

Learning the *write* way

The writing-to-learn approach can be used across disciplines to foster critical thinking skills.

Writing has long been recognized as the connector between reading and comprehension (Britton, 1972; Emig, 1977). The act of writing, whether in short sentences or lengthy paragraphs, helps students make connections between what they read, what they understand, and what they think (Carr, 2002; Langer & Applebee, 1987). Research supports that students who use writing-to-learn strategies build stronger comprehension skills than their peers who do not actively engage in writing about their learning (Duke & Pearson, 2002; Haneda & Wells, 2000). However, despite an academic acceptance of writing as an effective means of learning, many teachers do not include writing components in their lessons. Some teachers consider writing the domain of the language arts or think they must be accomplished writers themselves in order to teach writing; others see writing as a time-consuming activity that will take away from content learning (Nagin & National Writing Project, 2003). Those teachers who do include writing components document more student involvement in their own learning and greater gains on test scores (Flores & Brittain, 2003; Kneeshaw, 1992; Swafford & Bryan, 2000).

Background on writing to learn

Exactly what is writing to learn? Writing to learn is different than writing to communicate, or what James Britton would call “transactional writing” (as cited in Fulwiler & Young, 1982, p. x). In transactional writing, the purpose is to convey, instruct, or sway. In writing to learn, students use lan-

guage to shape, order, and represent their own experience to reach fuller understanding (Fulwiler & Young, 1982). In addition, students are encouraged to use a variety of problem-solving skills and thought processes, fostering critical thinking skills. Students become better communicators and learners as a result.

Writing to learn, a component of a larger program called writing across the curriculum, is based on the simple idea that the writing process is very similar to the speaking, thinking, and learning processes (Bangert-Drowns, Hurley, & Wilkinson, 2003). If students can learn by writing, then writing can provide a means of learning in other disciplines. This type of learning creates a personal transaction through which the student takes ownership of learning and builds meaning (Mayer, Lester, & Pradl, 1983). Primarily, writing to learn is an effective tool in helping students become active instead of passive learners, and the classroom becomes student centered rather than teacher centered. Writing to learn can be effective in helping students improve test scores and become improved achievers overall because it uses language to facilitate understanding. But writing to learn is useful for much more than information retention and raising test scores; it helps students reflect and think critically about content. Writing to learn encourages students to self-question, activate prior knowledge, infer, and use their imaginations—all of which lead to original thoughts and insights (Nagin & National Writing Project, 2003, p. 55).

Influence of writing on reading comprehension

Writing to learn is also an excellent tool for building reading comprehension. Readers engage in meaning making when they incorporate deliberate problem-solving and thinking strategies; these

comprehension strategies are best taught through explicit instruction and are highly effective in enhancing understanding (National Institute of Child Health and Human Development, 2000). Teachers who implement reading comprehension strategies are often using writing to learn, even though they may not recognize them as writing strategies. Some teachers see writing to learn as a part of the English or language arts classroom and not applicable to their classroom (Andrews, 1997). But the physical act of writing plays a large part in the development of metacognitive skills (Carr, 2002). Writing fosters the development of reasoning skills and provides students with ways to organize and analyze the material they have read (Fellow, 1994; Kuhn, 1993; Swafford & Bryan, 2000). Vygotsky, Luria, and Bruner found that writing also develops higher cognitive functions such as analysis and synthesis, functions that involve both hemispheres of the brain (as cited in Emig, 1977). Odell (1980) found that “the process of writing entails some conscious exploration of subject matter one is to write about” (p. 104). This conscious exploration allows the writer to make connections with the subject matter and with himself or herself, encouraging reflection on what he or she knows and has learned. Researchers have also found that comprehension strategies that include writing prove successful with general classroom learners as well as those with mild learning disabilities (Baumann, Hooten, & White, 1999; Lebzelter & Nowacek, 1999; Mastropieri & Scruggs, 1997).

