instead choose another term to refer to the character such as “struggling reader.” That was not found to be true in this current study. In fact, 77% of the unique characters in the books analyzed for this study were referred to as having dyslexia. That is an interesting finding because the word dyslexia is still considered to be controversial, but it may show a trend that authors are becoming more comfortable with using the term in their stories.

It is important to take a closer look at each of the characters therefore an examination of their strengths and difficulties follows. Also, since research has shown that children and adolescents labeled as dyslexic have had issues with a positive
self-concept, the self-esteem of the characters will be noted and any of their behavioral problems will be discussed. Finally, grade retention of the characters and a look at whether their ancestors were noted as having dyslexia will be examined.

**Character Strengths**

It was evident from reading the books that while the characters with dyslexia had a wide variety of strengths, a few types were noted repeatedly. The most common strength noted was memory. For 42% of the characters with dyslexia, having a “photographic memory” was viewed as an asset. In Winkler & Oliver’s Hank Zipzer series, Hank was often seen bragging about his ability to recall details. A photographic memory also helped Delia, the female protagonist in *Double Dutch* (Draper, 2002), hide her dyslexia for years from her family, friends, and teachers. Maddie, in *Under the Stars* (Baglio, 2000), also states that she can remember 100% on spoken Spanish tests.

The second most common strength mentioned in the books was physical ability which could be shown in a variety of ways. In this study, 38% of the characters talked about being very good at climbing, ball handling, gymnastics, or sports. The characters would often talk about being chosen first for teams because of their physical ability. However, it was evident that strength and physical ability were related to the gender of the character with dyslexia. It was much more common for boys than girls to have this particular strength. In fact, seven of the ten unique characters with this strength were male.

Finally, characters with dyslexia were also described as good at working with their hands and talented with drawing and/or art. It was interesting to note that equal numbers of males and females were good at working with their hands. It was not dependent on whether the character was a boy or a girl. In fact, it appears 19% of the characters clearly were talented with fixing a flat tire on a bike, lawn mowers, or even a gurgling toilet. However, drawing and art were heavily related to the gender of the character.

**Character Difficulties**

While the characters exhibited difficulty with reading and spelling, the primary symptoms associated with dyslexia (Pennington, 1991), math proved to create problems for many of the characters. 62% of the unique characters tended to have difficulty with math. For some of those characters the struggle was due to difficulty reading word problems or writing down steps, which might be seen more as a
reading and writing issue. However, that was not the only area of math which created problems for the characters as many others also struggled with remembering math facts. The next most common difficulty found was social skill (38%). A lack of friends was mentioned for some of the characters, and frequently there was teasing by other children. Also, while having a photographic memory was considered a strength for many of the characters in the books, for 27% of the characters with dyslexia, memory was a difficulty. Finally, oral speech also created issues for 23% of the characters.

**Behavioral Issues and Self Esteem**

It was evident that 50% of the characters either exhibited behavioral problems in the stories or referenced coping mechanisms that had to be implemented to deal with behavioral issues. In some books, like the Zipzer series, the character was a class clown. However, in others, like *McCracken’s Class #5: Tough Luck, Ronnie* (Oliver, 1994), the character with dyslexia was a bully feared by many students.

In over 70% of the books, the characters exhibited very low self-esteem through comments they made about themselves. Unfortunately, two very common words that were repeatedly stated in the stories were “stupid” and “dumb.” Hank Zipzer even states at one point, “I’m the stupidest person in the world” (Winkler & Oliver, 2003, p. 109) and in *Bronx Masquerade* (Grimes, 2002), the male character with dyslexia states that everyone thought, “I was three degrees below a moron” (p. 124). Delia in *Double Dutch* (Draper, 2002) even refers to herself as “dumb as a rock” (p. 66). Unfortunately, this attitude is often mirrored in others’ views. In *McCranken’s Class #5: Tough Luck, Ronnie* (Oliver, 1994), Ronnie’s mother tells her at one point that “I have never seen such a dumb kid” and “A roach has more brains than you!” (p. 93).

Research supports that children and adolescents with learning disorders have been shown to have a low self-concept and a sense of hopelessness that impedes future success (Brooks, 2001; McNulty, 2003; Ryan, 1994). Studies have also shown that interventions focusing on low self-esteem along with academic support often help people with dyslexia (Rawson, 1977; Scott, Scherman & Phillips, 1992). Realistic fiction should help the reader realize that it is possible to deal with problems and take control of them (Hancock, 2004). Since research has shown that those with dyslexia have a low self-esteem, we don’t want literature to add to this problem. Readers should have the opportunity to see characters that work through their struggles and successfully manage their dyslexia.
Grade Retention

The idea of retaining a character because the child was not making appropriate literacy progress was fairly common in the stories. In 27% of the books read, the character struggling with dyslexia was retained a grade, and in many other books retention was threatened as a possibility if the character did not improve academically. Research has shown that signs of difficulties which may be associated with dyslexia can begin very young (Pennington, 1991). In fact, Pikulski (1996) stresses that early diagnosis is critical to helping children with dyslexia succeed. Unfortunately, it appeared that this often did not come early in life for the characters in the books. The disadvantages of grade retention are well documented in published research (Jimerson, Petcher, Graydon, Schnurr, Nickerson, & Kundert, 2006; Silberglitt, Appleton, & Burns, 2006). In fact, for many students the only more stressful event they can imagine would be going blind or losing a parent (Anderson, Jimerson, & Whipple, 2005). However, the scary prospect of being retained was a very real threat used in many of the stories.

Family Members with Dyslexia

Dyslexia has been shown to have a genetic link (Torppa, Tolvanen, Poikkeus, Eklund, Lerkkanen, Leskinen, & Lyytinen, 2007). Therefore, whether or not the characters in the books had older family members with dyslexia was noted. 27% of the characters with dyslexia in the stories had parents or grandparents who experienced similar literacy difficulties when they were young. However, within the pages of these texts, it was not unusual for the author to note that these difficulties often went undiagnosed. In the books examined, there was only one instance where the author referred to the parent as dyslexic. Since the first generation of people that were formally diagnosed with dyslexia are just now adults (McNulty, 2003), the books are accurate in not representing grandparents, and in some cases parents, as formally diagnosed but instead stating that they exhibited characteristics of dyslexia.

The gender of older relatives who experienced dyslexia was also noted. For all but two of the characters, the literacy difficulty involved a male relative. While some researchers believe that the ratio of males to females with dyslexia may be as high as 4.51 to one (Miles, Haslum & Wheeler, 1998), several studies (Lubs, Rabin, Feldman, Jallad, Kushch, Gross-Glenn. 1993; Shaywitz, Shaywitz, Fletcher, & Escobar, 1990) found the imbalance only to be true with school-identified children, and it may be as equal as a one-to-one ratio. Since the difficulties with these
characters’ relatives were often not formally diagnosed, one would expect that the ratio could be much closer to one to one.

**Recommendations for Future Research**

The current research looked at one genre, contemporary realistic fiction. Future research may want to examine other genres. It would be especially interesting to see how dyslexia is portrayed in autobiographies and biographies written for children and adolescents. Also, all of the books were originally published in the United States so studies conducted on books published in other countries could have different findings. There are a number of adolescent books published in Canada, the United Kingdom, and other countries containing a character with dyslexia which might be another area to examine. Finally, more of a historical analysis may be enlightening as this would enable educators to determine how and if the portrayal of dyslexia has changed over time. Dyslexia is a controversial subject, and yet it is a term being used in literature. Therefore, it is vital that research continue to examine how it is portrayed in the literature accessible to children.

**Educational Implications of This Study**

Contemporary realistic fiction is designed to help readers see themselves in books and to also allow them to look at people and experiences that may be outside their immediate experiences. Since people in the educational field continue to tout the benefits of exposing children to a wide variety of literature, we must examine the available literature portraying characters with dyslexia. It is evident that until recently the term dyslexia was rarely used in children’s books. While we are still extremely limited in the number of picture books and books portraying male characters with dyslexia, it is important that we begin to examine those which are available. We need to closely examine the portrayal of children’s and adolescents’ literature to determine if the portrayal is accurate and helping children understand dyslexia or merely perpetuating myths and stereotypes or glossing over the issue. Only through careful analysis and selection of books can we ensure that the literature we choose will benefit children.
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Annotated Bibliography

Many children would dream about living an adventurous life like the children in this story as this family travels around studying dolphins. Brittany, whose dad is the boat’s captain, is also along for the journey. However, when the McGrath’s assistant, Maddie, begins to home school the McGrath children and Brittany, the trouble for Brittany begins.

Sarey struggles with reading and children making fun of her. When her parents decide to move to a rural location, Sarey’s struggles do not end. However, in the new home, she makes her first true friend and begins to get help with her dyslexia. When she saves her Pa’s life, her father realizes that Sarey can now read well.

Delia, a high school student, has managed to hide her inability to read due to a series of incompetent teachers. As she finds out she must pass a state exam to continue competing on the double dutch team, it becomes clear that Delia isn’t the only student hiding secrets in the story.

This story is about a male protagonist, Sam Motts. Sam’s reading difficulties create a lot of problems with school and in his latest job, babysitting a second grader. Along with struggling with reading, Sam deals with a move to a new school, listening to his parents argue about his difficulties, and getting scheduled for even more of the dreaded testing.
Behavioral Issues • 93


This text won the Coretta Scott King Award. When innovative English teacher, Mr. Ward, starts Open Mike in class, eighteen voices speak up. Through the poetry shared during Open Mike, the reader learns about each of the voices and the person behind them. One of the students struggles with reading difficulties.


This book has had numerous printings. Josh, a ten year old boy, struggles with dyslexia. Life is going well until his family decides to move. Once again the dyslexia creates more struggles for him. Josh’s life is turned upside down when he must deal with a bully. Josh, like any child, yearns for respect and friendship. The book ends by discussing the characteristics of dyslexia and sharing a list of organizations which may be consulted.


This story is told through the eyes of a 12-year-old boy, Tyler, who has dyslexia. While he talks about his struggles with reading, he also talks about his many successes. Children will enjoy reading the note at the end detailing Tyler’s life now.


Children fear Ronnie. She is the class bully and desperately needs a tutor. The adventures begin when the teacher assigns Ronnie to fellow student Rosa, the class brain, for tutoring. The fifth-grade student fears that Ronnie will cause her physical harm, but instead Rosa helps the teacher better understand Ronnie’s difficulties.


Kinneret Pfeiffer, an Israeli girl struggles with language difficulties. Like many struggling readers, her parents are disappointed at her educational progress. In fifth grade, Kinneret meets a special resource room teacher who gives her hope and respect. While it is evident that Kinneret is starting to do better, the reader realizes that her future will not be easy.


Trisha, like most children, can’t wait to start school. However, her many reading difficulties create a great deal of heartache for her until fifth grade when she meets an amazing teacher. The author dedicates this book to George Felker, the real Mr. Falker, who is a hero to her.


When Adam starts having to put words together in first grade, the alphabet war begins. Adam struggles to read, and by the end of second grade feels hopeless about his situation. Finally, in third grade he begins to receive help for his reading difficulties, and
he realizes that it is more important to focus on the things he can do than focus on those he can’t.


Buddy struggles with her inability to read. Her one true human friend is her grandfather, who understands her. Then she meets Jane, a compassionate woman who helps her deal with her difficulties. The reader will want to cry along with Buddy, a very believable character who deals with more than her fair share of heartaches as she struggles to save some dolphins, help her grandfather, and conquer her difficulties. The book ends with an epilogue and a glossary written by Buddy.


Charlie Cooper wants to build a castle and win first prize in a toy store contest. He struggles to understand how he can build such an amazing castle and yet has to get help to write his name on the entry. The teacher recognizes that he may have a learning difficulty and through testing, and then being taught by a special teacher, Charlie realizes that he can do anything.


