Reading Horizons vol. 46 no. 4

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Author Copies: Authors will receive three copies of the journal in which their articles appear.

Reading Horizons (ISSN 0034-0502) is published quarterly by the Dorothy J. McGinnis Reading Center and Clinic in the College of Education at Western Michigan University. Postmaster: Send address changes to Reading Horizons, WMU, Kalamazoo, MI 49008-5255.

Subscriptions: Please see back page for subscription information.
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According to the 2000 United States Census, Americans age five and older who speak a language other than English at home grew 47 percent over the preceding decade. This group accounts for slightly less than one in five Americans (17.9%). Among the minority languages spoken in the United States, Asian-language speakers, including Chinese and other Asian and Pacific Islander languages, have increased by more than 75 percent. Further, the proportion of Asian language speakers having difficulty speaking English has almost doubled (Klein, Bugarin, Beitrana, & McArthur, 2004). Today, Chinese students are one of the largest groups of English Language Learners (ELLs) in the U.S. Children of Chinese immigrants to the U.S. face linguistic, cultural, and academic challenges. For teachers to be adequately prepared to design and implement instruction for Chinese ELLs, they must have an understanding of this population, the language differences between Chinese and English, and the most effective strategies for scaffolding language and literacy success. This article highlights two Chinese second-graders and their unique educational needs in order to provide insight and implications for instructing Chinese ELLs.
IN MARCH 1999, THE NUMBER of Asian and Pacific Islanders in the U.S. was 10.1 million (Wallraff, 2000). Among this population, 2.4 percent were Chinese speakers; and, of these, more than 80 percent spoke Chinese at home. The proportion of Asian language speakers from five to twenty-four years old who have difficulty acquiring English has increased substantially from 15 percent in 1979 to 25 percent in 1999 (Klein, Bugarin, Beitranena & McArthur, 2004). “Chinese learners are often stereotyped as high achievers and overlooked in literacy research” (Li, 2004, p. 31). As with any stereotyping, Chinese students often encounter the bias perpetuated by the “myth of the model minority.” Many Americans mistakenly assume that all Chinese students come to their new country with special academic skills and acumen. Lee (1996) and Li (2002, 2003) suggest researchers pay more attention to individual and differential achievement, especially for the under-achieving Chinese students within this population. According to Fu (2003), many Chinese immigrant “students lack the content knowledge needed for American education, have limited to no English proficiency, have no parental or adult support at home for their school work, and need to make tremendous adjustments emotionally, socially, culturally, and academically in their new lives in America” (p. xxii).

Dong (1999) advocates that, in dealing with non-native students, teachers need information about students’ native literacy learning in order to tailor their instruction. Au and Raphael (2000) emphasize that ELL (English Language Learners) instruction does not require that teachers share the same cultural, linguistic, or ethnic membership as their students. Thus, teachers should not feel limited in their ability to work with ELLs, including Chinese students, because they cannot speak the first language of their students. On the other hand, if teachers, especially mainstream classroom teachers, build up some knowledge of second language acquisition, they will learn methods to help the ELL students develop their second language and content area knowledge at the same time. According to Klein et al. (2004), students who speak minority languages and are not proficient in English need instructional programs designed specifically for them and teachers who have been trained to work with English language learners. “The narrower the gap between teacher intention and learner interpretation, the greater are the chances of achieving desired learning outcomes” (Kumaravadivelu, 1991, p. 98).
Such tenets reflect the importance of the scaffolding process (Bruner, 1975), which is based on Vygotsky's core assumptions about learning. The zone of proximal development (ZPD) is defined as "the distance between actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p.76). With adequate support, children can accomplish tasks they could not master independently. Scaffolded instruction, defined as "the sequencing of prompted content, materials, tasks, and teacher and peer support to optimize learning" (Dickson, Chard, & Simmons, 1993, p.12) assures their success. Barbieri (2002) quotes Yi Zheng, a student in a New York City school, who appears to describe scaffolding in his own writings:

Bridge
Teacher is like a bridge
give us knowledge and let
us cross
School is like the bridge pole
lift us up and don’t let
us fall
The books are like a
bridge railing
let us know it is not the way
to go there
And this bridge must be
a very big and strong
Bridge
And it can lead us to
Future. (p. 16)

Thus, Chinese immigrants perceive U.S. public school teachers and administrators to be essential components of a more secure future. However, Grant and Wong (2003) point out that "the mainstream literacy professionals have often failed to accept their role of helping language-minority learners develop skills in English reading" (p. 392). These authors conclude that the literacy performance chasm between language minority students and those whose first language is English results from
two systemic failures: (1) the failure of education programs to adequately prepare teachers to work with language-minority learners; and (2) the failure "of education researchers to engage in more substantive research on English reading development for such students [language-minority learners]" (p. 386). Therefore, we selected two Chinese second-graders, Zongyou and Xiaowei, who speak the Mandarin dialect to exemplify how Asian students have distinctly individual learning patterns, abilities and styles. The following observations of Zongyou and Xiaowei (pseudonyms) illustrate unique educational needs of two ELLs and provide insight and implications for practice.

Zongyou and Xiaowei

Classroom interactions, as well as the observations of a Chinese-speaking paraprofessional, have assisted Ms. Chang, an ELL teacher with twelve years of classroom experience, in designing instruction for the two Mandarin-speaking Chinese ELLs in her classroom. Ms. Chang teaches at a diverse metropolitan elementary school and adheres to the philosophy of scaffolding all learners to success. She is cognizant of the need to understand each student’s home language, literacy level, schooling history, and cultural background when designing and implementing instruction.

During an interview, Ms. Chang reported that her Chinese students at this elementary school tend to fall into two groups: students whose parents are graduate students at one of the universities in the community, and students whose parents immigrated to the United States for better economic opportunities. According to Ms. Chang, the children of university students usually perform very well in both mainstream and ELL classes. However, the students in the second group typically go home to an empty house because their parents work long hours; consequently, their school work often suffers. For the students in both groups, Ms. Chang actively searches for information on research-based practices, supplementary materials, social services, and tutors. In addition, because she is aware that a student’s first language development affects his or her second language acquisition process, she checks on each student’s home language development.
Many of the generalizations concerning Chinese ELLs, however, do not hold true for Zongyou and Xiaowei. Zongyou and Xiaowei are both second-grade students in Ms. Chang’s ELL class. Zongyou, the son of a graduate student, is considered by his teacher to be in need of additional instructional support. His progress has been slow and he displays a dislike for learning. Ms. Chang also reports that he tends to be a loner who only talks to teachers and seldom socializes with his peers. Initially, she was concerned that he might be autistic so she referred him to the school’s intervention team who ruled out this possibility. Further investigation revealed that Zongyou has a complicated academic history that, in all likelihood, impacted his language development. Two of his previous years of schooling were in Germany. He was enrolled in school for two weeks in Tianjin, China, before moving to the U.S. in October 2003. His prolonged absence from school was due to the prevalence of SARS (Severe Acute Respiratory Syndrome) in China. Zongyou reports that he does not like life in his current city, saying that he had more friends in Tianjin. Zongyou does not appear to understand anything his teachers say in the classes in which English is spoken. Understandably, the course he likes most is math since he knows how to answer the questions by himself, even though he does not understand the words of the mainstream teacher.

In Ms. Chang’s ELL class, Zongyou especially enjoys copying vocabulary from the blackboard and typically scores 100 percent on vocabulary tests. Zongyou chooses books with illustrations of Chinese children and asks that these books be read to him. When asked to write down some sentences to describe one of his favorite stories, Zongyou told a somewhat sad story about a little girl and her kitten, named Ginger, in Chinese. However, in his paper, he could only write down some simple English words, such as girl, kitten, Ginger, rain, and cold, instead of a whole sentence. Observations reveal that Zongyou really does not understand what is being said in class. For example, he continued to work on an activity even though the paraprofessional asked him three times to switch to the next task. Only after the instructions were translated to Chinese did he understand what was expected of him; at that point, he complied.

Zongyou seems to be introverted and has difficulty speaking in full
sentences. He does not pay attention in class and often smiles to himself as if he is having an internal dialogue. He requires constant refocusing and comprehension checks. Ms. Chang hypothesizes that some of Zongyou’s behavior may be attributed to conditions of his home environment. He is an only child, his mother is ill, and his father appears to be emotionally detached. Zongyou is an excellent example of how environmental factors can impact a child’s learning, including his second language acquisition process.

Xiaowei’s parents run a Chinese restaurant and work from 9:00 a.m. to midnight every day. When Xiaowei first arrived in the U.S., his parents enrolled him in a church-based pre-kindergarten program. During Xiaowei’s kindergarten year, he transferred to Ms. Chang’s school, one of two public elementary schools identified in the district for ELL students. By first grade, his teachers suspected that he had a learning problem due to the slow progression of his oral language development. For this reason, he was referred to the intervention team for psychological testing. Through this testing, it was determined that Xiaowei, indeed, had a language impairment. At this point, Xiaowei’s parents transferred him to a different school because of the restaurant business. The receiving school does not have an ELL program.

Xiaowei was born in Fujian, China, and came to the U.S. when he was four years old, an age at which he was still in the process of acquiring Mandarin Chinese, his first language. Xiaowei’s parents are actively involved in the process of learning English. Because they thought it would be better for Xiaowei to hear only English, they did not continue speaking Mandarin to Xiaowei. Instead, Xiaowei’s parents communicated with him in limited English, a language combining Mandarin and English without traditional grammar rules. As a result, Xiaowei has not developed proficiency in either Mandarin or English. Instead of following the language development stages usually evident in young learners (such as acquiring the “ing” verb ending first), he was actually manifesting his parents’ limited English speaking patterns. For example, he often drops functional words such as “the” and speaks in “telegraphic” chunks. When Xiaowei transferred to another school having no ELL class, his pace in learning English slowed. Xiaowei word-calls when reading stories; his comprehension is limited. Xiaowei’s
mainstream classroom teacher reports that he prefers multiple-choice reading comprehension questions to short-answer questions because he can guess with the multiple-choice format. She also believes that, with scaffolding, Xiaowei could do a better job of reading comprehension. Such scaffolding, for example, could include repeating the same item to him more than once in order to increase understanding. Even though Xiaowei is performing as a low-average student, he seems to enjoy the social aspects of school and he demonstrates much respect for his teachers.