The writing process can be especially problematic for students with learning disabilities. Chalk, Hagen-Burke, and Burke (2005) noted that writing can be very frustrating for secondary students with learning disabilities because they are required to write expository, narrative, and informative texts as part of state and federal tests in order to move up in grade or graduate. Because these students often launch into writing without planning their responses, these requirements can be difficult for them to achieve at the secondary level (Chalk et al., 2005). Teachers at the elementary level can use writing to learn to teach comprehension and encourage writing skills in their students with learning disabilities. If teachers reinforce informal writing processes in elementary school, more opportunities will exist to shape and hone students’ writing skills long before they reach high school.

As students become comfortable with writing-to-learn processes, teachers can gently prompt them to produce just a little more, to expand an idea or follow a line of questioning to its logical conclusion. This approach better prepares all students for the writing required of them in secondary school.

Writing-to-learn strategies: K-W-L and reading journals

The K-W-L chart (Ogle, 1986) represents what students *Know*, what they *Want to know*, and what they *Learn*, all used in conjunction to build comprehension with expository texts, such as those used in science and social studies classes. K-W-L charts can be used by an entire classroom as a group-learning strategy or by individuals; students first write what they already know about a subject (K section) and then explore what questions they may want answered (W section). Schema theory serves as the foundation for the *Want to know* section of the chart, allowing students to access background knowledge and use self-questioning to direct their focus as they read (Jared & Jared, 1997). The *what is Learned* section provides students the opportunity to reflect on what they take away from the text.

Fisher, Frey, and Williams (2002) found that K-W-L charts helped students organize their inquiries; however, this study did not have students refer back to the K or W sections of the chart. Referring back to the K and W sections of the chart gives students the chance to confirm that what they thought they knew was accurate and that all their questions have been answered. The K-W-L Plus chart (Carr & Ogle, 1987) invites students to add another section to the chart: what else the student wants to learn. This type of chart encourages students to continue their exploration of a subject and provides an opportunity to do research. Jared and Jared (1997) included semantic mapping and summarization in K-W-L to make connections between categories and improve overall comprehension of the material. Sampson (2002) had students use K-W-L and analyze the source material to confirm accuracy of the L section. McAllister (1994) used K-W-L successfully in compensatory education classes for grades 1 through 3 for comprehension and to elicit group response. K-W-L charts have

also been used as a stylistic device to guide journal responses (Cantrell, 1997) and in conjunction with focus questions (Huffman, 1998) to encourage in-depth examination of the material.

Cantrell, Fusaro, and Dougherty (2000) compared the learning outcomes of students using a K-W-L journal style compared to a peer group using summary journals in a middle school social studies classroom. The K-W-L journal incorporated the three parts of the K-W-L but had students write in paragraph form rather than using a bulletted chart. Students who used the K-W-L journal learned more than those using summary journals; the authors of the study concluded that activating prior knowledge and engaging in prereading activities prompted the greater gains. This study also suggested that the type of writing a student uses can affect comprehension gains.

Reading journals (also referred to here as learning logs) allow students to engage in writing to learn while responding to their reading. Students are encouraged to respond to what they have read and engage in affective learning (in other words, bringing personal experience into the response). Reading journals allow students to organize information and solve problems (Flores & Brittain, 2003), retain information (Countryman, 1992), make connections with math (McIntosh & Draper, 2001), encourage metacognition (Commander & Smith, 1996), and learn math and science concepts (Ryan & Rillero, 1996). Learning logs also help students refine their understanding by connecting with prior knowledge and experiences (Wollman-Bonilla, 1989) and assess and reflect on their learning (Parker & Armengol, 1995). Nugent and Nugent (1989) found that learning logs facilitated greater student synthesis of information.

Porter and Masingila (2000) compared writing to learn in mathematics with classroom discussion groups and found no significant difference in the gains made by the writing group over the discussion group; both methods allowed students to work out concepts and make learning connections. However, not all classrooms are designed to support regular discussion groups, and many students are too shy to actively participate in large groups. Writing to learn, through K-W-L, reading journals, and a variety of other strategies, gives students the opportunity to reflect and develop critical thinking

skills, and they give teachers opportunities for informal assessment.