Poor Beryl is busy making plans to be elected Spring Leader in her class when Alex, the son of a family friend, moves into the house. Unfortunately, Alex is instantly popular with the other students, and it is going to be a tough race between Alex, who struggles with dyslexia, and Beryl for Spring Leader. In this chapter book Beryl learns about Alex’s dyslexia and about working with people.


This book is part of a series. The humorous occurrences in Hank’s life continue in this book. Poor Hank is now faced with showing his report card to his parents. However, what is a guy to do when his report card accidentally gets chopped up in a new batch of salami his mom plans to deliver? Hank and his friends are faced with yet another dilemma.

**About the Author:**

**Jennifer L. Altieri** teaches graduate courses in literacy education at The Citadel. In the past few years, she has published in *Teaching Exceptional Children, Teaching Children Mathematics*, and *Reading Research and Instruction*. Dr. Altieri was one of the educators recently featured in *SC Biz* magazine’s Who’s Who in South Carolina. She also serves on the IRA Standards 2010 Committee.
Literacy and Science Connections in the Classroom

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Abstract

Educators in many disciplines recognize interdisciplinary teaching as effective for student learning. This article provides a model for developing an interdisciplinary literacy and science study with states of water as the core scientific study with corresponding literacy strategies. Authors have included suggestions for children’s literature as well as science experiences to use with this study. This water model provides teachers a base for developing studies that integrate their literacy and science curricula.

Elementary teachers in the United States face heavy pressure for their students to perform well on state reading and writing tests (Akerson, 2001) and “...No Child Left Behind Act of 2001 (NCLB) is a major force in the day-to-day functions of America’s public schools” (Settlage, 2004, p. 88). Consequently teachers often slight or ignore the science curriculum. Tilgner (1990) suggests that many teachers already eliminate science instruction when they need additional time during the school day “because it is their least favorite subject to teach” (p. 428). Without some changes, America’s graduates may be in similar crises for scientific knowledge as they were in the 1960s. It’s also true that some science teachers hesitate to include literacy because of their commitment to hands-on science teaching (Pappas, 2006). Since
both curricular areas are vital for students, educators often turn to interdisciplinary teaching for scientific, reading, writing, and oral language experiences.

Supporting teachers is particularly important in light of study results that indicate how little actual science teaching occurs in elementary classrooms. Students may participate in science only once or twice a week spending as little as 18 minutes per day in science class (Gerlovich, Downs, & Magrane, 1981). Tilgner’s (1990) work indicates that many teachers feel incapable of incorporating science in the classroom and that “teachers’ negative attitudes and feelings of inadequacy” (p. 428) impact the quality of science instruction, often in a negative way. Current anecdotal evidence indicates that the picture has not changed noticeably in the 21st century.

The National Science Education Standards (NSES) (National Research Council, 1996) and Project 2061 (American Association for the Advancement of Science, 1990) documents call for stronger science teaching and, in particular, science literacy — not as an afterthought, but as a vital part of students’ life skills. Pappas (2006) emphasizes the need for students to develop understanding of “the language that scientists use as they read, write, and talk” (p. 226). How does scientific literacy compete with other literacies such as reading and math literacies? In fact, the answer is not competition but cooperation. The answer also lies with teachers abandoning their heavy reliance on narrative texts for reading and writing while incorporating more informational texts.

Cross curricular or interdisciplinary teaching is not a new strategy for addressing the need to teach all curricular areas. In a 1996 joint position statement, the National Council of Teachers of English, International Reading Association, National Council of Teachers of Mathematics, Speech Communication Association, and Council for Elementary Science International asserted a child’s school day should not be divided by content areas since that does not reflect life in our society (National Council of Teachers of English, International Reading Association, National Council of Teachers of Mathematics, Speech Communication Association & Council for Elementary Science International, 1996). The language arts, including reading and writing as well as oral communication skills, will enhance students’ science experiences. However, all teachers should recognize that while tools of language arts can be used to support science instruction, and science can be used to provide a purpose for meaningful reading, writing, and discussion, “effective language arts instruction cannot substitute for hands-on science instruction, and effective science instruction cannot substitute for achieving general literacy skills” (Akerson & Flanigan, 2000, p. 359). Traditional textbooks do not provide adequate reading
and writing in science texts nor sound science experiences in reading and writing textbooks. Thus, teachers benefit from models that support them in developing interdisciplinary curricular experiences which incorporate science experiences and children’s literature. Duke’s (2000) research indicates that students are reading very little informational text at lower grades, a time for building understanding of texts. Yet trade books do increase the opportunities for students to be involved with science concepts as well as provide opportunities for learning reading strategies for informational text (Madrazo, 1997; Tunnell & Jacobs, 1989). In fact, the use of non-fiction texts may increase the engagement of students (Hapgood & Palincsar, 2006) especially boys (Brassell, 2006) and even reluctant readers (Collard, 2003).

Making the Connections

Arguing that instruction packages that focus on a theme often neglect experiences that truly teach science concepts, Dickinson and Young (1998) propose interdisciplinary instruction as the most legitimate strategy for developing students’ science and language arts literacies. Weaving together skills from both disciplines, teachers are able to maximize available instruction time (Rogers & Abell, 2007). Teaching with a theme that truly invites interdisciplinary learning presents challenges (Barton & Smith, 2000; Dickinson & Young, 1998; Shanahan, Robinson, & Schneider, 1995). Consequently, more models that support interdisciplinary strategies are important for educators.

Since children need to learn to think scientifically and learning is mediated through language (Maguire & Wolf, 1993), Stefanich (1992) suggests that integration across curricular areas is actually necessary for the successful teaching of science concepts. Children often link information in ways unlike their parents or teachers, so it is important to remember that “learning is seeing connections” (Peetoom, 1993, p. 7). Children will begin to make the link from where they are — not from where we as adults are. Huber and Walker (1996) describe how students working with magnets prior to reading about the magnets and their properties will help the children understand the scientific reading material. This permits the students to make their own connections. While Dickinson & Young (1998) elucidate similarities between language arts and science literacy, they also recognize that connections between the disciplines should be “logical, natural, and appropriate” while teachers “include experiences that will help students meet goals and objectives of both disciplines” (p. 337). Both science and language arts instructional strategies are included in the model described here for teaching students literacy strategies for comprehension.
(NCTE/IRA Standard 3, International Reading Association & National Council of Teachers of English, 1996), inquiry methods using scientific methods as well as textual references (NSES Content Standard A) and physical science concepts through a study of water (NSES Content Standard B, National Research Council, 1996).

Wonders of Water as Model

Selecting the Study Focus

The first step for any interdisciplinary teaching is choosing the conceptual focus. Since literacy strategies are necessary for engagement with any text, science teaching can come first. Teachers need to consider the local and state science standards as well as student age and potential involvement with the experiences. To ensure maximum learning potential, student interest must be an important consideration.

Picarello (2000) notes “children’s natural curiosity—was the most natural way to enhance language” (p. 47). Science experiences can provide an opportunity to develop literacy in reading, writing and communication. The study of water provides a viable connection to children’s natural curiosity and easy access to materials as well as a connection to concept learning. Water’s states are fairly easily demonstrated and experienced by students to learn about different states of matter and thus physical change. Water is also necessary for life forms, so it is pertinent for students to respect and understand. This model also takes teachers into the often-neglected area of physical science rather than life science.

Since water is such a broad topic, this model is appropriately focused on the more narrow concepts of the physical properties of water and the states of water as it evaporates, condenses, and freezes through liquid, gas, and solid states. Concepts such as these are common in curriculum standards for different grade levels and provide interesting experience opportunities. Books that support science concepts are available at different levels of reading.

Choosing Literature for the Study

Selecting appropriate literature for teaching and learning is the vital next step after choosing the science concepts, and Taberski (2001) recommends utilizing both fiction and nonfiction in the content areas. For example, teachers could develop students’ critical reading skills by using the section about surface tension from A Drop of Water (Wick, 1997) and ideas from The Bubble Factory (de Paola,
Students may start by comparing and contrasting these two types of books. Teachers can model critical reading strategies through discussion of how de Paola used his knowledge of surface tension to develop his story. The discussion should include strategies for recognizing fiction and nonfiction in books and reading more to verify any text’s reliable presentation of information. It is important to note that the teachers should also address misrepresentations and anthropomorphism (Mayer, 1995). Anthropomorphism occurs when authors attribute human motivation, characteristics, and/or behavior to animals or objects in a book through text and illustrations. This can confuse young students. Although organisms other than humans do feed, take care of young and die, their lives are different. For example, children need to be able to recognize the difference between a fictional story about a squirrel named Ronda caring for her young and actual scientific information and photographs about the care and development of young squirrels.

Rice, Dudley, and Williams (2001) encourage the utilization of trade books in the teaching of science. However, they warn of the dangers of reinforcing or developing misconceptions through the use of deficient books. They stress the serious selection of children’s literature and provide a checklist to help in the selection of accurate and quality texts. Big books, novels, storybooks, poetry, pop-up, inquiry, informational, and discovery and exploration books are all available to support science teaching (Lake, 1993). The Council for Elementary Science International (CESI) encourages the use of “a balance of picture books, novels, poetry, essays” to integrate curriculum (CESI, 2001, p. 8). Even science fiction can serve to link language arts and science when read with thought about the concepts presented (Atwater, 1995). Lake’s (2000) perspective may be summed in her statement, “Science cannot occur in a vacuum. Concepts are better understood when presented in meaningful text and combined with hands-on experiences” (p. 88). Collard (2003) suggests that science trade books are particularly effective in modeling the traits of storytelling, organization, and voice. Although teachers may first be unsure of reading information books aloud (Donovan & Smolkin, 2001), doing so provides excellent opportunities to model scientific language and lead discussions about how wording differs according to the scientific concept being studied (Pappas, 2006).

A source of quality current literature is the annual list of outstanding children’s science trade books for the preceding year (NSTA, 2007), published since 1973 in the March issues of Science and Children. A review panel composed of educators and experts representing the National Science Teacher Association and
the Children’s Book Council selects these books. Annotations provide useful information for classroom teachers and school media specialists.

When selecting books for the classroom, evaluations of texts need to include the aspects of science content and concepts, science skills, vocabulary, equipment depiction, balance among the sciences, genre variety, and special effects such as pop-ups and pull-tabs. A vital component of the learning process will be the teacher’s familiarity with both children’s books and science experiences. In order to provide optimum experiences for their students, teachers must first have knowledge of the books available and activities possible (Lake, 2000; Pringle & Lamme, 2005).

We’ve included four books that fit the criteria for the theme “Wonders of Water.” Walter Wick’s *A Drop of Water* (1997) demonstrates numerous concepts that are scientifically authentic and written in student-friendly form. Concepts such as surface tension, adhesion, water molecules in motion, evaporation, condensation, refraction, etc. are in this book. It is divided into sections, so each part of the book could accompany a lesson. To start this study, teachers can help build background knowledge (schema) by reading and discussing the sections “Water’s Elastic Surface” and “When Water Flows Up” to set the stage for the adhesion and cohesion experiment. Wick’s outstanding photographs provide the “Wow” to encourage students’ curiosities for actually exploring to find out about water’s properties. Children will want to peruse this book at their leisure, too.

E. C. Krupp’s (2000) *The Rainbow and You*, illustrated by R. R. Krupp, has a blend of scientific information about water droplets and light refraction as well as rainbow myths of different historical origins. Using this book in science for further study of states of water could also lead to a study of myths in the reading curriculum. The tie is natural and lends itself to a short refresher study or a longer study of traditional literature with myths as one portion.