There is evidence that Chinese ELLs, such as Zongyou and Xiaowei, are best supported in classrooms and schools in which the teachers:

1. recognize educational and cultural differences for Chinese ELL students;
2. learn contrastive analysis (language differences) for the two languages;
3. encourage the development of the student’s first language (L1), and directly teach the positive transfers from L1 to L2 (second language);
4. develop the Chinese student’s reading, writing, listening and speaking strategies for English;
5. utilize cooperative learning groups; and
6. solicit support beyond the classroom.

Recognize Educational and Cultural Differences for Chinese ELLs

As Heath and Mangiola (1991) suggest, “all cultures have unique ways of transmitting background knowledge about the world and of asking their children to display what they know” (p. 17). Zongyou and Xiaowei offer proof that Chinese ELLs differ not only from American students and other ELLs, but also from one another. However, research suggests that certain characteristics appear to be representative of the learning styles of Asian students. Anderson and Gunderson (2001) describe some of the unique characteristics of Asian cultural concepts of literacy acquisition. These include rereading of text for the purpose of memorization, correct spelling, and teacher (rather than parent) modeling
of reading. They propose that “educators need to respect and support parents’ efforts to help their children learn to read and write, even though what they do at home might not completely match what we do at school” (p. 7). This reality provides a unique set of challenges for teachers of Chinese ELLs.

Researchers Liu and Littlewood (1997) noted that Chinese students reported that listening to their teachers was their most frequent class activity. This suggests that Chinese students are accustomed to teacher-centered classrooms in their home country. By contrast, teachers in the U.S. are more student-centered with teacher-student and student-student interactions being the norm. American teachers can coach Chinese students to participate verbally, thus scaffolding them toward a more student-centered model of learning.

Some previous researchers, such as Ballard and Clanchy (1984) and Bradley and Bradley (1984), reported that Chinese students lean toward rote learning and are used to learning mechanically. Gu (2003) points out that Chinese sayings like:

‘Meaning reveals itself after a hundred times of reading’ demonstrate the integration of repetition and meaning in the Chinese learning culture. Another saying, ‘Master 300 Tang poems, and you become a poet yourself,’ might be thought of as a folk theory of implicit learning. (p. 97)

In order to identify the learning style of Asian learners, Smith and Smith (1999) conducted a study of Chinese-speaking students as compared to English-speaking students. Table 1 provides a summary of their findings.

The researchers sought to identify the self-reported learning characteristics of Chinese students as compared to Australian, English-speaking students when measured by the Approaches to Study Inventory (ASI). Deep approach, relating ideas, use of evidence, fear of failure, extrinsic motivation, disorganized study, achievement motivation, globetrotting (a measure of the ability to find supporting evidence in
multiple sources), and operation learning were found to be significant for
the Chinese learner. The Australian learners scored higher only on the
measure for intrinsic motivation. The findings in this study further
indicate that, while Chinese learners require a large number of facts to be
committed to memory, they are not surface learners; rather, they use the
remembered facts in order to construct meaning. Furthermore, these
remembered facts should derive from recognized authorities.

Table 1

<table>
<thead>
<tr>
<th>Conclusions from the Study</th>
<th>Implications for Instruction</th>
</tr>
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<tbody>
<tr>
<td>Chinese students are not surface learners and have a strong need to develop an understanding of the material. *</td>
<td>• Develop peer-to-peer study groups coupled with consistent efforts to encourage students in the use of study groups.</td>
</tr>
<tr>
<td></td>
<td>• Use instructional strategies that encourage understanding, as well as memory, of the text.</td>
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<tr>
<td>Chinese students are more likely to have genuine fear of failure.</td>
<td>• Provide models for assessment.</td>
</tr>
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<td></td>
<td>• Give clear expectations and explanations.</td>
</tr>
<tr>
<td>Chinese students desire greater instructional structure.</td>
<td>• Support the learning of independent study strategies and study sequences.</td>
</tr>
<tr>
<td></td>
<td>• Provide clear, consistent feedback.</td>
</tr>
<tr>
<td>Chinese students self-report disorganized study habits.</td>
<td>• Assist students with the development of independent study habits.</td>
</tr>
<tr>
<td>Chinese students display a high degree of motivation to study and learn.</td>
<td>• Provide structured, high-quality material.</td>
</tr>
</tbody>
</table>

*This finding is counter-indicated by former findings that Chinese students excel at tasks of rote memorization at the expense of understanding. However, the authors indicate that the Chinese students self-report only repetition as a memory strategy. This seems to indicate that alternative memorization strategies (such as mnemonic devices) should be directly taught to Chinese students.

Because of the perceived need to learn from authorities, to refrain from much self-expression, and to prefer teacher-centered classrooms,
Asian students, such as Zongyou and Xiaowei, often appear hesitant to take risks, construct meaning independent of the author's intention, or express personal viewpoints either orally or in writing. To scaffold her students over these potential hurdles, Ms. Chang employs the assistance of a Mandarin-speaking paraprofessional. The paraprofessional gently leads the students through process-based writing assignments by encouraging them to first respond to a writing prompt orally in their first language. She then writes their responses on a white board. After discussing the elicited responses, the paraprofessional provides them with English vocabulary words to correspond with the students' orally elicited Mandarin equivalents. The three work together to create a web utilizing both the Mandarin and English words. The web and the words are posted and available to the students as they construct the first draft of their writing assignment. Finally, the students read their work aloud to each other. While listening, the paraprofessional makes notes, offers suggestions, and provides praise. Finally, the students finish their papers. In this way, also, the students are able to present a written paper relatively free from errors to their teacher.

A case study of a four-year-old child, Yuan, entitled "A Chinese Girl's Storybook Experience at Home" (Wan, 2000), further describes the unique academic needs of Chinese ELLs. "Interviews with Yuan's grandparents and parents revealed that they valued read-alouds because they believe this activity could prepare children for school, help in moral and value education, provide a source of knowledge, help children learn to read, provide opportunities to practice home language, and entertain children...the preservation of Chinese culture was also an important factor" (Wan, 2000). Since she is aware of the didactic nature of the Mandarin practice of reading aloud to their children, Ms. Chang often chooses this type of story to read aloud in her ELL classes. She concludes these reading sessions by providing the students with an opportunity to discuss what they have learned from the story that they could apply to their lives.

Mandarin-speaking Chinese ELL students bring their own distinctive styles of learning with them to the U.S. By making only slight adjustments, Ms. Chang provides a comfortable arena in which Zongyou and Xiaowei can practice their new literacy. The teacher's respect for the
uniqueness of Chinese learners is a necessity for students to adjust optimally to their new American culture, to further their education at a solid pace, and to allow their new identity to merge more easily with their new lives in the United States.

Learn Contrastive Analysis (Language Differences) for the Two Languages

Chinese students often use their understanding of how Chinese is formed to construct English words, phrases, and sentences. As a result, teachers of Chinese students frequently have great difficulty grading students’ papers. For example, the grammar of Chinese is rather simple when compared with English. Teachers need to understand the differences between Chinese and English and how those differences interfere with the learning of English.

Contrastive analysis is the study of how graphophonemic systems, concepts of print, grammar, and syntax features from the first language (L1), in this case, Chinese, influence the use of the second language (L2), English. There are two kinds of L1 transfers: positive transfers from L1 and negative transfers from L1. Positive transfers from L1 include similarities of L1 and L2 at the level of phonemes, graphemes, print concepts, grammar, and syntax. Negative transfers from L1 include differences of L1 and L2 at the level of phonemes, graphemes, print concepts, grammar, and syntax. Figures 1, 2, and 3 depict some examples of the negative and positive transfers for the English/Chinese graphophonemic systems, concepts of print, and grammar and syntax.

Ms. Chang uses her knowledge of contrastive analysis, as depicted in the figures, to:

1. predict the types of errors that students may make and scaffold the students so that the errors are avoided in their production of English writing;
2. use the students’ knowledge of L1 as a basis for “building” a recognition of the patterns for L2;
3. directly and explicitly teach the positive, as well as the negative, transfers to the student; and
4. use the student’s knowledge of L1/L2 transfers to analyze errors in the student’s productive language in order to assess linguistic development.

In addition to the differences in grammar and syntax, there are also obvious differences in semantics and word choices between the Chinese and English languages. Seeing the differences between these two languages, teachers should understand that “when one learns a new language, she does not only have to learn different vocabulary and grammar but also has to reconstruct her thinking order and adjust to new language patterns” (Fu, 2003, p. 135). It is important for teachers to remember that all children make mistakes learning a language. For instance, while reading over Zongyou’s paper, Ms. Chang notices the absence of articles throughout his writing. She uses this opportunity to make a personal note that she needs to provide direct instruction for Zongyou in the use of articles in English writing. However, she writes only words of praise for his increased proficiency in English spelling on his paper.

Encourage the Development of the Student’s First Language

Allan and Miller (2005) advocate that bilingual students who are successful English readers use strategies in both L1 and L2 and use their first language to support their English. Atkinson (1993) and Schweers (1999) emphasize that classroom observation and second language acquisition studies indicate that it is positive and appropriate for students to use their first language in classes. Wishaw (1994) reports that there are huge benefits in language learning and proficiency when a student is able to work in two languages. In addition, Ernst-Slavit, Moor, and Maloney (2002) indicate that “the student’s first language plays an essential role in the acquisition of a second language” (p. 118); specifically, they focus on findings from research in the 1980s and 1990s, which confirmed that the more the first language is academically supported, and combined with appropriate second language development, the more ELLs achieve academic success in the second language.
Figure 1. Graphophonemic System
Figure 2. Concepts of Print
Figure 3. Grammar and Syntax
It is easier for ELLs to use their first language as a springboard for mastering the complicated rules associated with academic English, and then be given multiple opportunities to connect these rules with new information through speaking and writing in English. Fu (2003) notes that if teachers let Chinese students express themselves and present their ideas in Chinese, students have opportunities to continue the development of their thinking.

Ms. Chang encourages Zongyou and Xiaowei to strengthen their first language in many ways throughout the school day. She has the children generate first drafts of their writing in their native language, and she encourages their use of a bilingual dictionary that she has already taught the boys to use effectively. Ms. Chang also utilizes the Rosetta Stone Technique, a strategy that has proven successful for teachers in multilingual classrooms (Graves, Juel, & Graves, 1998). The ancient Rosetta Stone contains the same text in Egyptian hieroglyphics, Egyptian demotic script, and several ancient Greek languages. Because the Rosetta Stone Technique allows English-speaking students and ELLs to share with one another vocabulary from their own language, it encourages active engagement, which is a necessity for optimal learning. Using the Rosetta Stone as a model, Ms. Chang makes a chart of everyday English words in one column. Zongyou and Xiaowei contribute equivalent words in Mandarin, while students who speak other languages contribute words from their languages in the successive columns. Ms. Chang displays this chart on the wall and, equally important, she and the students contribute to it on a regular basis. By doing so, she ensures their active engagement throughout the learning process.