Writing to learn: Recommendations for the classroom

Writing to learn can be used by any teacher and integrated in all subject matters, from reading or math journals where students can reflect on what they have learned or explain solutions for problems, to K-W-L charts that activate students' prior knowledge and help them make connections between what they know and what they learn. Students can make observations, write predictions, and draw conclusions, all within the framework of writing to learn. Social studies classes offer students the chance to contemplate historical events and write personal responses to the events they study. What classroom has not engaged in passionate discussions about the Holocaust or the Civil Rights movement? Writing creates a permanent record of a student's thoughts and attitudes, a record one can return to as one learns and grows. While discussion groups also stimulate the thinking and learning process, students cannot as easily return to memory as they can to a journal. Writing to learn gives students the chance to practice different types of writing and to learn and retain more content through the writing process, even though the writing style is informal. Writing need not take the form of a five-paragraph essay or 10-page research paper to be effective. Informal writing allows students to organize their thoughts and draw conclusions about information. Using comprehension strategies like K-W-L charts and reading journals also puts students at ease. Informal writing affords the opportunity for deep reflection without fear of punitive response from a teacher. K-W-L charts and reading journals are assessed for content and to measure learning; they are not graded for grammar and spelling, so by their very nature they create a "safe" writing zone for students.

Jared was a second grader who enjoyed reading and writing activities but tended to verbalize more information than he wrote in his journal. Like many students his age, Jared was eager to share his response to a book in a one-on-one setting, but he would often become more stilted when asked to write. At first, a typical entry in his reading journal

FIGURE 1
Jared's reading journal

The True Story of the Three Little Pigs, The Three Little Pigs, and The Three Little Wolves and the Big Bad Pig are all funny. The illustrations were the thing that really made them funny. When one of the pigs was on a paper airplane he said WEEEEEE. I think the author could have called the title The Revenge of the Three Little Pigs. I really liked these storys.



might consist of statements like “I liked this book” or “It was a good book.” But as the reading journal became a consistent part of his learning experience, Jared became more comfortable expressing his thoughts in writing. Figure 1 represents his response to three similar stories: *The True Story of the 3 Little Pigs!* (Scieszka, 1989), *The Three Pigs* (Wiesner, 2001), and *The Three Little Wolves and the Big Bad Pig* (Trivizas, 1993). He was particularly interested in the way the pigs in *The Three*

Pigs managed to leave their own story, fold up one of its pages, and go for an airplane ride. He decided that a new title might have served Wiesner’s story better: “The Revenge of the Three Pigs.”

Jared’s response still includes some basic sentences about how he liked the stories and thought they were funny. But he moved beyond simply stating the obvious and made a connection—the story could support another title because of the main characters’ actions. Jared read the three books and

BIBLIOGRAPHY OF RECOMMENDED TRADE BOOKS BY SUBJECT

Science

Ballard, R.D. (1993). *Exploring the Titanic*. New York: Scholastic.

Written in narrative form by the scientist who discovered the *Titanic's* remains, this book uses artist renderings and real photographs to show how *Titanic* was in 1912 and in 1986. Included in the text are extra "boxes" in the margins, which give pictures and explanations of how the ship sank and how it came to rest on the ocean floor.

Cannon, J. (2004). *Pinduli*. New York: Scholastic.

Pinduli, an East African hyena pup, learns to value her own special characteristics in the face of teasing from other African brush animals such as wild dogs, a lion, and zebras. All the animals learn a lesson in appreciating what makes them (and others) unique.

Cannon, J. (1997). *Verdi*. New York: Scholastic.

A baby python decides he does not want to grow up and lose his beautiful yellow skin. He attempts a range of daring feats in order to prevent getting older but finds there are special things that come with growing up and that turning dark green is not as terrible as he feared.

Maestro, B. (1994). *Bats: Night fliers*. New York: Scholastic.

This nonfiction book on bats explains how bats live, eat, and fly. The text is accompanied by detailed illustrations, making this an ideal book for upper-elementary students. Various species of bats are introduced, as are their life cycles and migrating habits.

Sis, P. (1993). *Komodo!* New York: Greenwillow.

A young boy's dream comes true when his parents take him to the island of Komodo so he can see a real dragon. He finds that things are not always as they appear in books.

Social studies

Bunting, E. (1995). *Cheyenne again*. New York: Clarion Books.