*This is the Rain* (2001), written by Lola M. Schaefer and illustrated by Jane Wattenberg, is a scientifically accurate book that is useful for young and/or struggling readers. The water cycle is the focus of this book written in the cumulative form of “The House that Jack Built.” The repetition is rhythmic and easy, while the vocabulary expands students’ repertoire of science terms. Starting with “This is the ocean, blue and vast, that holds the rainwater from the past,” (n.p.) each section adds to that pattern. Following additions tell about warmed ocean water that forms vapor that forms clouds that fall as rain that collects in streams and rivers and eventually runs back into that “ocean, blue and vast” (n.p.). Students gain science concepts and vocabulary as well as reading vocabulary with this book.
For the mature readers, or for a selective teacher read-aloud, Sally Walker’s (1992) *Water Up, Water Down: The Hydrologic Cycle* is packed with information, useful diagrams, and photographs. Students can use various reading strategies for finding information from headings and by skimming. This outstanding book would be helpful for teaching selective reading strategies that adults use when searching through informative texts for that piece of information they need — often hidden in a section somewhere in the middle of the book.

Although there are other books available, especially those that focus on the water cycle, these four provide examples of how teachers can select appropriate books with criteria and curriculum in mind. They also represent a range of reading levels — important to consider when selecting books. Books that are available in paperback can be purchased in sets of five or more so that groups of students can read and discuss them to support understanding which will ultimately help enhance comprehension (Galda & West, 1997; Gambrell & Almasi, 1996).

Textbooks do not offer the same range of manageable reading that children’s books do (Watson, 1997). Lake (1993) points out that “Children engage in and learn best when activities and literature are matched to their stage of development” (p. 21). When students are reading during science time (and in other content areas), they are encountering texts that have purpose and reinforce the importance of understanding what they read (Daniels, Zemelman, and Bizar, 1999; Ivey, 2000; Madrazo, 1997). Tunnell and Jacobs (1989) comment on a study comparing student reading approaches. Students who interpreted reading as making meaning rather than a symbol-to-sound approach were better readers. Providing such meaning-making materials as appropriate science trade books will assist students in becoming more well-rounded, proficient readers.

The use of a K (What I know)-W (What do I want to learn?)-L (What I learned) chart as suggested by Ogle (1986) has demonstrated improved thinking as well as an increase in the enthusiastic reading of nonfiction literature. Using a KWL chart before reading the science books with water information would start students’ organized thinking about their learning. This learning tool is helpful in both science and reading literacies and can easily carry over between experiences.

**Science Learning Experiences**

Interdisciplinary teaching involves connections, but still stresses teaching concepts and strategies important for the content disciplines. Thus, this “Wonders of Water” model includes some ideas specific for science learning and others
specific for reading and writing growth. For example, after reading and discussing the two sections from *A Drop of Water* (Wick, 1997), students are ready to learn about adhesion and cohesion of water molecules by utilizing everyday materials (McCarty, 2000).

Have students first hold two sheets of dry paper together and note their ability to stick to each other. Next, have students wet both sheets of paper with water and hold them together. Ask students to thoughtfully respond to questions like: “How does this compare with the dry sheets?” and “What other materials might you test using this method?” With teacher assistance and this experience, students may begin to understand cohesion. Water (H₂O) is composed of 2 different atoms—hydrogen and oxygen. This combination makes water polar, meaning it has a negative and positive end (like a magnet). Paper also contains molecules that are polar so water molecules are attracted to the paper molecules. Sliding two wet sheets of paper apart is more difficult than peeling them because it requires breaking the attraction of more water molecules. Adhesion refers to the attraction of two different materials while cohesion refers to the attraction of a material to itself. Water molecules are cohesive. This experience directly relates to NSES Content Standard A as students employ simple equipment and tools to gather data and then use that data to construct reasonable explanations for the reaction(s) observed.

For introducing a second science experience, teachers can read with students or have students read *This is the Rain* (Schaefer, 2001) and discuss what they’ve learned about water and what happens when water gets warmer or colder. They could then speculate how this could be set up for observing in the classroom. The students are now ready to observe the evaporation-condensation experiment. The teacher heats water in a teapot on a hot plate, and after it starts to boil, places a saucepan full of ice water above the steam. S/he then places a cookie sheet under the saucepan. Water droplets will form on the saucepan and drip and “rain” on the cookie sheet. Again ask questions such as, “How is this classroom model like the water cycle?” Evaporation is affected by such factors as the temperature of the water, how much of the water is in contact with air, and the amount of wind. This water vapor condenses into droplets that form clouds. The combined droplets eventually become too heavy for air currents to hold up. This experience supports student learning for NSES Content Standard B. “Inquiry-based science experiences help students build prior knowledge and encounter concrete examples of vocabulary concepts” (Coskie, 2006, p. 62). Further science experience ideas can be found in Bosak’s (2000) sourcebook of projects and activities.
As a follow-up, teacher or students could read *A Drop of Water* (Wick, 1997), focusing on the sections “Water Vapors,” “Condensation,” and “Evaporation Versus Condensation.” It is natural to write about their experiences in order to aid memory, think through confusing or questionable developments, or simply record results.

**Literacy Learning Experiences**

Writing across the curriculum can be an effective link between the language arts and science (Atwater, 1995). “Writing can help students think through and develop scientific ideas. The union between science and language arts is natural and offers an opportunity for teachers to capitalize on their [own] strengths to provide students with better knowledge in each subject” (Akerson & Flanigan, 2000, p. 346). Dickinson and DiGisi (1998) found in a study of first-grade students that higher reading achievement scores resulted when students engaged in narrative and informational writing. Students’ reading skills may be enhanced as a result of writing incorporated into science experiences.

Journals are often utilized when teaching science in the elementary classroom. El-Hindi (2003) notes that dialogue journals can provide an opportunity for students to reflect on scientific observations and considers journal writing crucial for developing scientific habits of mind. The author further asserts that “this, indeed, is the work of true scientists” (p. 537). Writing about science concepts assists internalization of science content. Teachers should also serve as role models demonstrating how to keep a journal and sharing both success and failure in the journal writing process (Freedman, 1999). Klein (2004) posits that significant thinking and learning occur during writing which also supports students as they develop their emergent writing skills. An additional benefit of student journals is that they provide documentation of student understandings, which can be useful assessment tools (Akerson & Young, 2005).

Russo (2000) reports how a teacher used graphic organizers to assist in the production of more complete journal entries for her young students’ experiences at a local lake. Likewise, students who study water can use a semantic feature analysis to organize some of the information they’ve learned about changes in water. This is an opportunity to use text and experiences in a visible manner (Anders & Box, 1986; Pittelman, Heimlich, Berglund, & French, 1991). The semantic feature analysis in Figure 1 is an example of how one might look after the first science experience, or after reading the books named. In particular, students could use the book *This is*
Students’ representations of understanding need not be limited to writing. Creating diagrams by using both words and pictures to illustrate a science concept can demonstrate student understanding (Heller, 2006/2007). Even creating bumper stickers (1/2 of an 8 1/2 x 14 legal-size sheet of paper works well) to illustrate knowledge of issues such as water conservation provides opportunities for many students to succeed in demonstrating their knowledge. The production of comics can utilize “three thinking processes: idea synthesis, procedure writing, and communication” (Freedman, 1999, p. 105). The incorporation of multiple intelligences is also possible when students create skits, including writing and directing as well as props. Additional creative avenues for the expression of science concepts are stories, poetry, and songs (Freedman, 1999).

Prentice and Cousin (1993) note, “Personal stories illustrate how most students begin to internalize new ideas and make them their own. They are the starting point for true understanding and growth” (p. 55). After reading books with water themes, participating in science experiences that teach about water, and writing

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<th>Vapor</th>
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<th>Liquid</th>
<th>Condensation</th>
<th>Evaporation</th>
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*Figure 1. Water Changes*
about what they know, students can use their imaginations to write a story about a character’s experience with rain or water. Karen Hesse’s (1999) picture book *Come On, Rain* is a poetic story of a little girl in an inner city waiting for rain in order to play in it. This book could be used as a writing invitation for students’ own stories. Graham’s (1994) *Splish Splash* contains concrete poetry about “Clouds,” “Ocean,” “Waterfall,” and others that center around water. Although neither of these books is offered as a scientific information book, the story and poetry invite readers to recognize how the scientific concepts they’re learning are part of their everyday lives making useful connections.

**Conclusion**

Pope (1993) proposes, “If students are asked simply to manipulate the teacher’s and author’s words or respond to them on objective tests, they may never construct a view; but if the students use their own words to think about their experiences, including experiences with words presented by others, understanding becomes a real possibility” (p. 160). When the experiences are used together, students are able to construct knowledge based on their own backgrounds and learn to value inquiry (Lake, 2000). Finally, “science books allow you to accomplish your reading and writing goals while filling in a major hole in our educational system” (Collard, 2003). Having a model to start with can help teachers find a way to use the literature and science experiences available to help their students learn.

**References**


**Children’s Books References**


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Guided Writing Lessons: Second-Grade Students’ Development of Strategic Behavior

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Abstract
This study describes intra-individual change in strategic behavior of five second-grade students during three months of guided writing instruction for informational text. Data sources included sequential coding of writing behavior from videotaped writing events and analytic assessment of writing products. Students’ development of self-scaffolding supported orchestration of attention across word, sentence, and text levels while writing was studied. Participants encountered challenges in the following linguistic resources: textual organization, degree of explicitness, and presentation of details through appropriate sentence structures.

Understanding writers’ development is consequential for effective instruction and student achievement, allowing implementation of appropriate types and levels of instructional scaffolding. In-depth information is needed, then, on the strategic, generative ways in which young writers construct intent to convey information and facility with the structures of informational text. Specifically, this study investigated the ways in which second-grade students developed strategic behavior and orchestrated their attention across word, sentence, paragraph, and text levels during writing.
An influential body of research contrasts the nature of planning, drafting, revising, editing, and sharing processes for novice and expert writers. Flower and Hayes (1980), for example, investigated differences between novice and expert adult writers from a cognitive, problem-solving viewpoint. They noted that composing requires balancing a series of constraints. Weak writers utilize a writing plan in a step-by-step manner, whereas good writers develop initial, high-level plans and return to and develop those plans while writing. Revision, then, is a series of iterative cognitive processes requiring control structures (Hayes, 2000). Writers’ ideas occur in pre-verbal, “gist units” (Bereiter, 1980), requiring multiple decisions for word choice and sentence structure or “translation” (Flower & Hayes, 1980).

Metacognitive, generative processes used during writing have not yet been studied extensively for young writers (Juzwik, Curcic, Wolbers, Moxley, Dimling, & Shankland, 2006), and little is currently known regarding the basic psychological processes that occur as naïve writers become expert writers (Cameron, Hunt, & Linton, 1996). The development of a self-extending system (Clay, 2001) for writing is dependent on active engagement while utilizing strategic behavior and developing control structures. Engaging in self-monitoring and self-correcting behavior is postulated to create momentum for learning, focusing awareness across hierarchical levels for an integrated construction of messages across word, phrase, sentence, paragraph, text structure, and genres. Learning about writing can be accelerated when teachers are able to build students’ abilities to notice and interact with specific features of the construction of text. Based on a theory of writing as recontextualization, Cameron, Hunt, and Linton (1996) have proposed, for example, a theory of writing instruction requiring social scaffolding within a linguistic-enriching environment.

Creating effective instructional intervention requires in-depth knowledge of (a) writing development; (b) effective instructional frameworks; and (c) multiple, interacting causes of failure for individual students. Bryant and Bradley (1983) noted the importance of a strategy approach over a deficit approach to writing instruction. Young and/or naïve writers typically lack the control structures that facilitate their orchestration of both existing skills and skills in formation. The systems of learning and development (McNaughton, 1995) of poor writers are both limited and limiting (Glasswell, 2001). There is evidence, however, that strategic behavior for writing can be taught to and learned by young writers. Bradley (2001) found that first-grade writers were able to not only discuss and evaluate the characteristics of their peers’ writing, but to apply that knowledge to their own work as writers.
Sipe (1998) identified important shifts in one first-grade student’s composing, from concentrated attention for basic encoding processes to confident and quick revision for meaning. Boocock and McNaughton (1998) utilized a cross-sectional descriptive design and 5-minute observation of individual students, identifying evidence of primary grade children’s development of monitoring and searching strategies. While competent writers improved, however, the poorest writers did not. The authors recommended longitudinal studies of specific children, identifying intra-individual change over time.