According to Allan and Miller (2005), ELLs usually understand more of what they hear and read in English than they can express in speaking and writing. Since Ms. Chang needs a measure of Zongyou's and Xiaowei's English reading comprehension, she has her bilingual paraprofessional conduct reading comprehension checks in the boys' native language. In addition, during writing, Ms. Chang leads the students to express an idea in English, keeping in mind that their English (a work-in-progress) may require patience and scaffolding as the Mandarin students transition to English. She models sentences in
standard English followed by choral repetition with the Mandarin students. Ms. Chang encourages the students to read in Mandarin at home and encourages their parents to continue speaking Mandarin to their children (Fu, 2003).

Finally, Ms. Chang has built a classroom library filled with appropriate materials to support her Mandarin-speaking students' literacy development. For example, the book, *Mouse Match* by Ed Young (1997), which was written both in English and Chinese, is a good choice for emergent Chinese ELLs. Books written in English with Chinese themes are also recommended; for example, Ed Young's *Lon Po Po: A Red-Riding Hood Story from China* (1989), and Ai-Ling Louie's *Yeh Shen: A Cinderella Story from China* (1982). Amy Tan's books, such as *The Hundred Secret Senses* (1995) and *The Joy Luck Club* (1989), are recommended for older students.

**Develop the ELLs Reading, Writing, Listening and Speaking Strategies for English**

Ms. Chang recognizes that reading, writing, listening, and speaking are inter-connected and she nurtures the second language development of Zongyou and Xiaowei in all four domains. Concomitantly, she strives to create an educational environment that facilitates the growth and development of critical thinking.

**Reading**

Ms. Chang uses many of the same strategies that work for struggling readers in English to scaffold Zongyou’s and Xiaowei’s second language reading acquisition. These include direct, explicit, comprehension strategy instruction and repeated readings for fluency. However, she also uses additional instructional strategies to assist these students to recognize the connections between their first language and their new language.

- Serving as a scribe, the paraprofessional asks Zongyou and Xiaowei to create stories from their own culture, using their own language, and then works with them to translate those stories into
English for the other members of the class to read.

- Ms. Chang uses traditional Mandarin stories in her literature circles. She asks the boys to first read the stories to the class in Mandarin. She then reads the same stories aloud to the group in English.

- Prior to presenting new English text to her students, Ms. Chang actively analyzes the text for vocabulary, figurative language, and language structures that might be difficult for her Mandarin-speaking ELLs. She pre-teaches the terms and structures, using concrete objects and demonstrations or graphic organizers.

**Writing**

Teaching writing to English Language Learners presents a further challenge. Researchers, such as Shin (2003), have pointed out that few ELL teachers have had experience in specifically teaching writing. She states that:

in addition to the fact that writing can be time consuming and difficult to teach, many ESOL (English for speakers of other languages) teachers may not feel qualified to teach writing because they have not received enough specific training in the teaching of writing. Traditionally, TESOL (Teachers of English to speakers of other languages) programs have placed more emphasis on oral and reading skills than on writing skills. (p. 3)

Indeed, teaching ELLs to write is not easy because “the unfamiliar grammatical errors and different rhetorical patterns found in many ESOL compositions can stump even the most experienced writing teachers” (Shin, 2002, p. 30). Ms. Chang realizes that it is important for ELL teachers to use a process-based approach to writing. This process emphasizes the recursive and overlapping stages of writing as opposed to just a good product. According to Palmer, Hafner, and Sharp (1994), “If students are to construct meaning through writing, they must have a schema for the writing process, including its many overlapping and recursive stages” (p. 258). Furthermore, process-based writing allows for
students to self-regulate as developing writers; and, as illustrated earlier, process-based writing provides the scaffolding necessary for Zongyou and Xiaowei to freely express their ideas.

Ms. Chang encourages journal writing, a good strategy for teaching listening, speaking, reading, and writing to Chinese ELLs. She encourages students to write in their journals two to three times a week, thus providing meaningful opportunities for them to develop their ability to think and write in English. The students are encouraged to volunteer to read their journal entries to their classmates. Ms. Chang does not grade the journals, but collects them to make sure the students complete the assignments. This way, students feel free to write, and she is able to use the journal writing to assess the English skills (vocabulary and sentence patterns) the students still need to master. When time permits, she provides feedback to students, thus encouraging the developing writers to read and think about her comments.

Ms. Chang views the ELLs’ primary language as a major asset and encourages these students to keep writing in Chinese while developing their English skills. Ms. Chang allows Zongyou and Xiaowei to use invented spelling to express their ideas before they learn how to spell the words needed in their writing. She encourages the students to write in limited English, such as Chinese English (English words with Chinese syntax) and mixed language (Chinese with mixed English words) as long as the students continue to develop their thinking and writing skills. Ms. Chang also follows the suggestions of Watts-Taffe and Truscott (2000) by allowing Zongyou and Xiaowei to use words from their first language in place of unknown English words. The boys then use a bilingual dictionary to help them choose the English word.

Ms. Chang modifies her planning to include writing practice specifically designed for Mandarin-speaking children. She asks Zongyou and Xiaowei to copy sentences from pattern books and then use the same sentence patterns to write their own pattern books. Fu (2003) advocates that students build English language sense, such as grammar rules, through this process. This strategy allows Ms. Chang to scaffold the acquisition of English grammar for her students, inspiring them to write more complex sentences. Ms. Chang gives specific directions, models
instruction, and provides scaffolding with multiple opportunities for the students to practice writing.

Listening and Speaking

Ms. Chang encourages and creates frequent opportunities for students to speak in English. Research indicates that ELLs develop social language known as Basic Interpersonal Communication Skills (BICS) through peer interaction in a social context prior to the development of the "language of school" known as Cognitive Academic Language Proficiency (CALP) (Collier, 1987; Cummins, 1986). In his classic work, Cummins (1986) found that BICS develop for most ELLs within one to two years of repeated exposure, but CALP might take as much as seven years to master. It is helpful for the teacher to begin by teaching one or two new functional expressions every day. Teachers can also rephrase students' expressions of limited English to Standard English and ask the students to repeat after them.

In addition to these general classroom strategies, Ms. Chang has developed some specific strategies that seem to work particularly well with Zongyou and Xiaowei:

- She encourages the boys to listen to, and read along with, audio books in the classroom and at home. She knows that this is especially important for young ELLs whose parents cannot read to them in English.

- She has the boys practice-read using a tape recorder. Ms. Chang has the boys record their first oral reading of a new text and record themselves again after practicing the piece, thus self-monitoring their own improvement in fluency.

- Ms. Chang encourages the boys to listen to real-life English conversations as much as possible. She directly explains that English sometimes sounds different in real-life conversation. For example, some common phrases in English are hurriedly pronounced, resulting in dropped and modified sounds. Thus, the vowel in the word you may be pronounced or heard as a schwa
sound in real dialogue. When people try to say, “What have you been up to?” the sentence may become “Whatcha been up to?” As another example, “How have you been?” usually becomes “How ya been?” (Nova, 2002).

- Prior to asking them to speak aloud in class, Ms. Chang always gives Zongyou and Xiaowei time to prepare and systematically guides them to develop their speaking and listening abilities. This process, which can be time-consuming and tedious, is a necessity for most Chinese students.

- Ms. Chang encourages the students to spend their time outside of school practicing their listening and speaking skills. She often sends home a tape-recorder on which she has recorded text that was read aloud in class. Zongyou and Xiaowei then use the tape as a model for practicing oral reading at home.

Utilize Cooperative Learning Groups

Ms. Chang recognizes Fu’s (2003) contention that for Chinese students “who are not used to sharing their thoughts in public, talking in small groups is a good place to start” (p. 68). There is research to support Ms. Chang’s decision to use small groups in her ELL classroom. Mohan (1990) found that cooperative learning not only increases the amount of student talk but also the quality of student talk by providing opportunities for student to negotiate meaning. Furthermore, cooperative groups help Zongyou and Xiaowei, as well as Ms. Chang’s other ELLs, immerse in a rich discourse environment. The students have opportunities to interact among themselves, asking questions, discussing the learned material, exchanging information on academic content, and collaborating on the assigned projects. Diaz-Rico (2004) points out that collaborative small-group discussion lowers ELLs’ anxieties related to their perceived need to produce perfect English. By conducting cooperative groups in a class, Ms. Chang can “challenge all students and reach as many students as possible in a class of different language abilities” (Fu, 2003, p. 60). While the groups are at work, Ms. Chang provides additional coaching and support for Zongyou and Xiaowei to encourage their verbal participation. Ms. Chang carefully chooses assignments and materials
appropriate to the boys' culture and level of English literacy acquisition and acts as an authority available for explanations as well as a learning partner. Ms. Chang encourages teamwork and gives bonus points to groups who work well together. For students who finish early, she provides extension tasks or lets two groups compare their products. When grouping, she carefully places Zongyou and Xiaowei with students who have more skill in English. She keeps activities short and simple while students are learning how to work together. Finally, she monitors the groups and commends those who are on-task and talking appropriately.

Solicit Support Beyond the Classroom

Zongyou and Xiaowei are two examples of the large number of Chinese students who need ELL or bilingual assistance in U.S. schools. Multiple solutions must be sought to address the educational needs of these students, thus ensuring their success in the U.S. schools; beyond the classroom, the following areas require thoughtful attention:

- **Administrative support.** Educational administrators are charged with the responsibility of providing academic environments that support English Language Learners. This support is vital for the classroom teacher. According to the Nebraska Office of Equal Educational Opportunity (Rowch, 2005), it is the responsibility of educational administrators to obtain funding sources, support the development of curriculum, provide staff and materials, investigate program models and approaches, identify and assess students, ensure equal access to all school programs, and write policies and procedures for evaluating the ELL program. Examples of specific administrative tasks include the following: providing professional development for teachers; supporting the development of appropriate curriculum; acquiring textbooks, media and other relevant literacy material; and establishing the home-school and community-school connections.

- **Professional development.** In-service workshops should be developed for teachers and support staff to expand their knowledge of second language acquisition, including a
component on Chinese languages and culture. As these in-service components are designed, careful attention must be given to the vast differences among Chinese immigrants. Fu (2003), for example, cautions against the "model minority" images that present a stereotype for Asian students. Li (2004) emphasizes the problem with research that may disregard real needs because of this stereotype.