Young Bull is forcibly taken from his Cheyenne village to become "American" in this realistic story set in the 1880s. The book explores how Native American children were required to forget their heritage as part of the government's effort to "civilize" Native Americans.

Curtis, G. (1998). *The bat boy and his violin*. New York: Simon & Schuster.

While the book is primarily about a father's coming to terms with his son's musical, rather than athletic, aspirations, it also offers a unique look at the Negro Baseball Leagues of the 1940s and '50s. Reginald has to work as the bat boy for his Papa's team, the Dukes, but perseveres in practicing his violin with pleasant but unexpected results.

Mitchell, M.K. (1993). *Uncle Jed's barbershop*. New York: Simon & Schuster.

This story shows an African American family and community working together for the greater good. Segregation and discrimination are shown without bitterness, which gives this book strong moral purpose. Uncle Jed takes each setback in stride and maintains his commitment to family, and his dream is realized toward the end of his life.

Polacco, P. (2004). *John Philip Duck*. New York: Philomel Books.

John Philip Duck, named for his favorite composer John Philip Sousa, earns the distinction of being the first of the famous Peabody Ducks at the Peabody Hotel in Memphis, Tennessee. Young Edward Pembroke rescues the abandoned duckling and raises him to respond to Sousa's marches while hiding him in the grand hotel where he works. Ultimately, Edward starts what will become a Peabody tradition: the ducks marching down the red carpet to swim in the hotel's fountain.

Multiculturalism

Jordan, D., & Jordan, R.M. (2000). *Salt in his shoes: Michael Jordan in pursuit of a dream*. New York: Simon & Schuster.

Michael Jordan's mother and sister tell the story of the young basketball player's hopes to become tall enough to help his older brothers win their Saturday games at the park. Through patience, prayer, and hard work, Michael grows up to realize his dreams.

Kimmel, E.A. (2003). *Three samurai cats: A tale from Japan*. New York: Holiday House.

Kimmel's retelling of a Japanese folk tale features docho dogs and samurai cats, all trying to defeat a rather unpleasant rat. In the end, thinking triumphs over fighting and an unlikely hero solves the problem without resorting to swordplay.

Say, A. (1993). *Grandfather's journey*. Boston: Houghton Mifflin.

The narrator's grandfather travels between Japan and America, enjoying both countries and missing one while he is in the other. Asian culture is shown in a very positive light; because he travels back and forth, the grandfather seems more like an explorer than an immigrant. This book won the 1994 Caldecott Medal.

(continued)

BIBLIOGRAPHY OF RECOMMENDED TRADE BOOKS BY SUBJECT (continued)

Multiculturalism (continued)

Soto, G. (1995). *Chato's kitchen*. New York: Putnam.

Soto's story illustrates the tight-knit relationships in the Latino community. Chato the cat and his friend Novio Boy invite a family of mice over for dinner with unexpected results. Soto sprinkles Hispanic words amid the English, providing a multicultural story that teaches some basic Spanish words.

Mathematics

Gerstein, M. (2003). *The man who walked between the towers*. New York: Roaring Brook Press.

Gerstein's Caldecott Medal-winning story of Philippe Petit, the French high-wire artist who walked between the World Trade Center towers in August 1974, paints a story of hope against the empty sky that once held the Twin Towers. This story encourages readers to examine September 11, 2001, from an entirely different perspective. Each page is rich with mathematics, inviting readers to measure and convert.

Schwartz, D.M. (1994). *If you made a million*. New York: HarperTrophy.

This money book explains financial mathematics in terms students will understand and enjoy. Money is broken down from dollars into quarters, dimes, nickels, and pennies. Money concepts, such as interest, savings, and writing checks, are explored. The endnotes include information about the value of money, banking, taxes, and loans.

Wells, R. (1997). *Bunny money*. New York: Dial Books for Young Readers.

Rosemary Wells's character Max shows young students how easily money gets spent. While on a trip to buy a present for his grandmother's birthday, Max and his sister, Ruby, learn the value of a dollar. The book includes reproducible *bunny money* so students can practice adding and subtracting.

Language arts

DiTerlizzi, T. (2000). *Jimmy Zangwow's out-of-this-world moon-pie adventure*. New York: Simon & Schuster.