The importance of reading and writing informational text is well recognized. There is evidence, for example, that writing can enhance young children’s ability to reason about and understand concepts and information (Chambliss, Christenson, & Parker, 2003). Newkirk (1987) demonstrated that primary grade students were able to improve their non-narrative composing from (a) labeling and lists; and (b) question-answer couplets, and attribute series; to (c) true, ordered paragraphs. Children do appropriate features of information books into their own writing when high levels of exposure are provided (Chapman & Filipenko, 2005). Read (2005) analyzed first and second grade students’ conversations during paired writing, finding that these children were concerned with both form and content encouraging them to reread and revise their writing. Positive effects have also resulted from the application of cognitive strategy instruction to writing through the use of think sheets (Englert, Raphael, Anderson, Anthony, & Stevens, 1991). These authors argued that multiple-component writing instruction utilizing dialogue, scaffolded instruction, and collaboration is likely to be more effective than “simple, quick-fix writing strategies and methods” (p. 368).

The purpose of the current study is to provide a developmentally- and event-based account of second-grade students’ responses to guided writing lessons focused on informational text. This descriptive study utilized detailed analyses of students’ writing and writing behavior during guided writing lessons in order to describe participants’ development of strategic behavior. The questions guiding this study are as follows:

1. What changes over time in strategic behaviors were observed as second-grade students produced informational text?
2. What aspects of informational text were most challenging for second-grade writers?
Method

Participants

Participants were five second-grade students (two boys and three girls) in a public elementary school within a suburban school district in the southwest of the United States. All participants are referred to by pseudonyms within this article. Each child was selected by the classroom teacher, and considered to be making average progress in literacy development. The researcher was also the instructor for the guided writing lessons. Participants continued to participate in all classroom literacy instruction, with the exception of the 25- to 30-minute time frame for the additional guided writing lessons. These lessons typically took place during a portion of the classroom’s independent writing time.

Guided Writing Lessons

Guided writing is defined in this study as instruction presented to small, temporary groups of students who share similar needs at a particular point in time (Fountas & Pinnell, 2001). Guided writing provides an important context for teachers’ “in-the-moment” assessment and guidance of student writing; to observe students during specific writing events and provide immediate instructional scaffolding for writing processes targeted to the needs of a specific group of students.

The researcher presented a series of daily, guided writing lessons to the same five students for three months. These lessons focused on informational text and a series of interest-building activities. For example, the group engaged in brief experiments with magnets and floating objects, and investigated the invention of Velcro and paperclips. A typical lesson format consisted of discussion and demonstration of strategic behavior, experiment or activity, guided writing, and sharing of examples.

The researcher chose instructional goals and activities for each lesson based on observation and analytic assessment (Fearn & Farnan, 2001) of each student’s writing (see Table 1). Strategic behaviors for writing were presented, providing explanation, demonstration, and examples of the processes that students could use to organize information, include appropriate details, construct clear sentences, spell challenging words, and include correct mechanics. In order to utilize the voice and text structures of informational text, for example, the instructor presented such strategies as:
• Think of a first sentence that will tell your readers the one, interesting piece of information that you are writing about.
• Be sure to include enough information so that your readers understand what you mean.
• Reread your writing to see if it makes sense.

**Table 1.** Example of Lesson-by-Lesson Analytic Assessment of Students’ Writing Products

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Teacher talk and demonstration during lessons prompted students to be mindful of their decision making while writing. The instructional scaffolding provided during lessons included reminders to students to use a writing behavior that had been previously taught; explanation of writing strategies (verbal explanation and charts listing useful strategies, praise for the use of strategies by students, and teacher labeling of student strategic behavior); presentation of examples; demonstration and think aloud for strategic behaviors; and prompting for student decision making. Instruction did not focus on revision and editing as separate and distinct processes. Instead, revision and editing were taught in the context of students’ initial production of text.

**Data Sources**

*Lesson videotapes.* Each guided writing lesson was videotaped and transcribed. Transcripts were coded within three overarching levels: topic of instruction, type of instructional scaffolding, and explicitly taught strategic behavior. A grid was then created for each topic of instruction, mapping the types of instructional scaffolding utilized in each lesson for each set of strategic behaviors. This mapping procedure allowed for the identification of strategic behavior supported by high levels of instructional scaffolding. A comparison was also made of the teacher and participants’ verbal statements while engaged in each exploratory activity. For each lesson, teacher and students’ verbal statements directly describing the topic were identified, and placed within a two-column grid. The use of specific vocabulary and sentence structures was then compared.

*Writing event videotapes.* Each student was individually videotaped once a week, as he/she completed a writing product for that day’s guided writing lesson. Each of these videotaped writing events was coded using line-by-line sequential behavioral analysis. SignStream™ (MacLaughlin, Neidle, & Greenfield, 2000), a software application designed for analyzing American Sign Language, was adapted for this purpose. SignStream™ is a multimedia database tool allowing for the transcription and analysis of video-based language data. For this study, each writing event video was segmented at the sentence level, and the student’s writing behavior was coded. The broad categories used for coding included Not Writing, Sustained Writing, Rereading, Talking, and Correcting/Revising. Each coded video segment was also re-viewed and annotated. The researcher then completed an audio taped self-interview while viewing each writing event as a whole, commenting on students’ ways of working while writing. These self-interviews were transcribed.
Summaries were constructed from SignStream™ coding and researcher interviews, describing patterns of strategic behavior for each writing event. The summaries addressed the following questions:

1. For what apparent purposes did the writer reread?
2. What self-talk was evident, and for what apparent purposes?
3. What other types of self-scaffolding were evident?
4. What overt self-correction occurred?

Each summary was placed within a grid and compared across participants and lessons. For this study, strategic was defined as knowledge of ways of working in order to convey information and ideas through writing. Strategic behavior occurs as writers consider information, work on it, make a decision, and evaluate the results (Singer, 1994).

Writing products. Each individual writing sample was evaluated analytically (Fearn & Farnan, 2001). Questions utilized for this analysis were developed from the lesson transcript mapping procedure described above, and addressed those categories of strategic behaviors taught through high levels of instructional scaffolding:

1. How many details are included?
2. Does the writing address a main point?
3. Is the writing clear and understandable?
4. Which transition words are used?
5. What sentence structure is used?
6. Is the presentation of a sequence of events clear and understandable?
7. Does the first sentence (and/or title) tell readers what the text is about?

Results

Analysis of participants’ strategic behavior while writing informational text indicated a distinct point in time during lessons when each student developed a more active, strategic stance while writing. Analysis of participants’ writing products demonstrated challenges to participants’ linguistic resources for informational text. Overall, however, participants developed a greater repertoire of control structures and resources for the production of informational text. Importantly, the more
complex and integrated strategic behavior observed in later lessons appeared to provide students with generative experience orchestrating writing processes across hierarchical levels of language use.

**Change Over Time in Strategic Writing Behavior**

*Rereading and self-correction.* It was typical throughout lessons for participants to reread after a distraction or after s/he had given attention to a difficult-to-spell word. Students seemed to be using rereading to regulate their own attention to writing. In later lessons, students also began to reread for the purposes of monitoring and correcting the clarity of their ideas, sentence structure and/or word choice. This rereading and in-process revision was accomplished independently and integrated within the construction of participants’ drafts. Rereading appeared, then, to become more usefully directed by students’ expanded control structures for their production and monitoring of informational text structure. Participants’ self-correction was accomplished throughout lessons using (a) quick return to a previous line or sentence, (b) rereading of short phrases, or (c) rereading from the beginning of the text. Participants most commonly corrected ending punctuation, letter formation, and capitalization in early lessons. In the last month of lessons, they also began to reread and self-correct for word choice, overall organization, and composing at the phrase level.

*Self-talk and use of resources.* Participants used self-talk to support and sustain their writing. Self-talk during writing was observed sporadically for each participant throughout lessons, most typically for spelling support. As participants wrote a difficult-to-spell word, they verbalized phonemes or syllables. In later lessons, participants also verbalized each word while writing. This behavior tended to occur after an interruption, such as the spelling of a difficult word. Independent, verbal accompaniment to writing appeared to serve the purpose of sustaining attention to word and sentence levels.

Self-directed use of resources was observed from each participant as he/she encountered specific challenges. These overt self-scaffolding moves became more consistent across participants in later lessons, and were directed at higher levels of decision-making. Participants consulted their own texts by referencing the spelling of a word in a previous sentence. In later lessons they also consulted their own texts, however, this was done in order to consider what details or transition words to include.
The character, then, of participants’ strategic behavior altered over the course of guided writing lessons. Rather than using self-correction primarily for the purpose of mechanical control, participants shifted to self-correction for word choice, organization, and phrase-level composing. Similarly, participants shifted reference to their own text to monitoring for the clarity and correctness of information presented. Participants also began to utilize self-talk beyond attention to spelling, and to re-read in order to monitor for clarity.

*Example: Kim’s strategic writing behavior.* In the second week of lessons, Kim wrote a text describing celery (see Figure 1). During her writing of this text, Kim reread twice after spelling the difficult words *skinny* and *why*. She self-corrected for letter formation and use of capital letters. Kim also monitored the correct orientation for the letter *b* in the word *bad*. When writing this word again in the medial section of her text, she referred back to her own previous spelling. During her work on difficult-to-spell words, Kim put her head down close to the paper and crossed off attempts quickly. When working on her spelling for the word *why*, for example, Kim twice crossed off her spelling of this word as *way*. The teacher then intervened with the correct spelling. Kim did not engage in any overt self-talk during this writing. She constructed a title that described the content relatively well. She also maintained a focus throughout her text, as she provided a list of details. These details were nonspecific, however, in relationship to the discussion during the lesson regarding the roots, veins, and leaves of celery. Kim’s sentence structures and word choices for this text were simple and repetitive. Overall, Kim’s writing demonstrated a limited use of strategic behavior and unsophisticated use of informational text structure.

In the last week of lessons, Kim wrote a text describing an experiment with vinegar and baking soda (see Figure 2). During this writing event, Kim utilized a variety of resources. She corrected her spelling of the word *mix*, for example, by referencing the teacher’s example. Kim also looked back at one of her own

![Figure 1. Example of Kim’s Writing at Week Two.](image-url)
previous texts, in order to spell the word another as a nuth. Kim reread for several different purposes. For example, she reread from the beginning of her text after her work to spell the words together and bubbles. She also reread in order to monitor the clarity of her writing so far, returning to successively earlier points in her text each time. After writing And, Kim crossed this word off and then reread from the beginning of her text and made a new start on this sentence. When the teacher intervened, asking “I wonder what happens next?” Kim reread her text aloud in order to identify points already made regarding the sequence of events. Kim self-corrected her spelling of words, and she added missing periods. She utilized self-talk to scaffold her spelling for difficult words through articulation of phonemes and syllables. When writing the word bubbles, for example, Kim first wrote be. She then changed this initial attempt to bu after saying the word slowly to herself. Kim also verbalized her writing word by word to herself, particularly after working on a spelling challenge. This verbalization appeared to serve the function of monitoring, and attention to sentence structure and word choice. Kim also articulated punctuation to herself, stating “Period!” after writing the sentence “It is cool.”

Analysis of Kim’s strategic behavior for this later writing event, then, indicates an active stance using a variety of strategic behaviors independently, flexibly, and in an integrated manner. Kim’s writing for this event also demonstrated a more sophisticated use of linguistic resources for informational text. Her sentences were more complex and the vocabulary used in this writing was more directly related to the group’s discussion. Kim’s use of rhetorical devices for informational text remained somewhat limited, however, as she continued to use a personal voice. Kim did not include a topic sentence or illustrative title in this writing. This text did, however, maintain focus on a specific topic.