- **Curriculum.** Insufficient knowledge of and familiarity with U.S. culture makes it more difficult for Chinese students to adapt themselves to their new school and American society. Administrators can provide assistance in the development of curriculum for ELLs that supports the acquisition of knowledge of American history, geography, and governmental system, as well as familiarity with the local community (Fu, 2003).

- **Textbooks, media, and other literacy materials.** Mainstream classrooms must be adequately supplied to support the instruction of ELL students. Administrators can provide teachers with content area textbooks written in both Chinese and English. Teachers who have both Chinese and English proficiency may choose to translate portions of text themselves. In addition, direct instruction should be supplemented through the use of tapes (video and audio), computers and computer software, trade books, magazines, and newspapers.

- **Home-school connection.** Many ELLs act as "language brokers" for their families. According to McQuillan and Tse (1995), who coined this phrase, these students assist their monolingual families as they attempt to interact with the English-dominant environment. For this reason, Chinese ELLs can become powerful resources as administrators and teachers work to establish a relationship between the home and the school. Although this home-school relationship is especially vital for ELLs, it presents special challenges for administrators as well as the ELLs themselves. These administrative challenges include communication with parents using language appropriate methods (providing interpreter services and/or maintaining a resource of
translators and interpreters for language groups), and the development and implementation of parent involvement programs (Rowch, 2005). Finally, administrators can encourage teacher-parent communication by establishing clear expectations for teachers while providing them with information, training, support, and opportunities for implementation.

- **Community support.** Many communities can provide rich support for a school-based ELL programs. Administrators can develop and encourage the use of a list of community resources for teachers and facilitate teachers’ access to the community. They can also encourage teachers to investigate community-based instruction, utilizing such strategies as service learning and field trips that allow students to more fully explore their environment. Administrators should take every opportunity to inform the community about school-based ELL programs, solicit funding and volunteer support for special needs, and coordinate community resources.

**References**


*Barbara C. Palmer and Judith T. Leclere are faculty members at Florida State University, where Chia-I Chen recently received her Master's degree. Sara Chang is a teacher at Pineview Elementary School, Tallahassee, Florida.*
The author's experience with helping his granddaughters learn their spelling words led to a review of the literature on spelling theory and instruction. The purpose of this review was to answer the following questions: How should spelling words be chosen? Should spelling words be taught and tested in the list format? Is there a problem with using the same word list for all students? And, finally, what strategies should be taught to develop more effective spellers? By examining and responding to these questions, the author delineates a list of key characteristics to effectively teach spelling.
WHAT IS THE MOST EFFECTIVE way to teach spelling? I asked myself this question after several weeks of helping my granddaughters review spelling words for their Friday test. My granddaughters were experiencing a program that was similar to many of those that I have observed over the years as a student, a teacher, and an administrator. The spelling program was based on a commercial textbook where weekly word lists and exercises were selected and sequenced by the publishers. Each week word lists were brought home on Monday; a word pattern or phonic generalization illustrated by that week’s list of words was discussed; textbook pages were assigned and completed throughout the week; and a spelling test was given on Friday. Based upon the recollections of my granddaughters, all the students in their class received the same spelling list; there were no weekly pretests; and students did not correct their own tests. When I asked my granddaughters to explain what they did when they had to spell a new word, neither could articulate any strategies or techniques for helping them do so.

For many years spelling has been taught in a fashion similar to the program experienced by my granddaughters (Zutell, 1980). By examining the literature, I sought to answer the following questions: How should the words be chosen? Should spelling words be taught and tested in the list format? Is there a problem with using the same word list for all students? And, finally, what strategies should be taught to develop more effective spellers? Examining and responding to these questions led to a delineation of the instructional characteristics that need to be incorporated in an effective spelling program.

How Should the Words be Chosen?

Weekly spelling words can be selected by the teacher, the student, or both the teacher and the student. Based on the literature, four sources for selecting spelling words include: (1) commercially published spelling textbooks, (2) the students’ content area reading classes, (3) the students’ reading literature, and (4) the students’ writing.

Heald-Taylor (1998) presented three paradigms of spelling instruction, each suggesting a different source from which teachers could choose spelling words. The first paradigm, referred to as traditional,
characterized spelling as studying and learning words in lists as presented in commercially published spellers. Most teachers teach spelling using this paradigm. Johnston (2001), after interviewing 42 teachers in grades two through five, reported that 93 percent of the teachers surveyed used commercial spelling programs to select the words and program the spelling activities.

The second paradigm, referred to as *transitional*, acknowledges that spelling, reading, and writing are synchronized (Bear, Invernizzi, Templeton, & Johnston, 2004; Heald-Taylor, 1998). In the transitional method, learning to spell is based on integrating phonetic, graphic, and syntactic letter patterns with semantics. From this perspective, spelling is intimately interwoven into a student’s reading and writing across all subject areas. When using the transitional paradigm as a basis for choosing spelling words, selected words must originate, at least partially, from a student’s reading and writing material so that spelling rules are learned and practiced in a meaningful context.

Like the traditional approach where words are presented in lists, the transitional approach relies upon direct instruction, spelling rules, study techniques, and weekly tests. However, unlike the traditional method, the words are learned and practiced in conjunction with different types of word study techniques such as word sorts and word games (Bear et al., 2004). Spelling lists and study procedures are drawn from formal spelling textbooks, student reading and writing, and content subjects. A key element of the transitional approach is that children are tested on words at the beginning of the week and are required to study only those words missed on the pretest.

The third paradigm, referred to as *student-oriented*, describes spelling as developmental and uses reading and writing as the key contexts for learning to spell (Heald-Taylor, 1998). Word lists are derived and personalized solely from a student’s reading and writing. This theory is grounded on cognitive developmental theory (Piaget, 1973) and social-constructivist theory (Vygotsky, 1962). As spellers mature, they inductively learn to spell from their reading and writing experiences. After a review of the literature, Krashen (1993) reported that most words people know how to spell were learned incidentally
through reading. Loeffler (2005) outlined a spelling program that focused solely on the use of a spelling rubric based on each student’s daily writing activities. In this spelling program, the teacher evaluated the students’ ability to spell words from their written assignments by measuring their ability to find their misspelled words. Loeffler found this technique more effective than having his students memorize words for a Friday test only to have them misspell the same words in their writing. The use of a spelling rubric recognized the importance of using a student’s ability to identify misspelled words, helped the teacher identify the strategies a student was using, and made spelling a more meaningful task because the student used it in a personal context.

In recent years, many teachers have worked to integrate different subjects in their curriculum, specifically linking the areas of spelling, writing, and reading (Moore, Moore, Cunningham, & Cunningham, 1994). Many teachers had observed students who received excellent scores on the weekly spelling tests but misspelled the same words on writing assignments submitted shortly after the test. These teachers attempted to alter this inconsistent behavior--accurate list spelling but inaccurate daily writing spelling--by using words that were relevant to the material being read in class. In fact, Johnston (2001) found that about 20 percent of the teachers reported integrating spelling as they used spelling words related to other areas of study. Some teachers stressed the importance of teaching spelling skills incidentally through the use of extensive reading and writing activities. These teachers created word lists based on student readings and classroom thematic units, often having the students choose the words they thought they needed to learn to spell. With this method, it was anticipated that students would be more interested in their spelling words, become more self-directed, develop an interest in learning to spell new words, and select words whose proper spelling would remain in long term memory.

The success of this method of word selection has been difficult to determine because the nature of this type of program is unique to the teacher and to his or her own skills at developing a spelling curriculum. Schlagal and Trathen (1998) concluded that the incidental teaching of spelling through reading and writing was important and necessary, but
also advised teachers to systematically teach spelling using high-frequency words in lists leveled to the ability of the learner.

Based on this review, teachers should select spelling words from their spelling textbook, students' content area reading material, students' reading literature, and students' writing. Spelling words originating from the students' reading and writing would have to be individualized. Using a student-directed spelling program to complement commercially-prepared word lists would be ideal; students would be made responsible for learning words unique to their own reading and writing programs.

**Should Spelling Words be Taught and Tested in the Word List Format?**

After their review of the literature, Fitzsimmons and Loomer (1978) reported that spelling lessons offered in a word list format were effective when teachers followed the following guidelines:

- young spellers studied high frequency words;
- students corrected their own spelling (under teacher supervision);
- teachers used the pretest-teach-test method of delivery and assessment; and
- spelling was allotted between 60 and 75 minutes of instructional time per week.

However, Fitzsimmons and Loomer also reported that many teachers used a number of practices that were ineffective. These practices included:

- writing words several times each to ensure retention;
- encouraging students to depend heavily on phonic rules;
- having students deduct their own methods to study words; and
• presenting words in a sentence rather than in a list to introduce the spelling words.

Is There a Problem with Using the Same Word List for All Students?

An important line of research developed in the 1970s and 1980s was the developmental nature of spelling (Henderson & Templeton, 1986; Morris, 1981). Children were hypothesized to progress through six stages of spelling knowledge. Several prominent researchers characterized six stages of spelling (Bear & Templeton, 1998; Henderson & Templeton, 1986). These researchers summarize the stages as follows:

Stage 1. Prephonemic spelling is characterized by children aged 1 to 7 who listen to stories, write using scribbles, and are becoming aware of phonemes.

Stage 2. Semiphonemic spelling is a characterized by children aged 4 to 7 who use invented spelling, compare and contrast initial and final consonants using pictures and word sorts, and can typically write the initial and final consonants of words.

Stage 3. Letter name spelling is a characterized by children aged 5 to 9 who compare and contrast short vowel word families and focus on the sound and spelling of words containing one short vowel, then compare across short vowel patterns (i.e., c-v-c pattern).

Stage 4. Within-word pattern spelling is characterized by children aged 6.5 to 12 who spell words with long vowel patterns (CVCe, CVVC, CVV) and complex single syllable words (CVck; CVght; and diphthongs).

Stage 5. Syllable juncture spelling is characterized by children aged 8 to 14 who spell words using rules of syllabication, common affixes, verb tenses, and low-frequency vowel patterns.
Stage 6. Derivational constancy spelling is characterized by children aged 10 to 18 who connect meaning to the spelling words through the use of similar bases and roots. For example, students at this stage are aided in their spelling of the word *calculator* by understanding the relationship between *calculate*, *calculation*, and *calculus*.