Jimmy's favorite snack is moon pie. When his mother tells him he cannot have a snack before dinner, Jimmy decides to get his snack straight from the source: the moon. He also needs a glass of milk from the Milky Way but runs into trouble from the Grimble Grinder. Despite all obstacles, Jimmy still makes it home in time for dinner (and moon pie for dessert).

Scieszka, J. (1989). *The true story of the 3 little pigs!* New York: Viking Juvenile.

Told from the wolf's point of view, this story gives readers' the scoop on what *really* happened the day the three little pigs encountered the big, bad wolf. According to the wolf, the whole big, bad rap was nothing but an attempt to frame him.

Trivizas, E. (1993). *The three little wolves and the big bad pig*. New York: Margaret K. McElderry.

This twist on the traditional Three Little Pigs story is heartwarming and funny. In this tale, the wolf siblings work together to make their way in the world, and they depend upon the kindness of strangers to provide them with building materials. When they cannot keep the pig out, the wolves try a different tactic, which dramatically changes the ending and the moral of the story.

Wiesner, D. (2001). *The three pigs*. New York: Clarion Books.

Wiesner tells the familiar story from a graphic artist's point of view and invites the reader to wonder: What if characters could leave their storyboard illustrations and visit new books, thus changing the outcome of their stories? This question is answered in this Caldecott Medal-winning book, much to the dismay of the wolf.

wrote in his reading journal without prompting; his written response showed the connections he made with the texts. His writing did not add to the teacher's workload but rather provided her with insight on his thought processes. Research indicates that Jared's familiarity with writing personal responses to his reading suggests he will be more likely to engage in affective reading and mature writing in the future, skills that will serve to help him succeed in school and in life.

Narrative texts such as those read by Jared are very effective in engaging students' interest and providing excellent response material. Trade books like *Salt in His Shoes* (Jordan & Jordan, 2000), *The Bat Boy and His Violin* (Curtis, 1998), and *John Philip Duck* (Polacco, 2004) all portray African American youth fulfilling their dreams, some in the context of historical settings (*The Bat Boy and His Violin* takes place during the era of the Negro Baseball Leagues; *John Philip Duck* is set during

the Great Depression). These books can be used in social studies or as part of a unit on African American history. *Komodo!* (Sis, 1993), *Verdi and Pinduli* (Cannon, 1997; 2004), and *Bats: Night Fliers* (Maestro, 1994) are excellent picture books about exotic animals, and they all include factual information about the creatures. These books work well with science units or as part of an animal unit in lower elementary classrooms. Because most students will have some familiarity with the characters and settings of these types of books, K-W-L charts can be used to activate prior knowledge and personal schemata; reading journals will give students the chance to respond to the stories and write their own anecdotes.

Fantasy stories are also effective to use in content area classes. Retellings of classic fairy tales, such as David Wiesner's *The Three Pigs*, Eugene Trivizas's *The Three Little Wolves and the Big Bad Pig*, and Jon Scieszka's *The True Story of the 3 Little Pigs!* are excellent books to generate Venn diagrams and K-W-L charts. Students can list what they know about the original fairy tale and then begin listing the things they would like to know about these individual stories with different titles and cover illustrations. While these books work well in reading and language arts classrooms, they can also be used in a math class (Trivizas's wolves are engineers and build amazing homes with a variety of tools), a journalism class (Scieszka's wolf gets written up in the *Daily Wolf*), or in an art class (Wiesner's pigs leave their own storyboard and visit other books).

Content area textbooks provide texts for students to interact with while learning the material for lessons and state assessments. Children in kindergarten can respond with simple sentences and drawings to the material. Students in grades 1 through 3 can keep science journals and math logs to record ideas, struggles, and new concepts. Older students can be encouraged to write more in-depth responses to classroom lessons, and teachers can use these responses as starting points for mini lessons on writing. Writing to learn strengthens the connections that students make with the material in the classroom. Writing promotes active participation and learning, and many students find keeping reading response journals and making K-W-L charts fun and engaging. Teachers do not have to grade

the written material, only observe and assess how students are responding and learning.