Figure 2. Example of Kim’s Writing at End of Lessons.
Improved Strategic Behavior and Expanded Attention to Language Use

As participants’ use of strategic behavior increased, rereading, self-correction, self-talk, and use of resources resulted in a reiterative set of opportunities to compose across hierarchical levels of language (see Figure 3). Participants applied this highly active strategic behavior to their awareness and construction of the structures of informational text. This strategic behavior, then, became more fully integrated within participants’ “in-the-moment” writing production. Participants utilized self-scaffolding and self-correction to engage in active attempts to convey information clearly through sustained attention to word- and sentence-level segmenting.

![Diagram of Taking Action: Strategic Behavior and Gaining Awareness](image)

**Figure 3.** Effects of the development of strategic behavior for writing.

During the 10th week of lessons, for example, Cari constructed a text titled “Leaf Science.” Cari utilized self-scaffolds in order to orchestrate her attention to spelling processes, the construction of relatively complex sentence structures, and the presentation of a sequence of ideas. Point-by-point analysis of Cari’s writing
behavior (see Figure 4) illustrated the integration of her attention across levels of language use, constituting a self-extending system for writing development.

Figure 4. Cari’s orchestration of attention to levels of language through strategic behavior.

In contrast to her writing during early lessons, Cari demonstrated long periods of sustained writing for this text. Her phonemic and orthographic analysis of words was carried out quickly and with ease for such partially correct attempts as
siinse for science, and pepol for people. Cari corrected her first attempt to write the word with quickly and easily. She supported her spelling of several additional words (i.e., someone, oxygen, and alive) with self-talk, saying the word slowly to herself. Based on this process, Cari added a medial /m/ to the word someone.

After brief work on specific spelling challenges, Cari either re-read or verbalized word-by-word in order to continue writing, apparently scaffolding her attention back to the sentence or proposition level. Cari also utilized re-reading, typically two or three words at a time, when moving to a next clause within a sentence. For example, she paused and reread after writing “and if someone cuts a tree” and “Do you know that people need trees.” This rereading appeared to constitute a self-scaffolding response to the task difficulty level at specific points in her writing work. Cari utilized several different types of resources when writing this text. She referred back to her own previous spelling of the word oxygen, and copied the word leaf from a neighbor’s paper. As Cari finished writing the first three sentences of her text, she actively solicited her teacher’s help in order to proceed, reciting the details already written in her text. Cari constructed her last sentence in this text in response to her teacher’s question: “Do you think people know what would happen to us without oxygen?”

Challenging Aspects of Informational Text Construction

In general, these second-grade students appeared to lack familiarity with the structure of informational text. Writing outside of the more familiar narrative problem/resolution structure created challenges in overall organization, degree of explicitness, and presentation of details through clear sentence structures. Participants did, however, improve in their use of specific features of informational text. This improvement occurred alongside the increase in active, strategic behavior described above.

Participants’ fascination with each of the hands-on activities presented prior to writing was both immediate and obvious during these lessons. It was also clear that students encountered challenges as they moved into writing about these events. Students’ talk during experiments and investigations indicated lack of specific vocabulary and many hesitations and re-starts as they struggled to structure their thinking into clear verbal statements:

Teacher  We have two things. First we have vinegar and then I have baking soda.
Cari: Oh, it’s like a volcano but they make a volcano and they have the water, and you put, I tried it and it was, it, I made a volcano and rises up and then it went all over my room.

Informational text writing required participants to develop the ability to construct unfamiliar sentence structures, using signal words and complex ideas presented through multiple clauses. The most common transition word used by students throughout these lessons was and. The teacher presented multiple examples and opportunities to rehearse useful sentence structures orally. For example, the teacher explained, Good writers have a good first sentence and a good last sentence. Listen to Kim’s first sentence:

I know something about bats. Isn’t that a great first sentence to start with? Say that sentence: I know something about bats, period. That told people what you were going to write about and that you were going to tell them something interesting.

In later lessons participants began combining and in such phrases as and if, and finally, and and then. Rachel, for example, wrote:

Here is what happens when you mix vinegar and bakeing soda togeth- er. it will make bubbles and rise up. And if you tack a nather scoop of backing soda. it will rize.

Participants utilized signal words for sequence with relative ease, however, when the exploratory activity lent itself well to sequential description:

An experiment with oil and water. Frist I have a cup of water 10 inches longe. Next I get vegtboil oil one drop. Then you mixed it with a pop- cikel stik. Last I looked at the bottem. And that’s all!

Use of words denoting cause/effect relationships, such as because, was infrequent and typically connected to a personal comment: “I think bats are cool because they can hang upside down.” Participants appeared, then, to require high amounts of instructional scaffolding and time to practice for the construction of sentences using signal words for informational text.

Writing products across the study demonstrated a general increase in quantity of details well related to the current lesson’s hands-on exploration (increasing from an average of 8 to 16 details per text per student). Participants’ responses demonstrated that they were not clear in early lessons on either the definition of, or the distinct need for clear details in informational text. As the guided writing lessons progressed, however, they began to develop their own ways of talking about details as is shown in this exchange between the teacher, Rachel, Kim, and Sam:
Today think about echolocation or about baby bats. Think about the food they eat, or how they fly. Pick one interesting thing and write about lots of details.

Like this? [showing her writing book]

Yes, like you did. Do you know what details are?

You know, like, little, like little parts that you want to include of your sentence or story.

Right. Tell about echolocation. Tell how it works and what they do with it. And why it’s important.

A lot about a little.

Stronger progress for the inclusion of details was observed in later lessons as the teacher explicitly connected this strategic behavior to the need for clarity so that readers would understand the intended message. As participants began to talk explicitly about what they wanted their texts to communicate, they also shifted to rereading and self-correction with attention to intended meanings. Their strategic orchestration of attention from word-level to the construction of phrases and propositions provided good support for their improvement as writers of informational text.

Participants’ writing addressed a specific, main point 83% of the time. They often did not maintain this focus throughout a text, however. Although they were able to include more details in their writing over time, they experienced challenges matching these details up in a logical way with a chosen, main point. In early lessons, 23% of the time, their writing was not clear:

First I made a shape it was a metear it looks like it is going very fast because the pont is up and I made a a the shape it was a srcel it was a little one it floated!

When the text was not clear, the writer had failed to include the explicit information that would allow readers to understand intended implications:

I tried an experiment to see what kinds of objects would float in water. First, I made a shape out of a piece of tin foil. It was shaped like a meteor and pointed up, which made it look like it was going very fast. This object did not float. Then, I made a second object out of tin foil. This object was shaped like a little circle, and it did float!

In early lessons, students did not tend to include a first sentence that clearly indicated the topic or main idea. Sam, for example, began his writing about objects that float with the sentence “I poured the water out of the cup.” In this brief
experiment, Sam had poured out the water, put a rubber band in the cup first, and poured the water back in order to determine if a change in sequence would cause the rubber band to float. His text did not reflect this experiment clearly. Later, however, he began a text about baby bats with the sentence “Did you know baby bats hook onto their mothers’ fur because they can’t fly until they are a few weeks old?” Sam then provided information regarding mother’s milk and baby bats’ survival. Analysis of Sam’s writing behavior during this period of time indicated that he was rereading in order to determine what ideas to write about next, and for word choice. He was also utilizing self-talk as a scaffold to bring his attention back to his sequence of ideas and to self-monitor and correct his construction of sentences. His self-corrections addressed issues of clarity as well as mechanical control. Sam’s increased use of strategic behavior, then, supported improvements in his ability to construct informational text.

Example: Sean’s informational text. Sean’s writing demonstrates specific aspects of participants’ improvement in the construction of informational text. In the first week of lessons, Sean wrote a text describing an experiment with floating objects (see Figure 5). Sean’s sentence structures are relatively sophisticated in this text and show some match to the group discussion: “But I’m not quite sure all stainless steel will sink.” Sean demonstrated confusion over his use of ending punctuation with both unneeded and missing periods. Sam may have placed periods after his construction of individual propositions:

- my tea strainer.
- is stainless steel.
- but it sank to the bottom of the cup.
- full of water.

While Sean included detail in his text, he did not, however, provide sufficient rhetorical devices in his writing to insure that his readers would understand the intended message. He did not include a title or topic sentence,

![Figure 5. Example of Sean’s Writing in Week One.](image-url)
for example, and resorted to personal voice with statements such as “I wonder.”

In the last week of lessons, Sean wrote a text describing how a bat eats moths (see Figure 6). In this text, Sean’s sentence structures are varied. He began the text with a topic sentence, “Bats like moths.” He used signal words in his sentences with a degree of sophistication, “When they bite it, the moth’s wings fall off.” Sean also used aspects of informational text structure well in this writing. He began with a simple topic sentence and stayed on topic throughout most of his text. Details included are well matched to the group discussion and address relatively sophisticated aspects of bats’ food procurement using specific vocabulary. Sean also wrote with an appropriate voice and stance for informational text, including a pronunciation guide for the word echolocation and a picture to illustrate this concept. Sean constructed a relatively sophisticated single paragraph as he moved from his topic sentence to a description of the moth powder and bats’ use of echolocation to find food.

Discussion

This study provides a developmentally-based account of second-grade students’ responses to guided writing lessons focused on informational text, addressing the need for description of intra-individual change over time in children’s writing strategies. The small number of participants for this study allowed for in-depth analyses, but limits the generalizability of the findings. The intent of the study was not to identify effects of guided writing lessons in isolation from students’ participation in other instructional contexts. A wide range of contexts and factors
undoubtedly influenced participants’ writing. Further research should investigate the effectiveness of a variety of types of instructional support provided to students while they are actually engaged in writing. The ability of influential literacy teachers to orchestrate and resolve instructional episodes effectively through moment-by-moment decision making requires high levels of instructional expertise (Ruddell, 2004). Examination of the interaction between teacher and students would provide information on effective teachers’ use of clarifying, validating, and generative responses during students’ writing.

**Writing Informational Text**

Becoming a successful, young writer of informational text requires facility with specific aspects of the structure of informational text, linguistic resources, and control structures for the internalization of strategic behavior. Even with high levels of instructional scaffolding, second-grade students experienced difficulty with overall organization, degree of explicitness, and presentation of information through clear sentence structures. They also, however, demonstrated progress. Across three months of guided writing lessons, students internalized strategic behaviors for writing. Students’ independent, expanded use of self-scaffolding (rereading, self-talk, and use of resources) supported their active attempts to convey information clearly.

Teachers should be prepared to provide high doses of genre-specific instructional support. This instruction should include demonstration and think aloud, combined with verbal interactions where all students are actively and consistently engaged in high amounts of talk and writing. Young, naïve writers need specific, direct instruction that is delivered as close as possible to the point of need. Students should have extended and guided opportunities to put new learning into practice immediately. Instruction should directly address the vocabulary, sentence, and text structures needed for informational text, improving students’ linguistic and rhetorical resources.

Teachers should also teach explicitly for students’ control over a set of immediately useful sentence structures that are specific to informational text. Young writers need opportunities to hear and try out sentence structures that utilize signal words and clauses appropriately for specific types of expository text structure. Teachers need to teach directly and explicitly for knowledge of the most useful rhetorical devices for informational text. Presenting strong examples of mentor texts with a variety of expository text structures could improve students’ writing, as long
as attention is explicitly drawn to those elements of text structure that students will be able to appropriate into their current writing.

**Strategic Behavior for Writing**

Writing instruction can be targeted at expansion of students’ active stance and use of strategic behavior during *initial* text production. The progress of participants in this study demonstrates that this goal can be accomplished through integrated writing instruction without an exclusive focus on revision, and/or editing as distinct processes. Effective writing instruction may result in individual student’s construction of a *higher quality of drafts*; so that each student’s “momentarily best effort” (Fearn & Farnan, 2001, p. 70) improves over time. The development of active strategic behavior for writing is well supported by instructional interaction with students at the point of writing, so that students learn how to take action across hierarchical language levels and internalize detailed awareness of ways in which information is conveyed through written language.