When spelling is viewed as developmental, it has a profound effect on how spelling needs to be taught. If spelling is developmental, teachers must level the lists of words given to meet the individual needs of their students. Teachers need to consider different word lists for individual students within the same classroom; different word lists need to be assigned that vary characteristically in terms of letter pattern and syllable difficulty. Several researchers developed a guideline to help teachers align the developmental level of the speller to the word lists being assigned for testing (Morris, Blanton, Blanton, & Perney, 1995; Templeton & Morris, 1999). Like the instructional reading level estimated in an *Informal Reading Level*, student word lists can be adapted to meet the instructional spelling levels of students by assigning less challenging lists of words to students who consistently spell fewer than 40 percent of the words correctly on grade-level lists of words presented on pretests or final tests. Such a guideline is helpful and practical when used by teachers to logically differentiate the spelling lists given to their students to better meet their individual spelling needs and create a more effective spelling program. It would also seem reasonable that those students who consistently spell all or almost all of their pretest words should be given more challenging lists of words.

A key finding in the 1990s was that low-achieving spellers had considerable difficulty learning to spell when given words estimated to be at their frustration level. These spellers apparently did not have sufficient orthographic knowledge to benefit from spelling instruction aimed at words typically given to students at their grade level; they were often the students who, even when they did spell accurately on a Friday test, were inaccurately spelling the same words in subsequent weeks in daily work (Morris, Nelson, & Perney, 1986; Schlagal & Trathen, 1998). Morris, Blanton, Blanton, Nowacek, and Perney (1995) found that when low achieving students were taught using word lists intended for younger
students, they improved their spelling skills appreciably. Results from a study by Schlagal, Trathen, Mock, and McIntire (as cited in Schlaga, & Trathen, 1998) found that by leveling spelling instruction to the instructional needs of low-achieving students, the students made significant gains in both spelling and reading.

Johnston (2001) found that nearly all teachers (95%) reported adapting the spelling words assigned to their students, although the most common modification was typically to give less capable spellers fewer words from the assigned class list. While the need to differentiate spelling is evident to many teachers, only 28 percent of the teachers surveyed reported giving less capable spellers easier words, a practice that would more appropriately address their developmental needs. Along with a common-sense approach of adjusting the levels of the words used based upon pretest or final test scores (children who consistently score below 40% or near 100%), teachers need to require students to keep a log of their misspelled words from their posttests. If lists of words are too difficult, then the number of entries into a log is another informal method to alert the teacher to the student possibly operating at a level of frustration. Furthermore, a log allows one to isolate and practice personally troublesome words and teaches the student self-responsibility as well.

Viewing spelling as developmental and viewing students at different stages of learning to spell is important if teachers want to strengthen the quality of their spelling program. Bear et al. (2004) offer teachers a detailed spelling inventory specifically geared to primary, intermediate, and upper level students. These spelling inventories estimate the spelling stage of a student as well as a student’s use of phonics, syllables, affixes, and derivational relations. These inventories underscore the importance many researchers place on adjusting word lists to student skill level and on assessing students who consistently find word lists too difficult or too easy. Schlagal and Trathen (1998), after studying the effect of leveling spelling instruction to high, medium, and low ability spellers, concluded that the leveled spelling was particularly effective in improving the skills of low and mid-level ability spellers.
What Strategies Should be Taught to Develop More Effective Spellers?

Frequently, teachers do not teach students strategies regarding how to study their spelling words. Asselin (2002) reported that poor spellers knew and used fewer strategies, tending to sound out words letter by letter. On the other hand, good spellers used visual imagery, broke words into chunks, recognized certain parts of words, combined word segments with a visual image of the word, and used active monitoring by slowly pronouncing words to cue auditory memory, using phonics initially, and then adding visual and semantic information.

Spelling strategies can be learned that will improve student spelling. Students need to be taught to:

- sound out each word slowly, look for visual patterns (usually a pattern is highlighted in a word list such as an –ly ending);

- create an analogy when needed (remembering my and play can help you spell may);

- think about word meaning (especially, at their age, homophones like meet and meat);

- examine words structurally for prefixes, suffixes, and roots; and

- look for word families such as –ake in bake, cake, and rake.

In addition, when words are given in lists on a weekly basis, students need to learn a procedure to study words presented to them in this format, a procedure commonly cited in the literature such as “look, say, cover, write, check, and repeat if misspelled” (Griffith & Leavell, 1995-96).

Conclusion

Spelling is a critical aspect of the curriculum that is integral to the process of reading. It is a subject that needs to be taught thoughtfully and
consciously. From examining the research, effective spelling instruction consists of:

- Giving weekly spelling lists and administering weekly tests, as the difficulty of the words is adjusted to the instructional level of the speller.

- Administering words in a pretest-teach-posttest format with students self-correcting the tests as much as possible.

- Including words originating from other subjects and from students' own reading and writing in conjunction with the commercially prepared word lists.

- Keeping records, such as a log, that notes misspelled words offers the student, parent, and teacher, a way to isolate and practice words that are personally difficult for a student to spell.

- Teaching strategies and procedures that assist students to learn new words.

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The structure of the American family has changed over the years. Although the traditional father, mother, child structure still dominates, other family patterns are emerging. In this article the authors present 1) current statistics relating to diverse family structures, 2) reasons for using diverse family structure literature with children, 3) recommendations of books to read depicting the various family structures such as: children of divorced parents, children in stepfamilies/blended families, children of adoption, children of international adoption, children of gay and lesbian parents and children in all kinds of families. The authors also include a list of suggested reading for the various family structures including the appropriate age level for each book.
FAMILIES ARE IMPORTANT to both adults and young children, and are often the primary support for individuals; but families are not the same as they were fifty years ago. Although the traditional pattern of father, mother and children is still dominant in the United States, there are other family patterns that are fast encroaching (Fields, 2003). If we have some understanding of the number of children who live in these diverse family structures, we can then select literature that represents these children. Children who live in homes with alternate family patterns need to see their lives depicted in the books they read.

In this article we present 1) current statistics relating to diverse family structures in the United States, 2) some reasons for using diverse family structure literature with children, 3) recommendations of books to read depicting the various family structures, such as: children of divorced parents, children being raised by grandparents, children of adoption, children of international adoption, children raised by single parents, children raised by stepfamilies/blended families, children raised by gay and lesbian parents, children in all kinds of families and, 3) a bibliography of books based on alternative family structures including appropriate age levels.

Diverse Family Structures in the United States

According to the United States Census (Fields, 2003), only 68 percent of children live with the traditional family of father, mother and child. Other family structures have become more predominant in recent years. For instance, the rate of divorce is nearly half of those who marry and more than one million children have parents who separate or divorce each year (Children’s Defense Fund, 2000). Furthermore, the number of single women raising children has increased from three million in 1970, to ten million in 2000 (Children’s Defense Fund, 2000). Additionally, there are now approximately two million single fathers raising children; a 62 percent increase since 1990 (Fields, 2003). Another interesting phenomenon is that many children of divorce live with their grandparents; for example, an estimated 2.4 million in 2000 (Children’s Defense Fund, 2000).
Based on national estimates, nearly one million children in the United States live with adoptive parents. In addition, the practice of adopting children from other countries has more than doubled from 6,720 in 1992 to 16,396 in 1999 (U.S. Department of State, 2005). There are also between six million and 10 million children of lesbian, gay and bisexual parents living in the United States (U.S. Census, 2002).

Reasons for Using Diverse Family Structure Literature

There are many reasons for using diverse family structure literature with children. For instance, when children from alternative families witness themselves in literature, their confidence increases as well as their motivation (Hampton, Rak & Mumford, 1997). Also, when parents and teachers read diverse family structure literature to children, it demonstrates the fact that the children who live within these families are important (Hampton, Rak & Mumford, 1997). By using diverse family literature, teachers can unlock children’s concerns and help them realize that there are others in their same situation. Furthermore, by listening to diverse family structure literature, children learn that not everyone has the same values and beliefs as their own (Charles, 2000). Finally, using diverse family literature offers a way to safely and sensibly discuss serious issues regarding families (Leland & Harste, 1999).

Recommended Books Depicting the Various Family Structures

Children of Divorced Parents

Since nearly forty percent of marriages in the United States end in divorce (Munson & Sutton, 2005), it is important that parents and teachers read books that depict children growing up in this kind of family. This is helpful, not only for children of divorced parents, but also for others to understand how they are affected by this common occurrence. There are many quality books that address this subject and one does not have to be a part of a diverse family structure in order to appreciate good stories.

One excellent chapter book that could be read aloud to children from the fourth to sixth grade, would be Buttermilk Hill (2004) written
Another fictional account surrounding the issue of divorce, appropriate for grades four through six, is *Unfinished Portrait of Jessica* (Peck, 1993). In this chapter book, Jessica takes a trip to Mexico to visit her divorced father, who she has always idolized. After Jessica lives with her father for a while, she soon realizes that he is not the man she thought he was. Jessica then starts to reconstruct her relationship with her mother. An additional chapter book for grades four through six, representing children and divorce, is Blume’s (1992), *It's Not the End of the World*. In this story, sixth grader, Karen, is trying to get her parents back together before they get a divorce. After several attempts at setting up situations where they might reunite, she finally understands that some people are just not able to live together. A chapter book covering this same topic that could be read aloud or used in reading groups is *Changing Tunes*, written by Napoli (1998). In this story, ten-year-old Eileen must come to grips with the reality that her life has changed drastically. First, her father separates from her mother and moves out, and second, he takes the family piano with him; a piano that Eileen has been using for several years, playing it every day of the week. Eileen cannot believe that her father has done this and she must practice on an old piano at her school. Eventually Eileen becomes resigned to the fact that things will never be the same with her parents. She does decide that she will keep practicing the piano to pursue her dreams.

Although it is an older chapter book, Cleary’s Newbery Award winner, *Dear Mr. Henshaw* (1983) succeeds in showing the heartbreak a young boy goes through when his parents divorce. Ten-year-old Leigh Botts not only has to live through that, but his mother also moves him to another town. He feels so lonely that he decides to write to his favorite author, Mr. Henshaw. Finally, Mr. Henshaw writes to Leigh and advises him to write down all the things he is going through. Leigh takes his
advice, writes his thoughts in a diary and discovers that writing is a wonderful outlet for his feelings.

There are several nonfiction books that can help children of all ages understand divorce. One of the books is *Divorce Happens to the Nicest Kids*, by Prokop and Peters, (1996). In this book, written for pre-school to young adults, the authors have suggested various self-help lessons for children of divorced parents, in a workbook form. The activities allow children to express themselves in a personal way about their parent’s divorce. MacGregor’s *The Divorce Helpbook for Kids* (2002) is written for all grades and explains the reasons for divorce, the emotions that are experienced by the people going through a divorce in the family, and ways to cope with this event.