Writing is not the exclusive domain of the language arts; this cannot be stated often enough (Andrews, 1997; Nagin & National Writing Project, 2003). Writing is a tool for thinking. All knowledge is best absorbed and applied when students make it their own. Writing-to-learn allows students to make inferences, draw upon prior knowledge, and synthesize material, therefore taking their thought processes to an evaluative level (according to Bloom's taxonomy). Educators are better able to assess what students learn as well. A student's ability to simply repeat facts is not a true measure of his or her education. No other exercise in the classroom generates higher thinking skills than does writing.


Writing for a better future

Writing to learn, to build comprehension and understanding, is a method any teacher in any area can implement and use successfully with students. Teaching students how to make connections with and respond to the text allows students to see themselves as thinkers, as knowledge seekers. According to D.H. Graves, "The reason writing helps students with learning disabilities is that they do far more than learn to write: They learn to come to terms with a new image of themselves as thinkers" (as cited in Marchisan & Alber, 2001, p. 161). All students can develop specific skills that strengthen their comprehension of what they read and help them express their thoughts clearly. The International Reading Association's position statement cites that children need the ability to question themselves about what they read and synthesize information from various sources, as well as be able to judge their own understanding and evaluate ideas and perspectives (2000). Thomas Jefferson once claimed that the purpose of education was to prepare citizens to participate in a democracy. By teaching students to think and to take ownership of what they read, teachers can prepare students to participate in their society, to make decisions based on information and personal reflection, and to make their own choices. In teaching writing-to-learn skills, teachers may best be fulfilling their role as educators.

Gammill is a doctoral student at The University of Southern Mississippi (307 South 22nd Avenue, Hattiesburg, MS 39401, USA). E-mail Deidra.Gammill@usm.edu.