Teachers’ expertise for writing instruction can be assisted through descriptions of “in the moment” instructional scaffolding. The constructive and encoding-based nature of writing appears to require particular kinds of scaffolding. For many students, modeling alone may not best develop internalization of appropriate strategic behavior. Instead, teachers need to teach students, directly and intentionally, how to put models into practice. As teachers “lean in” to assist individuals during writing, interaction should focus on what the writer is currently constructing rather than to correction or praise for already-written segments. Teachers need to assist children as they search their oral messages for the phonemes, morphemes, words, phrases, sentences, and ideas that need to be recorded next (Clay, 2005). This interaction instantiates feed forward:

- What information do you need to add now?
- What could you do now to help yourself?
- Say it to yourself first. Does it sound right?
- Could you start the next sentence like this: “Then, ….”?
- Would rereading help you to know what to write next?
- How could you tell your readers why that happens?
Guided Writing Instruction

Guided writing lessons provide strong opportunities for teachers to observe and teach intensively. Lessons can be structured to include joint, independent, and ambient activities (Glasswell, 2001). In one setting, then, teachers can orchestrate an integrated set of instructional activities: (a) explanation and demonstration of strategic behavior, (b) guided writing, and (c) a close look at peers’ written work. Guided writing lessons keep the writing process intact, by integrating strands of learning for students across mechanical control, spelling, sentence structure, text structure, and communication. Guided writing lessons also provide high amounts of applied practice for each individual student; time to write with immediate assistance as necessary.

Close work over an extended period of time with one group of students is also an important context for the development of teacher expertise. In guided writing, teachers can refocus on shared goals and understandings, provide appropriate degrees of explicitness matched to the writing behavior of individuals, and reconstruct and modify the nature of the support provided for writers (Glasswell, Parr, & McNaughton, 2003). Teachers may otherwise tend to underestimate students’ need for detailed and specific levels of instructional scaffolding, and assume that modeling, student choice of topic, and extended time to write will in and of themselves cause improvements in student writing (Gibson, 2007).

Guided writing lessons are delivered to temporary groups of students with similar interests and/or needs. It is not essential for every student to participate in a guided writing group. Teachers may meet with one group only for a period of time, for lessons that are integrated within other classroom organizational structures (e.g., writers workshop or interactive writing). This daily, concentrated instruction over time for a specific group of students is directed by intensive assessment procedures. Guided writing provides a context for teachers to notice what individual students actually do when they write from one lesson to the next. Students’ personal appropriation of strategies taught can be directly and immediately observed. Guided writing instruction, then, allows the teacher to engage in reflective practice for writing instruction directed by detailed observation. Engagement in close, reflective work over an extended period of time with one group of students will improve teachers’ instructional interaction for all students.
References


**About the Author:**

**Dr. Sharan A. Gibson** is a faculty member of the School of Teacher Education at San Diego State University. She teaches courses in literacy instruction for preservice teachers, as well as clinical, graduate level courses for the reading masters and reading specialist credential programs. Dr. Gibson also directs the Reading Recovery program at San Diego State University.
Abstract

Ms. Martin (a pseudonym) is preparing to teach her new group of students this fall. This is her ninth year teaching second grade, so she knows much about the complexities she faces. The professional development focus in her district this year is differentiated reading instruction and she knows from experience that the twenty-two children who will enter her classroom have differing levels of abilities in reading.

Ms. Martin has used a variety of assessment tools in the past, and has looked at the records for her incoming group. Two of her students are just beginning to read at the emergent level, five students are reading just below the beginning second grade level at the end of first grade, and six students are reading fluently at the beginning second grade level, but their comprehension scores are much lower. Another six of Ms. Martin’s students are reading fluently at a mid-second grade level for both reading and comprehension, while three of her new students are reading and comprehending text at the fourth grade level or beyond. Ms. Martin has long recognized these differences in her students, and knows that the instruction in her classroom will have to be differentiated to support the strengths and meet the needs of the learners. Where does she start with such a complex task?
Ms. Martin, identified as an exemplary teacher by administrators in her district, was the subject of a case study conducted by the first author. The purpose of the study was to explore the nature of differentiated reading instruction (Ankrum, 2006). In the following article, we first provide a brief history of differentiated reading instruction. Then focus on identifying practical ideas that may help teachers in their attempts to meet the needs of students in their classrooms—many of these ideas were seen in Ms. Martin’s classroom while others come from the research and literature that support such differentiated instruction.

Different Instruction

Children have always come to school with a range of literacy experiences and abilities and teachers have struggled for years to meet the needs of all of their learners. Historically, teachers have grouped their students in attempts to tailor instruction to meet the different needs of individuals. They have attempted various types of grouping arrangements during the literacy block, including needs-based homogeneous groups, interest-based groups, or individualized instruction. However, it has become clear that it is not the grouping arrangement that matters; it is what the teacher does with each group of children that makes the difference (Taylor, Peterson, Pearson, & Rodriguez, 2002). No simple formula exists that details what to do with each group of children. According to the IRA’s position statement, *Making a Difference Means Making It Different* (2000), differentiated instruction can only truly occur if the teacher possesses a deep knowledge of the reading process, an understanding of the strengths and needs of her students, and the ability to teach responsively.

There is evidence that providing all students with the same reading instruction can be detrimental to student achievement. In classrooms comprised of students with varied reading levels where the teachers did not engage in differentiated instruction, student achievement for the average and low achieving students suffered; high achieving students made merely modest gains (McGill-Franzen, Zmach, Solic, & Zeig, 2006; Schumm, Moody, & Vaughn, 2000). Other studies support the notion that differentiation in instruction is needed to narrow the achievement gap found in today’s schools (Allington, 2005; O’Connor, Bell, Harty, Larkin, Sackor, & Zigmond, 2002). Since teachers in non-differentiated classrooms often focus on the average learners, students of high ability or low ability do not receive instruction to adequately improve their reading ability. This can be increasingly difficult for teachers given the current federal mandates outlined by the No Child Left Behind Act (U.S. Department of Education, 2001). Many districts require teachers to use a core
Differentiated reading instruction (Block, Parris, Reed, Whiteley, & Cleveland, 2007; DeWitz, Jones, & Leahy, 2007) suggests that many teachers may need more guidance in how to group children and how to provide effective differentiated instruction in reading (Moody & Vaughn, 1997; Schumm, et al., 2000).

**Early Attempts at Differentiation: Ability Grouping**

Reading programs designed for groups of differing abilities first appeared in the 1950’s (Barr & Dreeben, 1991). Within-class “ability grouping” took hold as a predominant practice for many teachers (Dreeben & Barr, 1988; Hallinan & Sorensen, 1983; Hiebert, Wearne, & Taber, 1991). The term *ability grouping* seemed to encompass all that was necessary to differentiate reading instruction for the learner. In theory, students would be assessed and then homogeneously grouped by reading ability. Next, the teacher would craft different lessons to suit the needs of the students in each group. In reality, however, some teachers grouped their students by structural variables, such as class size. Others found that within a specific group, students differed in their strengths and needs, with some having problems with fluency, others with decoding, and others with comprehension. Still, these groups remained stable throughout the school year, rather than changing based on the needs of the learners (Dreeben & Barr, 1988; Hallinan & Sorensen, 1983; Hiebert, et al, 1991).

Barr (1973, 1975) and Allington (1983) described a differential, rather than differentiated type of teaching that occurred within such grouping arrangements. Some teachers spent more time on word level instruction with struggling readers; in contrast, others spent more time instructing higher-level comprehension strategies to the skilled readers. Further, the type of instructional materials used was often consistent across groups as the grade-level basal reader was the material of choice. It was the instructional pacing that differed (Barr, 1973, 1975). Therefore, children placed in lower-achieving groups were exposed to less text, since basal story reading occurred at a slower pace in these groups. In contrast, children in the higher achieving groups were exposed to more text at a faster pace (Barr, 1973; Pallas, Entwisle, Alexander, & Stluka, 1994). As Stanovich (1986) pointed out in his discussion about the Matthew effects, the rich got richer, and the poor got poorer. In other words successful readers continued to improve while the struggling readers actually lost ground.

The efficacy of ability grouping came under debate in the 1980’s, and whole group teaching began to take hold in many classrooms (Moody & Vaughn, 1997).
In an effort to avoid providing differential treatment to their students, teachers were encouraged to use the same materials, lessons, and pacing for all of the children in the classroom. In an attempt to provide equal access to the curriculum (and the amount of text), one reading lesson was presented to the entire group of students. Although this resulted in the simplification of classroom management for reading instruction, it left little room for meeting the needs of individuals.

**Does Differentiation Occur Today?**

The answer is: sometimes. Evidence collected in studies of literacy instruction suggests that the predominant grouping arrangement currently used in reading instruction is whole-class, mainly due to management issues. Even when teachers expressed the belief that teaching small homogenous groups was the most effective method for reading instruction, most found it easier to manage one lesson and one group of students than to plan different activities for multiple groups (Moody & Vaughn, 1997; Schumm et al., 2000).

Contrasting findings do exist, however. A number of studies have been conducted to document the instructional practices of educators who have been identified as exemplary teachers of literacy. These studies revealed that the best teachers of literacy employed a variety of grouping formats, including whole group, small group and individual lessons (Pressley, Wharton-McDonald, Allington, Block, Morrow, Tracey, Baker, Brooks, Cronin, Nelson, & Woo, 2001; Taylor, Pearson, Clark, & Walpole, 2000; Wharton-McDonald, Pressley & Hampston, 1998). In addition, these teachers instructed their students more often in small groups than in the whole class setting (Taylor et al., 2000). The most effective teachers, those who fostered the highest level of student achievement, “seemed to be able to monitor student thought processes as they taught and interceded with just enough help to facilitate learning but not so much that they lost the flow of the lesson” (Wharton-McDonald, et al., 1998, p. 116). In other words, a great deal of individual coaching during small group lessons was observed in these classrooms. In addition, Pressley, et al. (2001) found that “teaching was very different in the most effective classrooms from student to student and from occasion to occasion” (p. 46-47).

Differentiated reading instruction has been documented in the classrooms of expert teachers; however in an effort to “leave no child behind” we need to see this kind of instruction in all classrooms. Yet this seems difficult for teachers to achieve. Perhaps the process of reading is so complex that instruction tailored to individual needs is difficult for practitioners to attain. Another possible explanation is that the management issues involved in differentiated instruction may be overwhelming as
Differentiated Reading Instruction

teachers in the most effective classrooms were experts at managing different grouping arrangements within their classroom (Pressley et al., 2001; Taylor et al., 2000; Wharton-McDonald et al., 1998).

**How Do Exemplary Teachers Differentiate?**

The research base in this area is sparse. We do know that exemplary teachers of literacy were observed teaching more often in small groups based on the instructional reading level of the students (Taylor et al., 2000). We also know that the most frequently observed teacher-student interaction style in these classrooms was scaffolding/coaching, which “involved prompting children to use a variety of strategies as they were engaged in reading during small-group instruction or one-on-one reading time” (Taylor et al., 2000, p. 136). How do teachers do this? Exemplary teachers indicated that they used systematic and on-going assessments in the formation of their groups in order to ensure accuracy of membership, as well as to avoid inflexibility in grouping. Group membership shifted as needed, according to assessment results (Pressley et al., 2001; Taylor et al., 2000). The differential treatment of groups discussed by Allington (1983) and Barr (1973, 1975) was not observed in the exemplary classrooms studied. Instead, students in the low-instructional level groups were exposed to as many higher-level teaching strategies as their classmates in the high instructional-level groups (Taylor et al., 2000).