Pre-school and younger children also have to deal with the issue of divorce in their lives. Children in these age ranges, from preschool to grade three, should also have access to books about divorce. Two picture books for this age group that feature divorce as the topic are: *It’s Not Your Fault, Koko Bear* (Lansky, 1998), and *Dinosaur’s Divorce* (Brown & Brown, 1986). Richly illustrated in pastels, the first book follows KoKo Bear as she goes through the changes that take place when her parents are divorcing. KoKo Bear learns what divorce means, and that the divorce is not her fault. The second picture book, *Dinosaurs Divorce* (Brown & Brown, 1986), has whimsical illustrations of dinosaurs that talk. One section addresses this issue when the dinosaur teacher asks the entire class “Class, how many of your parents are divorced?”(p.22). Then several of the dinosaur students raise their hands and the teacher says, “It helps to remember that you are not the only one whose parents are divorced” (p.22). See Table 1.

**Children Being Raised by Grandparents**

Since there are now 4.5 million children in the United States being raised by their grandparents, it is important to depict this group in diverse family structure literature (AARP, 2000). When children read stories about valuing the lives of grandparents, children become inspired to perform the same acts themselves, thereby benefiting the child socially as well.
Table 1

<table>
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<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
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</thead>
<tbody>
<tr>
<td><em>On the day his daddy left</em></td>
<td>Adams, E. (2000)</td>
<td>Preschool-4</td>
</tr>
<tr>
<td><em>Speaking of divorce</em></td>
<td>Beyer, R. (2001)</td>
<td>2-7</td>
</tr>
<tr>
<td><em>What in the world do you do when your parents divorce?</em></td>
<td>Beyer, R. (2001)</td>
<td>2-7</td>
</tr>
<tr>
<td><em>I don’t want to talk about it</em></td>
<td>Ransom, J. (2000)</td>
<td>K-3</td>
</tr>
</tbody>
</table>

While there are many books that show children in loving relationships with their grandparents, it is hard to find books written specifically about grandparents raising their grandchildren. One book that we recommend for children in grades five to seven is a Newbery Honor Book that is quite appropriate for this category, *Belle Prater’s Boy* (White, 1997). In this classic children’s fictional account, twelve-year-old Woodrow comes to live with his grandparents in Virginia after his mother suddenly disappears. Although the subject matter is somewhat dark, White handles it with poignancy and care.

There are more books written about children who happen to have grandparents living in their own home. One of these brightly painted picture books is written for younger children in grades two to four, titled *Sachiko Means Happiness* (Sakai, 1997). In this book, the author describes a relationship between a little girl, Sachiko, and her grandmother.
Another picture book, a Caldecott winner, gives us a wonderful view of a vibrant grandfather in *Song and Dance Man* (Ackerman, 1992). In this fictional account, written for grades preschool to second grade, Ackerman tells the story of a grandfather who used to dance and sing during the vaudeville days.

Other books that depict children in loving relationships with their grandparents are the following:

**Table 2**

*Children and Their Grandparents*

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Walk two moons</em></td>
<td>Creech, S. (1996)</td>
<td>5-7</td>
</tr>
<tr>
<td><em>Western wind</em></td>
<td>Fox, P. (1995)</td>
<td>4-7</td>
</tr>
<tr>
<td><em>Sun and spoon</em></td>
<td>Henkes, K. (1998)</td>
<td>4-7</td>
</tr>
<tr>
<td><em>Annie and the old one</em></td>
<td>Miles, M. (1985)</td>
<td>K-3</td>
</tr>
</tbody>
</table>

*Children Being Raised by Single Parents*

There are also many single parents raising children. In 2003, for instance, there were 11.9 million single parents in the United States (Single Parent Central, 2003). The reason this number is so high, is that
some single parents are choosing to remain unmarried and are raising their children on their own.

An example of a book that addresses this issue, is the picture book written for small children, titled, *Do I Have a Daddy?* (Lindsay, 2000). The main character, five-year-old Erik attends a preschool while his mother works. While there, he talks to his friends and Erik soon realizes that most of his playmates have daddies at home. His mother tells him that he had a daddy, but that she chose not to live with him or marry him, and that she wanted to raise Erik on her own. There are several children’s books written about this topic and some recommended readings are the following:

Table 3

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Let’s talk about living with your single dad</em></td>
<td>Apel, M. (2000)</td>
<td>2-6</td>
</tr>
<tr>
<td><em>Let’s talk about living with a single parent</em></td>
<td>Weitzman, E. (1996)</td>
<td>2-4</td>
</tr>
</tbody>
</table>

Another phenomenon in our country is the large number of children being raised in stepfamilies or blended families with the divorce rate being almost 40 percent per capita, per year for the United States (Americans for Divorce Reform, 2003). Another reason some children
become members of a stepfamily or blended family is because of the death of one or both parents. An important book for children to read about this subject is, *Let’s Talk about Living in a Blended Family* (Weitzman, 1996), written for children in grades one to four. The non-fiction picture book uses full color photographs to portray two families who come to live together after their parents marry. The children in both families have to adjust as they find that not only do they have stepparents, they now have stepsisters and stepbrothers. Jane Hurwitz has also written a non-fiction book for children in grades kindergarten through grade six, *Coping in a Blended Family* (1997), which explains the various things children can do to adjust to living in a blended family.

There are also several fictional accounts that portray blended families and stepfamilies. One of the newer books written for older children is *Family Reunion*, by Cooney (2004). In this chapter book, Shelley comes to terms with her parent’s divorce, her mother’s absence, her new stepmother, and being the “stable” member of her colorful family. Another book we recommend for grades three to seven is the chapter book *The Worst Noel* (Cooper, 1994). Twelve-year-old Kathy has to live with her father and his new wife and family on the weekends. She really does not like it at this home because she has to share her father with her stepsister Anne, and her new baby half-sister Helena.

*My Mother Got Married and other Disasters* (Park, 1989), a fictional chapter book, relates another story of a blended family. In this book, twelve-year-old Charlie is the narrator whose mother divorced and remarried a man named Ben. To Charlie, it seems like she has just suddenly decided to marry Ben and bring his family into their own household. Table 4 shows some books that portray children either living with stepparents, or in blended families.

**Children of Adoption**

Children of adoption are also faced with a special set of circumstances while they are growing up, and according to Schimmel and Love (1997), “thoughtful, well-written stories help parents, teachers, and children with both the concept and the language of adoption” (p. 32). For example, in the picture book *Day We Met You* (Koehler, 1997),
adopted children from the ages of two to five will relate to the message in this book; that their parents prepared for their arrival and they were welcomed into a new family. In another book titled *A Mother for Choco* (Kasza, 1996), younger children will delight in the main character, Choco, who is a baby chick looking for his mother. He is not able to find an animal that looks like him, but he spots a bear that has all the qualities of a mother. The bear takes him home and Choco understands that it does not matter what he looks like, but that he is loved by his new mother.

Table 4

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The in-between days</em></td>
<td>Bunting, E. (1996)</td>
<td>3-7</td>
</tr>
<tr>
<td><em>The steps</em></td>
<td>Cohn, R. (2003)</td>
<td>3-7</td>
</tr>
<tr>
<td><em>Falling into place</em></td>
<td>Greene, S. (2002)</td>
<td>4-7</td>
</tr>
<tr>
<td><em>I hate weddings</em></td>
<td>Petersen, P.J. (2000)</td>
<td>2-5</td>
</tr>
</tbody>
</table>

Adoption is for Always (Girard, 1991) is a picture book written for children from ages five to eight and it is a more realistic depiction of the adoption process. In the story, Celia reacts to the fact that she is adopted, with anger and insecurity. Taking a different perspective, Brodzinsky (1996) used the image of a baby wren to tell the adoption story from the birth mother’s point of view in *The Mulberry Bird*. In this charming tale, a mother wren loves her baby but she has to give the baby up for adoption because she is not able to give it enough food.
Books written for the older adopted child include *Twenty Things Adopted Kids Wish Their Adoptive Parents Knew* (Eldridge, 1999) and *How It Feels to be Adopted* (Krementz, 1988). In both of these non-fiction offerings, complex issues about adoption are discussed. The following books are recommended titles for children of adoption.

### Table 5

**Children of Adoption**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Tell me about the night I was born</em></td>
<td>Curtis, J. (1999)</td>
<td>Preschool-1</td>
</tr>
<tr>
<td><em>Why was I adopted?</em></td>
<td>Livingston, C. (1997)</td>
<td>4-6</td>
</tr>
</tbody>
</table>

**Children of International Adoption**

Americans are now adopting children from foreign countries in record numbers (U.S. Department of State, 2005). There are many reasons for doing this but one of the most prevalent is that there are fewer children to adopt in the United States (U.S. Department of State, 2005). In recent statistics, United States citizens adopted 22,884 children from other countries in 2004 (U.S. Department of State, 2005). The highest numbers were from China, 7044, followed by Russia, 5,865, Guatemala, 3,264, and South Korea, 1,716.

In examining the books on international adoption, it was interesting to note that the majority of the books represented adoption from China. This is not unusual considering that Americans adopt more children from China than any other foreign country. Many of the books are personal accounts written from the parent or child’s point of view and are based on true events. For example, two popular books written about this subject for babies to preschoolers are *The Red Blanket* (Thomas, 2004), and *I Love You Like Crazy Cakes* (Lewis, 2000). In *The Red Blanket*, based on a true story, a single woman flies to China to adopt a baby girl named
Pan Pan. Pan Pan is quite frightened when she is handed to her new mother and she cries very hard. Her new mother gives Pan Pan a soft red blanket to hold, which consoles her and gives her needed company. Another charming book that stands out in this category is *I Love You Like Crazy Cakes* (Lewis, 2000). The pastel watercolor illustrations by Jane Dyer are outstanding and the picture of the rosy-cheeked baby girl on the cover would entice anyone to purchase this book. The story is about a mommy who goes to China to adopt a baby girl.

On the same subject, the older children, ages five to nine, will enjoy *When You Were Born in China* (Dorow, 1997). Based on a true story, it is more realistic picture of the adoption process as it includes actual black and white photos of the child being adopted from China.

Children from other countries are also represented in this section, such as children adopted from Central America. In *Over the Moon* (Katz, 1997), written for primary age children, a young couple is shown longing for their very own child. After a long wait, the couple finally receives a telephone call and they fly directly to Central America to pick up their new daughter.