References

- Andrews, S.E. (1997). Writing to learn in a content area reading class. *Journal of Adolescent & Adult Literacy*, 41, 141-143.
- Bangert-Drowns, R.L., Hurley, M., & Wilkinson, B. (2003, Spring). *How does writing affect learning? A review of the research*. The National Research Center on English Learning and Achievement. Retrieved June 7, 2003, from <http://cela.Albany.edu/newslet/spring03/howdoes/html>
- Baumann, J.E., Hooten, H., & White, P. (1999). Teaching comprehension through literature: A teacher-research project to develop fifth graders' reading strategies and motivation. *The Reading Teacher*, 53, 38-51.
- Britton, J. (1972). Writing to learn and learning to write. *The Humanity of English*, (pp. 32-53). Urbana, IL: National Council of Teachers of English.
- Cantrell, R.J. (1997). K-W-L learning journals: A way to encourage reflection. *Journal of Adolescent & Adult Literacy*, 40, 392-393.
- Cantrell, R.J., Fusaro, J.A., & Dougherty, E.A. (2000). Exploring the effectiveness of journal writing on learning social studies: A comparative study. *Reading Psychology*, 21, 1-11.
- Carr, S.C. (2002). Assessing learning processes: Useful information for teachers and students. *Intervention in School and Clinic*, 37, 156-162.
- Carr, E., & Ogle, D.M. (1987). K-W-L plus: A strategy for comprehension and summarization. *Journal of Reading*, 30, 626-631.
- Chalk, J.C., Hagan-Burke, S., Burke, M.D. (2005). The effects of self-regulated strategy development on the writing process for high school students with learning disabilities. *Learning Disability Quarterly*, 28(1), 75-88.
- Commander, N.E., & Smith, B.D. (1996). Learning logs: A tool for cognitive monitoring. *Journal of Adolescent & Adult Literacy*, 39, 446-453.
- Countryman, J. (1992). *Writing to learn mathematics*. Portsmouth, NH: Heinemann.
- Duke, N.K., & Pearson, P.D. (2002). Effective practices for developing reading comprehension. In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say about reading instruction* (2nd ed., pp. 205-242). Newark, DE: International Reading Association.
- Emig, J. (1977). Writing as a mode of learning. *College Composition and Communication*, 28, 122-128.
- Fellow, N.J. (1994). A window into thinking: Using student writing to understand conceptual change in science learning. *Journal of Research in Science Teaching*, 31, 985-1001.
- Fisher, D., Frey, N., & Williams, D. (2002). Seven literacy strategies that work. *Educational Leadership*, 60(3), 70-73.
- Flores, A., & Brittain, C. (2003). Writing to reflect in a mathematics methods course. *Teaching Children Mathematics*, 10(2), 112-119.
- Fulwiler, T., & Young, A. (Eds). (1982). *Language connection: Writing and reading across the curriculum*. Urbana, IL: National Council of Teachers of English.
- Haneda, M., & Wells, G. (2000). Writing in knowledge-building communities. *Research in the Teaching of English*, 34, 430-457.
- Huffman, L.E. (1998). Spotlighting specifics by combining focus questions with K-W-L. *Journal of Adolescent & Adult Literacy*, 41, 470-472.
- International Reading Association. (2000). *Making a difference means making it different: Honoring children's rights to excellent reading instruction* (Position statement). Newark, DE: Author.
- Jared, E., & Jared, A.H. (1997). Launching into improved comprehension: Integrating the KWL model into middle level courses. *The Technology Teacher*, 56(6), 24-31.
- Kneeshaw, S.J. (1992). KISSing in the history classroom: Simple writing activities that work. *Social Studies*, 83, 176-179.
- Kuhn, D. (1993). Science as argument: Implications for teaching and learning scientific thinking. *Science Education*, 77, 319-337.
- Langer, J.A., & Applebee, A.N. (1987). *How writing shapes thinking: A study of teaching and learning*. NCTE Research Report No. 22. Urbana, IL: National Council of Teachers of English.
- Lebzelter, S., & Nowacek, E.J. (1999). Reading strategies for secondary students with mild disabilities. *Intervention in School and Clinic*, 34, 212-219.
- Marchisan, M.L., & Alber, S.R. (2001). The write way: Tips for teaching the writing process to resistant writers. *Intervention in School and Clinic*, 36, 154-162.
- Mastropieri, M.A., & Scruggs, T.E. (1997). Best practices in promoting reading comprehension in students with learning disabilities: 1976-1996. *Remedial and Special Education*, 18(4), 197-214.
- Mayer, J., Lester, N., & Pradl, G. (1983). *Learning to write, writing to learn*. Upper Montclair, NJ: Boynton/Cook.
- McAllister, P.J. (1994). Using K-W-L for informal assessment. *The Reading Teacher*, 47, 510-511.
- McIntosh, M.E., & Draper, R.J. (2001). Using learning logs in mathematics: Writing to learn. *Mathematics Teacher*, 94, 554-557.
- Nagin, C., & National Writing Project. (2003). *Because writing matters: Improving student writing in our schools*. San Francisco: Jossey-Bass.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No.

- 
- 00-4769). Washington, DC: U.S. Government Printing Office.
- Nugent, S., & Nugent, H.E. (1989). Learning through writing: The double-entry journal in literature classes (Theory into practice). *English Quarterly*, 21, 258-263.
- Odell, L. (1980). The process of writing and the process of learning. *College Composition and Communication*, 31, 42-50.
- Ogle, D.M. (1986). K-W-L: A teaching model that develops active reading of expository text. *The Reading Teacher*, 39, 564-570.
- Parker, R., & Armengol, R. (1995). Teachers' choices in classroom assessment. *The Reading Teacher*, 48, 622-624.
- Porter, M., & Masingila, J. (2000). Examining the effects of writing on conceptual and procedural knowledge in calculus. *Educational Studies in Mathematics*, 42, 165-177.
- Ryan, J., & Rillero, P. (1996). Writing to learn math and science. *Teaching PreK-8*, 27, 78, 81.
- Sampson, M.B. (2002). Confirming a K-W-L: Considering the source. *The Reading Teacher*, 55, 528-532.
- Swafford, J., & Bryan, J.K. (2000). Instructional strategies for promoting conceptual change: Supporting middle school students. *Reading and Writing Quarterly*, 16, 139-161.
- Wollman-Bonilla, J.E. (1989). Reading journals: Invitations to participate in literature. *The Reading Teacher*, 43, 112-120.

Copyright of Reading Teacher is the property of International Reading Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.