What is missing in the research literature is a detailed description of how differentiated reading instruction occurs. What exactly happens within these lessons? How is each lesson different from another? What exactly does the teacher differentiate—level of materials, skills instruction, pacing, etc.? Also, methods for assessing student needs are mentioned in the literature, but not fully described. Further research in this area is required if teachers are to understand the nature of effective differentiated reading instruction. Based on what we know about individual differences and the achievement gap, it is critical that we begin to explore the areas that exemplary teachers like Ms. Martin may consider when trying to tailor reading instruction to the needs of their learners.

**Decisions, Decisions!**

Planning tailored reading lessons is not a simple task that can be described in a lock-step formula. There are many points to consider when preparing for differentiated reading instruction in the classroom (Figure 1). Each of these points is discussed below.
Assessment

The primary consideration in reading instruction should be the needs and strengths of each child (Clay, 2002). It is only through assessment that teaching decisions can be made as assessment provides the data that informs good instruction (Taylor et al., 2000). Once these data are collected, the teacher must be empowered to analyze the information. This analysis, coupled with the teacher’s deep knowledge of the reading process, will enable powerful instruction. Continuous informal assessments lead to responsive teaching, which is often linked to exemplary teaching (Pressley et al., 2001; Taylor et al., 2000; Wharton-McDonald et al., 1998).

A common question that follows is “which assessments should I use?” There is no simple answer. Many school districts require specific assessments, which may provide teachers with the needed information. Specifically, assessment tools that are used to inform instruction should be comprehensive, on-going, classroom-based, and easy to administer and interpret. For assessments to be comprehensive, a variety of tools should be used to provide teachers a window to all aspects of the reading process. Both word-level skills and higher-level strategies should be evaluated. In addition, comprehensive assessments should be matched to the developmental process of reading. For example, one would not assess letter identification skills of fluent readers; alternately, one would not take a running record on a child who demonstrates little if any knowledge of letter-sound correspondence. In addition, assessment should be on-going, not a one-shot measure used at the beginning, middle, and end of the year. It is equally important to include classroom-based assessments. Teachers should observe students’ reading skills and strategies in authentic situations, not just isolated drills (Holdaway, 1979). Finally, these assessments should be easy to administer and interpret so it is more likely that the busy classroom teacher will conduct the assessment and then use the results in planning instruction.
While formal assessments can provide teachers with a great deal of data, careful notes and records can equally inform teachers’ decisions. Teachers can jot down anecdotal records as they engage in observation or instruction. Ms. Martin finds it useful to keep post-it notes readily available so that she can quickly record what she has observed during instruction, e.g., Suzy – multisyllabic words are a problem (graceful, delicate, happiness). Upon reflection, such records can guide the next teaching points. Close observations of students’ reading can also lead to on-the-spot decisions, changing the direction of the instruction as needed (Clay, 2002). In addition, informal conferences allow teachers to converse with students about their selection of texts, the strategies the children are using, and challenges in their processing. Such conversations can offer great insight into a reader’s strengths, needs, and interests. Ms. Martin holds an informal conference with each one of her students at least once a month; during that time, she listens to them read, asks them several questions about the selection that they have chosen, and talks to them about their reading interests. The students look forward to their scheduled, personal time with the teacher and Ms. Martin uses the valuable information collected from these discussions to inform her instruction.

**Grouping Formats**

Teachers must carefully consider the types of grouping arrangements they use during literacy instruction. It is best to employ a variety of grouping formats throughout the instructional block, including whole-class, small group, and opportunities for individualized instruction. Curriculum-based, grade-level appropriate skills, and strategies can be introduced to the whole class, ensuring that all children gain the needed exposure to this material. Teachers may choose to use approaches such as shared reading or interactive read aloud to provide explicit teaching through modeling for all of the students in the class.

This whole group teaching will not meet the needs of all of the students which is why small group instruction is a necessary component in the literacy block. It is with homogeneous, needs-based groups that the teacher can create lessons based on the evidence provided by assessments. Groups may change based on skill or strategy need. When children demonstrate a need to switch groups, teachers can do that, again based on the assessments. Individualized instruction can be arranged to meet the needs of struggling or accelerated readers, in addition to the whole class and small group opportunities provided.

Ms. Martin frequently refers to her assessment data throughout the year to reconsider small group membership. In past years Ms. Martin found that three of the four children who entered her class reading below grade level achieved accelerated progress, two were placed with the average group by the end of the year, and
one of the struggling readers was moved into the highest reading group by spring! Ms. Martin is planning on similar movement for her two struggling readers this year. It is also likely that members of other groups will switch due to ability or interest differences.

Classroom Management

Management issues create the largest barrier to this model of teaching (Moody & Vaughn, 1997; Schumm et al., 2000). It is imperative that teachers find methods to keep all children actively engaged in meaningful literacy learning, while meeting with small groups or individual learners. There are a variety of approaches that teachers employ; it is important that teachers select a management technique that is comfortable and matches their teaching style.

Literacy Centers. This popular spin-off of learning centers requires children to work independently or in small groups on literacy-related activities. Teachers generally organize a number of stations around the room with literacy-related materials, and present the curriculum-based activities to the children on a weekly basis. A variety of rotations may be employed, ranging from teacher or student selected groups and pacing. With careful planning, the activities within the literacy centers can be tiered to provide differentiated practice of reading skills and strategies and/or reinforcement of skills taught in whole class or small groups. Figure 2 provides a list of sample literacy center ideas.

Independent Reading. Some teachers require their students to read independently as they work with small groups of students. Independent reading provides opportunities for developing fluency as well as practice with comprehension strategies and decoding skills (Clay, 1991; Fielding, Wilson, & Anderson, 1986). At times, students read orally, perhaps with one or two partners, or with an audiotape. In order for this to be effective, teachers must ensure that students read texts at the appropriate reading level. At the same time, there should be some opportunity for student choice since students can often read materials above their instructional reading level if they are interested and excited about a specific topic. There should also be times when students read silently, although Shanahan (2006) does caution teachers in their use of sustained silent reading, stating that there is not enough conclusive evidence to support SSR in place of explicit instruction. What is important is that students receive guided explicit instruction in addition to independent practice through silent reading.

Independent Response. It is not uncommon for teachers to require students to practice reading skills or strategies independently through written responses to reading. Keeping these activities open-ended and creative can increase student
engagement. Such activities enrich and extend the instructional strategies presented to students in whole or small group lessons. Students enjoy having the chance to write a reaction to the selection, perhaps from the perspective of a particular character, or to write three questions that they can ask their fellow students. Ms. Martin asks students to keep journals in which they respond to one or two questions that she poses about a specific selection. These responses often call for a personal connection with the text. Students then bring their journals to the next reading lesson and share what they have written with others.

• **Writing Center**: All that is needed is a table, some chairs, and supplies to write with and write on. For example, markers, crayons, colored pencils, and paper of all sizes. Dry erase boards and chalkboards are great for practice as well.

• **Overhead Projector**: Place it on the floor, with some blank transparencies and overhead markers, and let your students write or put some familiar poems on overheads for the children to read.

• **Book Nook**: Find a comfortable corner; add some pillows, chairs, or even a loveseat. Fill some bookshelves with books of all genres and levels. Allow students a chance to browse and relax.

• **Big Books**: Hang your big books on a coat rack near the Book Nook. Invite students to read with a partner or independently. Students can look for known words or letters in the Big Book.

• **Book Buddies**: Students can read known or easy books to or with a partner to practice fluency.

• **ABC Center**: Preschool and kindergarten children can practice letter identification with a variety of materials. Stock shelves with magnetic letters, ABC cards, alphabet puzzles, and games.

• **Word Building**: Students can use letter tiles, magnets, and cards to build words.

• **Poetry Box**: Write all of your favorite poems or nursery rhymes on poster board. Keep the poems in a box for students to read and read; this is a great way to build fluency.

• **Listening Center**: This is an old classic! Provide a small table with a tape or CD player, headset, and books recorded on tape or CD. Students can read along with assigned or self-selected books.

• **Computers**: Students can practice both reading and writing on computers. Software is designed to help build reading skills and strategies. Simple word-processing software allows students to compose and publish stories independently.

• **Researcher’s Lab**: This space can change with the current science unit. Carve out a space at a table, provide some clipboards and a variety of materials to observe or explore. Students can record observations and write about what they discover. Try placing this area near a window so students can observe and record seasonal changes in nature.

**Figure 2.** Literacy Center Ideas
Materials

The materials used in a reading lesson should be based on the instructional reading level of the students in the group (Allington, 2005, 2006; O’Connor et al., 2002) as well as the interests of the group members. Once again, this requires the teacher to use a variety of assessments for decision-making. The book selected for the small group lesson should support the development of reading skills and strategies needed by that particular group. Therefore, there cannot be one sequential formula outlining the order of books or stories read for all students. The materials that are used are differentiated to meet the needs of the learners. Teachers should use a variety of genres at the instructional level of each group as well.

What about a state or district mandated core reading program? The core program, if chosen wisely, provides some assurance that there will be systematic instruction within and across the grades. At the same time, the core is just that—the core! Most teachers are not required to use only the core program provided by their district. Therefore, they may and should select appropriate materials to use when differentiating instruction. A colleague of Ms. Martin’s decided to spend additional time on expository text with a small group of readers who seemed to struggle with that type of material used in the core curriculum. Based on informal conversations with students in their individual conferences, she chose the book *Iditarod: Dogsled Across Alaska* (Fuerst, 2000) as the teacher knew that her small group of students would be motivated to read and learn from this text.

Length and Frequency of Instruction

Teachers often ask how long a differentiated reading lesson should last and how often these lessons should occur. These are decisions that only a well-prepared teacher can make, using formal assessments and anecdotal records as a guide. The answer to the question will change from one grade level and classroom to the next, based on the needs of the learners. All students should receive daily instruction in the whole-class lesson. However, struggling students may need to be instructed more frequently than other students in a small group in order to make accelerated progress. Students reading above grade level may benefit from opportunities for independent practice, so they may not meet with the teacher as frequently. On the other hand, students experiencing difficulties may require additional time and the teacher may need to work in very small two to three person groups or one-on-one with them. Attention level, text length, and depth of lesson focus will all be used to determine the length of time for the meeting. The frequency of these instructional meetings should change over the course of the year as responsive teaching changes over time, as do the needs and strengths of the students.
Lesson Focus

There is much to consider when planning a reading lesson. Teachers must attend to the state standards for their grade level, which inform their district’s curriculum. Teachers must also weave the required curricular components into their whole group, small group, and individual lessons. In some school districts this includes the constraints of a mandated reading program and/or concerns regarding standardized test preparation. At the same time, the knowledge base of the children must be considered.

Teachers must be able to accelerate struggling readers, increase the ability of average readers, and continue to challenge the students who read above grade level in their classroom. This cannot be accomplished by simply following a mandated reading program as it is a huge undertaking that requires the teacher to possess a deep knowledge of the reading process and student learning. It is only with this deep knowledge that a teacher can make informed decisions about what to teach in the small group lesson. Before and during each lesson teachers must consider the needs of the learners in order to decide which comprehension strategies to stress, how to build and maintain fluency, and which word-level skills and strategies to teach. Ultimately, if children are taught how to successfully comprehend all types of text, they may perform well on standardized measures.

Summary

What should the teacher differentiate? Past research demonstrates that differential pacing of the same material and/or lesson does not work (Barr, 1973, 1975; Allington, 1983). The recurring message from research is that it is the teacher, not the programs or materials that makes the difference; therefore, only a well-prepared teacher can effectively differentiate reading instruction for students (IRA, 2000; Taylor et al., 2002). Ms. Martin exemplifies such a teacher. She is aware that a one-size-fits-all model of teaching will not meet the needs of her diverse learners. She possesses a deep understanding of the reading process and the needs of the students in her classroom.