Adoptions from other countries such as Russia, Korea and Viet Nam are also represented in this group. In the picture book, *Nikolai the Only Bear* (Joose, 2005), Nikolai, a young bear cub is growing up in a Russian orphanage. He does not fit in with the other little bears, because he growls, instead of speaks. A couple from America comes to Russia and adopts him. In a picture book written for younger children titled, *Borya and the Burps: An Eastern European Adoption Story*, (McNamara & Majewski, 2005) the authors present the humorous story of Borya, who has grown up in an orphanage in Russia. When his new parents come to take him to the United States, he has to leave everything behind, except his talent for burping. Another book about Korean adoption, *Somebody’s Daughter* (Lee, 2005), is a story about a young woman who has been raised by Scandinavian parents in Minnesota. She longs to find her roots and returns to Korea to find her mother. An award winning book, titled, *Escape from Saigon: How a Vietnam War Orphan Became an American Boy* (Warren, 2004), has been written about adoption from
Vietnam. In this account, an eight-year-old Amerasian boy tells the story of his escape from Vietnam during Operation Babylift in 1975.

In a more universal theme, *Over Land and Sea*, (Layne, 2005) the author describes how families have traveled to different countries to find the babies that are supposed to be in their families. Layne not only depicts interracial families, but also shows landscapes from several foreign countries. Other suggested reading materials for this category are the following:

Table 6

<table>
<thead>
<tr>
<th>Children of International Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
</tr>
<tr>
<td><em>When you were born in Korea</em></td>
</tr>
<tr>
<td><em>Our baby from China</em></td>
</tr>
<tr>
<td><em>I wish you a beautiful life: Letters from the Korean birth mothers of Ae Ran Won to their children</em></td>
</tr>
<tr>
<td><em>We adopted you, Benjamin Koo</em></td>
</tr>
</tbody>
</table>

Children of Gay and Lesbian Parents

There are now an estimated one million children being raised by gay or lesbian parents, and most of the books that are in this category are written to inform. One example of this type of book is *Heather Has Two Mommies* (Newman, 2000). Heather attends preschool and one day she realizes that most of the children in the class have daddies. She goes home to talk to one of her mothers about this. Her mother explains that
she has two mommies and that the most important thing about a family is that all the people in it love each other.

In *Daddy's Roommate* (Willhoite, 2000) the author uses his background as a cartoonist to depict a young boy who lives with his daddy and his roommate Frank. The brightly colored illustrations show his daddies eating, working, sleeping, arguing, and just being together. The following is a selection of books written about children raised by gay and lesbian parents:

Table 7

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Jennifer has two daddies</em></td>
<td>Galloway, P. (1990)</td>
<td>Preschool-3</td>
</tr>
<tr>
<td><em>Zack's Story: Growing up with same sex parents</em></td>
<td>Greenberg, K. (1996)</td>
<td>2-4</td>
</tr>
<tr>
<td><em>How would you feel if your dad was gay?</em></td>
<td>Heron, A. (1991)</td>
<td>2-6</td>
</tr>
<tr>
<td><em>Two moms, the zark, and me</em></td>
<td>Valentine, J. (1993)</td>
<td>K-3</td>
</tr>
</tbody>
</table>

*Children in All Kinds of Families*

There are many books published about children living in all kinds of families in a more general way. An excellent picture book we
recommend is *Who's in a Family* (Skutch, 1995). In this book, families are depicted in every manner, including the nuclear family, children living with single parents, children living with gay or lesbian parents, mixed-race couples, divorced parents, and being raised by grandparents. It is simple, realistic and does not portray any of the family structures in a way that could make a person feel uncomfortable about reading it aloud to young children.

There are also many books written for young children to show their individuality within families. The picture books we recommend which address this issue are the following: *Whoever You Are* (Fox, 1997), *All Kinds of Children* (Simon, 1999), *Different Just Like Me* (Mitchell, 1999), *A Family Like Yours* (Dotlich, 2002), and *Families are Different* (Pellegrini, 1991). Each of these delightfully illustrated books contribute to the idea that families come in all shapes, colors and sizes, and with various family patterns.

Table 8

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Suggested Grade Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family pictures</td>
<td>Garza, L. (1990)</td>
<td>K-3</td>
</tr>
</tbody>
</table>

Conclusion

In our article, we have discussed the reasons for using diverse family structure literature and we have also drawn your attention to the numbers, the wide range of sizes, and the shapes that distinguish families in the United States. Furthermore, we included a description of some of the books we would recommend for reading in each of the categories. Finally, we included a list of other fiction and non-fiction books that address the various family structures.
Our hope is that you will read some of these books aloud, assign them for reading, or provide access to the books for students who are in the different family structures. We want children to understand that no particular family structure is guaranteed success, nor is it doomed to failure. We also want children to realize that no matter what the structure of the family is on the outside, there are many possibilities for happiness on the inside.

References


Diverse Family Structure Books


Children’s Books


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Supporting the Essential Elements with CD-ROM Storybooks

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Shirley Lefever-Davis
Wichita State University

CD-ROM storybooks can support the development of the five essential elements of reading instruction identified by The National Reading Panel: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Specific features inherent in these texts, audio pronunciation of text, embedded vocabulary definitions and animated graphics can be used to support readers' development of various reading skills. In addition, the International Society for Technology in Education states that computer technology should be used with young children to build their technological skill and comfort level. The use of CD-ROM storybooks for instruction in the five essential elements is an effective means of incorporating technology in a meaningful way.
ENSURING THE READING SUCCESS of America's school children has been at the forefront of public attention in recent years. In response to this agenda to raise reading achievement, congress mandated, through the National Institute of Child Health and Human Development, the creation of the National Reading Panel (NRP). The NRP was charged with the goal of identifying evidence based practices most likely to increase reading achievement of children in kindergarten through third grades. The findings from this group resulted in the identification of five essential elements of reading instruction including:

- phonemic awareness;
- phonics;
- fluency;
- vocabulary; and
- comprehension.

Additional findings from the panel suggest computer technology can be a valuable tool when used as an instructional support to facilitate the development of these essential elements. After reviewing the small sample of research available on technology and reading, a subgroup of the NRP reported "that it is possible to use computer technology for reading instruction" (National Institute of Child Health and Human Development, 2000, p. 6-2). Additionally, the International Society for Technology in Education (ISTE) argues it is becomingly increasingly important to recognize the value of computer technology for young students. They urge educators to use technology to support student learning not only because it provides an efficient instructional resource but also because it develops students' technological skills. Technology standards published by this group outline goals for using computer technology effectively and emphasize the importance of an early introduction to technology to produce technology literate students (ISTE, 2002).

Both the NRP and the ISTE advocate for increased research in the use of computer technology for instructional purposes. One specific instructional practice using computer technology for enhancing the reading instruction for young children is the use of CD-ROM storybooks. Many features of CD-ROM storybooks make them particularly well
suited for instruction in the five essential elements identified by the NRP. For example, many CD-ROM storybooks include audio and graphic animations where book characters talk and settings come alive. Many pages contain “hotspots” that appear, and when activated by the child, produce animated graphics, sound effects and word pronunciations. Additional features allow students to manipulate and individualize the reading environment by choosing to highlight a word or phrase to produce a digital pronunciation or they can click on a word to access its definition (Labbo, 2005). In other instances, CD-ROM storybooks will present spelling analogies for readers when they click on a word within the text. CD-ROM storybooks may also read the entire story automatically, simulating a read-aloud experience for the child. These features will be described in more detail as they relate specifically to each of the five essential elements.

Research on the computer pronunciation feature of CD-ROM storybooks has shown potential for fostering reading fluency in beginning readers (Oakley, 2003). Other research has investigated the impact of CD-ROM storybooks on reading comprehension. Lefever-Davis and Pearman (2005) found that CD-ROM storybooks develop the story setting through animated graphics and sound effects signaling story mood and events and thereby supporting comprehension. Additional research by Higgins and Hess (1998) supports the use of CD-ROM storybooks for promoting vocabulary development. In this study, third graders using CD-ROM storybooks for supplemental activities to enhance target word acquisition outperformed students in the control group in defining vocabulary words. These studies support the use of technology in reinforcing acquisition of the essential elements outlined by the NRP.

Phonemic Awareness and Phonics

Phonemic awareness refers to the learner’s ability to recognize and manipulate the sounds in spoken language. Once children become conscious of the individual sounds in words and learn they can change a word by changing the sounds within a word, they develop knowledge of the letter-sound relationship. Phonics, related to the alphabetic principle, refers to the connection between the sounds of spoken language and the
symbols of written language (Tompkins, 2003). Specific skills necessary
to build competence in phonemic awareness as well as phonics include
knowledge of letter sounds, letter identification, segmenting, blending,
using onsets and rimes, and adding, deleting and substituting phonemes
(Mesmer & Griffith, 2005).

Most CD-ROM storybooks can be programmed to automatically
read the text aloud. This computer pronunciation of text offers
opportunities for learners to hear the words spoken at the same time they
are being highlighted in the passage thereby providing an auditory/visual
link fostering an awareness of letter-sound relationships. This feature is
particularly helpful in building phonemic awareness when individual
words are highlighted rather than entire sentences. Knowledge of sounds
and letters is acquired gradually over time through repetition and
frequent exposure to words in the story. Repeated pronunciations provide
a model of the sounds in words while the highlighting feature reinforces
the symbol representations of the sounds.

Particular versions of interactive CD-ROM storybooks include
additional phonemic awareness and phonics support for learners. These
books, when prompted by the reader, will segment a word into syllables.
For example, when a reader clicks on a word or picture in an illustration,
the computer will pronounce the word. If the button continues to be held
down, the computer will elongate the pronunciation and emphasize the
syllables.

Phonics games may also accompany the CD-ROM storybooks.
However, caution is warranted when using these programs. Some
versions of CD-ROM storybooks insert phonics games and activities into
the story. When this happens, reading comprehension can be hampered.
In this situation, the games take the reader away from the reading event
to a new screen containing new activities. The reader may not return to
the story or, when they do, the sequence of story events may be so
disrupted the reader is unable to follow the story plot causing a
breakdown in comprehension. When selecting CD-ROM storybooks in
the classroom, it is most advantageous to select those which do not insert
activities within the story. In addition, games embedded in the CD-ROM
storybooks may encourage children to view reading as a collection of
playful activities rather than as a meaning-making event (Lefever-Davis & Pearman, 2005). Therefore, CD-ROM storybooks with phonics games or activities presented prior to or following the reading are more likely to provide instructional supports that actually contribute to reading achievement.

Vocabulary

The auditory feature of CD-ROM storybooks enhances vocabulary development as well (McKenna, 1998). Along with knowledge of letters and letter sounds, reading development is also influenced by a readers’ vocabulary. Readers with larger vocabularies are better able to understand sophisticated text. In turn, this exposure to more sophisticated text puts readers in contact with higher level vocabulary words and the cycle continues. Since children learn most words in their oral language and in their reading lexicons incidentally, reading aloud exposes them to new vocabulary words modeled by a fluent reader and nested in context (Baumann, Kame’enui, & Ash, 2003). Struggling readers, who typically read fewer books themselves, particularly benefit from having books read aloud to them. Since the majority of storybooks on CD-ROM have the feature of auditory computer reading of the complete text, the read-aloud experience can be simulated over and over for the reader helping them “develop knowledge about a word slowly, through repeated exposure to the word” (Tompkins, 2003, p. 217). In addition to the benefits of the read aloud experience, struggling readers can echo read and engage in repeated readings even when assistance from a teacher, tutor, or parent is not available.

Proficient readers, even those who may independently deduce a word’s meaning from context, may encounter words they do not know how to pronounce. Exact phonetic decoding does not always guarantee accurate word pronunciation. Because so many words in the English language are pulled from other languages, often retaining the spelling of the original language, relying solely on phonics will not ensure accurate reading. For example, the word gazebo, to someone unfamiliar with the word, may look like it should be pronounced with a long “a” and a silent “e” as in the word gaze. However, pronunciation of unknown vocabulary words is made easy when the computer pronounces words for the reader
at the same time the word is highlighted, ensuring more accurate pronunciations. This support is important even for proficient readers who may apply what they know about semantics, syntax, and phonics and still generate an incorrect pronunciation.

Vocabulary development is further enhanced when strategic readers use context clues to figure out the meanings of unknown words. CD-ROM storybooks provide animated graphics and audio effects that provide richer contextual support than static, traditional texts. When referring to sound effects and animations embedded in CD-ROM storybooks, researchers distinguish between supplemental and incidental features of interactive CD-ROM storybooks. Supplemental animations are those that contribute to the readers’ understanding of the story. Cued animations and sound effects provide contextual support by supplying illustrations, accompanying animations, and audio clips that supplement readers’ understanding of a text (Trushell, Maitland, & Burrell, 2003). For example, when book characters visually react to an event via animations, it is easier for readers to infer word meanings. When readers do not know a word, they watch an event that exemplifies that word or concept and meaning is suddenly attached to the unfamiliar word. For instance, in a story like The Three Little Pigs, when the pig shows fear while being pursued by the wolf, a word like intimidation becomes personified thus clarifying the word meaning.

Incidental animations are those which do not advance the storyline (Trushell et al., 2003). For example in some CD-ROM storybooks, clicking on a flower pot shows a dancing flower, clicking on a shovel causes it to move in and out of a sand pail, or a bird will fly across the sky when selected. None of these actions further the storyline or reinforce story events. In fact, Trushell, et al. notes that these incidental animations negatively impact readers’ ability to recall story events. For some readers, these features become a distraction taking attention away from deriving meaning and, in many cases, prolonging the reading event causing fatigue and a breakdown in comprehension.

Unfortunately, not all context clues in traditional texts provide an adequate amount of information to enable the reader to determine word meaning. Baumann & Kame’enui (1991) determined that context clues
are most beneficial when they contain definitions of words or concepts. Therefore, one of the most obvious ways interactive CD-ROM storybooks can enhance vocabulary development is through the use of hypertext links where readers can click on a word to have the meaning of the word provided immediately by the computer. Reinking and Rickman (1990) found students were more likely to access definitions when they were presented on the screen in an immediate format than if they had to access them in a separate location such as a dictionary or glossary.

Fluency

A third essential element of reading instruction identified by the NRP is fluency. Fluency refers to more than just reading speed. Moats (2004) stresses that reading speed must be adequate for the message contained in the text to be comprehended, but processing meaning and phrasing the text are better indicators of fluent reading than measuring speed alone. Chard (2004) adds accuracy and prosody to the definition of fluency. Automatic word recognition, or automaticity, refers to accuracy in reading and influences both reading rate and prosody, or the ability to expressively read phrases rather than reading text word-by-word. CD-ROM storybooks have many features that facilitate these components of fluent reading.

A child's sight word vocabulary is directly linked to reading fluency. The automatic recognition of words increases not only reading rate but also conserves cognitive energy for making meaning of text. McKenna (1994) reports that repeated readings of CD-ROM storybooks results in substantial gains in sight word acquisition. If words are not recognized immediately, readers need to be able to quickly employ decoding skills to determine pronunciations so that fluent reading is not interrupted and meaning does not break down. Features that allow readers to highlight specific words to be read aloud for them by the computer can provide automatic support when needed by the reader. This removes the burden of decoding for the reader and increases the chance they will maintain the thread of the story.

Chard (2004) and Rasinski and Padak (2001) assert that reading fluency can be developed by engaging students in repeated reading
activities. Providing readers with texts they will listen to and read multiple times is essential to encouraging the necessary multiple readings to build fluency. However, one of the frequent drawbacks of using repeated readings is the tendency of children to become uninterested in the text after the first couple of readings. Animated CD-ROM storybooks can prolong student interest and engagement with texts through the use of animation and other features that contribute to student motivation to read. Motivational factors are key to fluency because they can strengthen the likelihood that readers will increase the amount of time they spend reading. CD-ROM storybooks aid in this goal because their format tends to be more engaging, interesting and thereby more motivating to readers. Research findings of Labbo and Kuhn (1999) indicate many readers will interact with CD-ROM storybooks in excess of 45 minutes when provided the opportunity.

Listening to repeated readings of the same text becomes more interesting when a story is read using different voices for each character, another distinguishing feature of CD-ROM storybooks. Many times these voices are the professional, modulated voices of actors and celebrities thus increasing student interest. As students actively engage in repeated readings of the CD-ROM storybooks, they model the prosody of the computer voices. This function of providing a fluent model of expression, intonation, and punctuation guided pauses is of particular benefit for strong beginning readers who are in the process of fine-tuning their reading skills (Lefever-Davis & Pearman, 2005).

Along with providing a model of fluent reading, CD-ROM storybooks have another advantage with regard to repeated readings. Students can independently choose to have the book read to them multiple times without requiring the patience of an adult or more adept reader. During independent reading, readers can self-select which words they need help with and can obtain computer pronunciations over and over without embarrassment or assistance. This ability to select which words they need help with and how often they need help increases feelings of self-efficacy within beginning and struggling readers (McNabb, 1998). However, as with any supplemental instructional resource, the value is enhanced when monitored by a knowledgeable
Supporting Essential Elements with CD-ROM Storybooks

classroom teacher or a more adept reader who is available to guide the reader's use of effective strategies.

In addition, many books available on CD-ROM are accompanied by paper text versions making it possible for readers to read the story in both a paper format as well as an electronic one. This allows the reader to transport the story to any location to engage in repeated readings and is particularly beneficial for students who do not have home computers. Having identical texts available in both electronic and paper format also allows for scaffolding. Initially, the CD-ROM storybook features provide rich context clues, computer pronunciations, cued animations, and sound effects that enhance the story and support beginning or struggling readers. As readers become more proficient, this support can be decreased as the readers use the paper texts for repeated readings. Lewin (1996) voices concerns that easy access to computer pronunciations of unknown words may delay the development of decoding skills in young readers. Using the two text formats in tandem strikes a balance between providing pronunciations upon request in the electronic format and requiring readers to employ their own decoding skills in the paper format.

Controlling the pace of reading is also a feature available on some interactive CD-ROM storybooks. Reading rate, as an indicator of reading fluency, is one of the key elements of the NRP report. Encouraging readers to read along with a fluent reading pace is a recommended strategy for promoting students' reading fluency. This can be accomplished through the use of CD-ROM storybooks. Students can be encouraged to read along with the CD-ROM storybooks in an attempt to promote a reading rate conducive to fluency.

Comprehension

Comprehension is the fifth aspect of reading referred to as one of the essential elements outlined by the National Reading Panel. Comprehension requires readers to use a variety of skills and strategies to extract meaning from a text. Comprehension skills particularly suited to being developed through an interactive CD-ROM storybook format include building background knowledge, story schema and
metacognition. Story schema, defined as the child’s prior knowledge of particular story types such as fairytales, is enhanced particularly well in CD-ROM storybooks. Sound effects and animation features rapidly and effectively place the reader directly in the setting. Sound effects, in particular, cue the reader to upcoming story events. For example, interactive storybooks include sound effects that are adept at setting a mood and quickly establishing the setting of a story thus contributing to reading comprehension.

With regard to reading, metacognition can be defined as the reader’s self awareness of their own reading strategies and comprehension. The importance of metacognition has been identified by Wright and Jacobs (2003) as the reader’s ability to plan and self-monitor strategy use. Metacognition can be promoted via CD-ROM storybooks because readers are provided with opportunities to prompt the computer to assist their reading. They can self-select vocabulary words they need help with pronouncing or defining. They can also choose to activate the auditory reading of the story if they determine they need assistance in reading the text. On the other hand, the drawback to this feature of CD-ROM storybooks is that the computer doesn’t offer help unless the reader is metacognitively aware of their need for assistance. What is becoming apparent is if the reader has some level of metacognition in place, the CD-ROM storybooks can help advance the skill. However, it does little to build metacognition in students who lack any ability to monitor their own comprehension. If the non-metacognitive reader sets the auditory control to automatically read the text, when a child encounters an unfamiliar word, the computer has no way of knowing the word is unfamiliar, and therefore, cannot prompt the child’s use of fix-up strategies to gain meaning. In contrast, a teacher, sitting beside a non-metacognitive reader, can frequently detect when an unfamiliar word is encountered and can prompt the use of fix-up strategies.

Summary

CD-ROM storybooks are a particularly effective application of computer technology to link the goals of the NRP to focus instruction of the identified essential elements of reading instruction and the goals of the ISTE to promote the effective use of computer technology in
elementary classrooms. ISTE states that computer technology should be used with young children to build their technological skill and comfort level. However, they also argue that technology for technology sake is neither effective nor recommended. This application of computer technology for instruction is an effective means of incorporating technology in a meaningful way.

Specific features inherent in CD-ROM storybooks, audio pronunciation of text, embedded vocabulary definitions and animated graphics can be used to support readers’ development of various reading skills. They provide additional resources to supplement the reading instruction and opportunities already being provided in the classroom. Research supports the view that beginning readers need ample opportunities to read connected text (Allington, 2001). CD-ROM storybooks provide this opportunity and include a support system that may not be available when children read a traditional text independently. The technologies intrinsic in CD-ROM storybooks provide a text for students to apply strategies in a supportive environment.

References


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