Ms. Martin knows that research tells us that in order to accelerate the learning of struggling readers, the text level is important (Allington, 2005, 2006; McGill-Franzen et al., 2006). Therefore, materials used in small group reading lessons must be differentiated. In Ms. Martin’s classroom each reading group is matched to an interesting text at the instructional level of the members and the amount of time spent in small group instruction is differentiated across the groups as well. Ms. Martin bases the decision about lesson length and frequency on the needs of the
group members. True differentiation means that the lesson focus will be different for each group. Within one classroom some students may need help with beginning phonics skills, while others need to strengthen their ability to summarize information from text. Ms. Martin, and other expert teachers, crafts each lesson based on the developmental needs of the learner. Finally, the level of teacher support/scaffolding varies across groups in the differentiated classroom. The struggling readers in classrooms like Ms. Martin’s receive more teacher support than the average readers. Students reading above grade level spend more time applying newly taught strategies independently. There is no simple solution to differentiated reading instruction. The answer to the question, “what do I differentiate?” is simply complex: it depends on the students.

References


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Looking Twice at Illustrated Books

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Illustrations often lure would-be readers into books. Illustrations in today’s books do more than just provide a visual accompaniment to text. They can also establish setting, define and develop characters, provide differing viewpoints, extend or develop the plot, establish mood, and provide interesting asides (Tunnell & Jacobs, 2008). While it has been said that a picture is worth a thousand words, illustrations have the power to engage the reader and support the text. Today’s books offer a wide range of illustrated formats guaranteed to attract readers with their sumptuous colors and painstaking details. The role of illustration varies from the traditional picture book with illustrations on every page to chapter books with illustrations sprinkled across several pages. In the case of graphic novels illustrations are at the heart of the books, carrying the text across vividly imagined panels. In addition, teachers are increasingly aware of the role of the visual literacy component in their students’ developing literacy. Often they are amazed that their students see things in book illustrations that the teachers themselves missed, creating many interesting discussions and prompting teachers to take another look at the illustrations in books.

On the following page are some of our recent favorite illustrated books for children young and old.
Have you ever speculated about your favorite fairy-tale characters’ activities before the “once upon a time?” Perhaps you have wondered what Jack and Jill were arguing about before going up the hill? Ahlberg explains what the characters were doing previously and helps readers see how their lives interconnect. Ingman’s cartoon-like illustrations are the perfect complement to this delightful read-aloud tale.


With engaging, rhythmic patterns in the text and lush, greenish acrylic paintings that almost ooze with Southern humidity, this book depicts the animals and plants in the Okefenokee Swamp in an appealing fashion. The book would be perfect as a read-aloud for a science unit on swamps or ecosystems.


Ever since he was two, Iggy Peck has loved to build. Luckily for him, his understanding parents encouraged that creativity, and his love for architecture continues unabated until a second grade teacher tries to redirect his efforts. But Iggy gets his revenge when his skills are needed during the class picnic. Readers will love
the story of a creative spirit, accompanied by equally creative illustrations with lines and colors that pay tribute to the world of building.


Street magician Ray loves his rabbit, Bunny, as they work and play together every day. One day, however, they are separated, and Bunny has to find his way back to Ray in a crowded, confusing city. The pen, ink, and watercolor illustrations lend a nostalgic, mysterious air to this engaging tale and the glittering yellow stars sprinkled across the pages will attract young readers just as quickly as they attract Bunny.


When her grandmother sends Salma to the market, she warns her about talking to strangers. But the wily Mr. Dog tricks her into chatting with him and giving up all of her possessions on the way home. The watercolor illustrations pulse vibrantly, and the artist has depicted the story’s West African setting with careful detail and lovely colors. Daly’s cautionary tale is blended with humor and attractive characters.


Elegant pastels depict the life and loves of Martina, a green cockroach who lives in a streetlamp in Cuba. When the time comes for Martina to choose a husband from among her suitors, her grandmother suggests that she use the coffee test to determine their temperaments. By spilling coffee on each suitor, she will be able to observe each one’s reactions to something unpleasant. Martina’s expressively drawn eyes and engaging demeanor will captivate readers young and old.

In expressive text, Fleming introduces young readers to the characteristics and activities of beetles. “Chewing beetles, sawing beetles, noisily gnawing beetles.” The rhythmic, simple text literally dances with Fleming’s trademark illustrations, which are created by pouring colored cotton fiber into hand-cut stencils. Children will beg to hear this book read again and again.


Lizzy loves nothing more than playing in the apple tree in her yard. All year long, the tree provides her with lots of fun and adventure. Lizzy’s world changes when it is time for her to begin school. Her mother teaches her how to make an apple doll. It is this doll that helps Lizzy overcome her shyness and make new friends at school. Kleven’s watercolor illustrations are highlighted with bits of decorated paper collage to create comfy and inviting images.


Is it the poems or the amazing cut-paper illustrations or their perfectly imagined partnership that makes this volume so appealing? Worth and Jenkins focus on twenty-three different animals in this memorable tribute to the fascinating creatures who share this world with us.


In a tribute to the Friday breakfasts the author/illustrator shares with his son Michael, he offers readers a rich slice of their life and what has become a family ritual. A father and his son take the time to stroll to their favorite restaurant for breakfast, savoring the sights, smells, and surroundings of their neighborhood along the way. The artist used gouache on watercolor paper to convey a sentimental feel to the book’s illustrations and to remind readers that there’s something special about quality time spent between parent and child.
Grades 3-5


Readers will gasp at the amazing photographs that fill this eye-catching book. Bishop’s use of a hand-built shutter and special flashguns combine with his infinite patience in waiting for just the right shot to create a book that kids and curious adults will be compelled to read more than once. The kid-friendly text will insure that readers will view the arachnid world in a different light.

Judge, Lita. (2007). *One thousand tracings: Healing the wounds of World War II.*

The soft, watercolor illustrations add a depth of feeling and nostalgia to a time period when strangers helped other strangers, and the author’s family rallied their neighbors to send supplies to the suffering Europeans during World War II. The story and the artwork including replicas of the tracings of feet sent to the author’s family so that the right size of shoes could be mailed overseas lend an air of authenticity to the story and remind readers of the many individuals who suffer as the result of wartime conflict.


The golden glow of the lamplight, the sweeping ceiling arches that reach for the sky, and the bustling human presence all fill the pages of this nostalgic look at the original Pennsylvania Station, a train terminal that once moved passengers through New York City. The author describes how the terminal was demolished to save money and to make room for a sports stadium, and as the reader sees every speck of the beautiful building destroyed Low leaves us filled with both an appreciation and a yearning for the beauty of yesterday. His sympathetic paintings, some of them spilling across two pages, are a combination of oil and digital creations, and the observant reader will notice his brushstrokes in the walls and shadows of the station.
Miller, Kate. (2007). *Poems in black and white*. 

The monotype illustrations that cover the pages of this lovely book add a shimmering quality to the poems that celebrate the commonplace in our world: crows, bowling pins, the white in a mother’s hair. Moment by moment, Miller finds something remarkable in the world around her and celebrates what she finds in words and art.

Illustrated and translated by Mordicai Gerstein. 

Who knows where inspiration comes from? This delightful poem and the accompanying illustrations offer one answer to that question and remind us that sometimes we must wait patiently for inspiration to come. Exploring the notions of art and creativity and the eternal appeal of Nature’s beauty, the artist uses delicate colors juxtaposed with the bright blues and reds of a songbird perched on a boy’s windowsill to fill the reader’s senses.

Illustrated by Rosemary Woods. 

The Asian tsunami in 2004 and Hurricane Katrina in 2005 reminded average citizens of the awesome power of water, and in this timely book, the author and illustrator pay tribute to the life-giving but not limitless quantity of water. The illustrator has dipped into her palette to spread blues of every color in the delicate illustrations that flow fluidly across two pages. The back matter offers tips for how young readers can conserve water and preserve the limited available water supply.

Wilson’s exemplary word choice makes this recipe for America a perfect anchor text. “Add purple mountain majesties. Measure out meekness and might. Pour cupfuls of courage, as much as you please; then leaven with dawn’s early light.” Colón’s ink and watercolor illustrations enhance meaning when they are whisked in with Wilson’s well-written text.


Twist is a collection of 16 poems—each about a different yoga pose. Wong employs lyrical language to create a poetic essence for the yoga positions. Paschkis’s bright and beautiful watercolors present a mirror image for each poem. The illustrator’s striking images of people of diverse ethnicities and body sizes were influenced by her study of Indian miniatures and paisley.

**Grades 6-8**


Middle school can be tough—especially when you begin the year with the “cheese touch” as is the case with Greg Heffley. Although he wants to forget the events from the last school year and the summer, his older brother Rodrick has no intention of letting him do so. The text, written in diary form, is lavishly supported with simple line drawings depicting Greg, Rodrick and his garage band, little brother Manny, their somewhat clueless parents, and Greg’s classmates.

Since it was first published in 1987, the story of thirteen-year-old Brian Robeson’s survival following a plane crash has become a modern classic. Stranded in the desolate Canadian wilderness, Brian uses his instincts and his hatchet to stay alive for fifty-four harrowing days. He learns to not only survive the wilderness but also the effects of his parents’ divorce. This twentieth-anniversary edition of *Hatchet* contains a new introduction and sidebar commentary by Gary Paulsen, along with Drew Willis’s detailed pen-and-ink illustrations that both complement the descriptions in the text and add a new dimension to the book.


Twelve-year-old orphan Hugo Cabret lives in the walls of a Paris train station at the beginning of the 20th century, spending his hours making sure the clocks are working. His life of secrecy ends though, when he meets a girl named Isabelle who loves books. Before his death, Hugo’s father, a clockmaker, had discovered an automaton in a museum where he worked. Hugo has a notebook in which he has recorded the inner workings of this automaton, a human-like robot ready to write a message. Many of the 284 pages are illustrations rendered in charcoal lending a filmic quality to the book, and readers can speed through the book’s pages with ease. The author/illustrator has said that he used a magnifying glass to complete the drawings, working in a one-quarter scale. The web links to filmmaker George Melies and automatons at the back of the book will guarantee that readers stay hooked on this topic.


In this masterfully created wordless graphic novel, a man tearfully leaves his family for an unfamiliar place where he undergoes all sorts of confusing tests.
Unable to speak the language of his new home, he must communicate through gestures. He must also figure out what to eat and where to sleep, resorting to sketching to meet his basic needs. The book has a surreal quality about it, mirroring perfectly, with its tonal illustrations, the feeling of disorientation experienced by many immigrants entering a new country. The reader enters this confusing world from the book’s first pages with endpapers including headshots of immigrants from many different countries and an inspection notice with odd-looking stamps and indecipherable marks.

**Grades 9-12**


The engaging illustrations in this gripping graphic novel reveal the hope and despair that Laika, the first dog in space, experiences throughout her life and the pain and loneliness she endured during her preparation for her voyage into space. The artist brings to life the emotions that flit across the faces of the creatures, human and canine, at the heart of this powerfully imagined story of trust and betrayal. Three lives and three different purposes intertwine in the compelling story of Laika, Yelena, the lab technician who trained her, and Korolev, head of the Soviet space program responsible for sending Laika into space—and then leaving her there. Laika’s sacrifice is made especially poignant with the realization that little scientific knowledge was gained as the result of the Soviets’ experiments.

Illustrated by Ellen Forney.  

Readers will wipe tears of laughter and sorrow, by turn, from their eyes as they read the mostly autobiographical story of Arnold (Junior) Spirit, a Spokane Indian with many health problems. When Junior leaves the reservation school for a
chance at a better education, he is swept up into the white world of his new school and feels caught between two very different cultures. The story is given additional appeal through the cartoonish illustrations that depict Arnold’s sister Mary Runs Away and a culturally-confused Arnold, divided right down the middle between the white world he enters on a daily basis and the world of the reservation he returns home to every night.

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