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- Speaking Accommodations, Yes! Printing Accommodations, No! Why Not?

- The Impact of Second Language Acquisition and Bilingualism on Children’s Developing Oral and Written Language Skills

- Temperament Profiles in Children: Implications for Academic Performance and Literacy Learning

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- Adult Writing across the Years

- Building a Book Reading Program in an Urban Head Start

- Perceptions of the Roles and Responsibilities of the School-Based Speech-Language Pathologist and the Level of Participation in Literacy

- Pediatric Cochlear Implants and Ethical Issues: Viewpoints to Consider
The following Universities have supported the development of this journal and offer programs in Speech-Language Pathology and Audiology:

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The 2006 Annual Convention, was hosted by the Akron/Canton OSLHA members March 9-11, 2006. The General Chairs, Lynne Rowan, Dorothea Wise, Sara Wolosiansky and Denise Wray planned the exceptional event with 1,177 registrants, 66 Exhibitors and outstanding continuing education offerings.

There were many Diamond Celebrities attending the 2006 convention including Gail Whitelaw, AAA President; Alex Johnson, ASHA President; Senator Kevin Coughlin from District 27; Dr. Thomas Weisman, Anthem Medical Director; Brooke Cheney, OSHGAC’s Lobbyist, and of course, OSLHA’s President Sandra Grether.

Drs. Whitelaw and Johnson spoke at the President’s Breakfast regarding national and state legislative initiatives and were also presenters on OSLHA’s program.

Senator Kevin Coughlin received the OSHGAC Legislator of the Year award for his support of speech and hearing issues. Senator Coughlin sponsored Senate Bill 222 to rescind the Board consolidation plan in HB 66. Bill 222 returns all state Boards to their original independent states, and re-establishes their funding, maintaining the high level of consumer protection that the Ohio Board of Speech-Language Pathology and Audiology has worked so hard to provide.

Dr. Thomas Weisman accepted OSHGAC’s first “You’ve Made a Difference” award for Anthem Blue Cross/Blue Shield in recognition of their outstanding decision to provide benefits for speech/language pathology services related to developmental delay for all of its commercially available products. The decision to cover speech-language therapy for developmental speech and language delays has resulted in increased access by families throughout Ohio and other states to treatment at a point that is critical in the speech, language, and cognitive development and academic success of young children.
The central theme for this issue of *Hearsay* is literacy. Literacy is a gateway to accessing information, to demonstrating knowledge and to communicating ideas. Literacy is embedded in all facets of life, from formal education, to day to day interpersonal experiences, to work life. Without proficient literacy skills individuals’ success in all these situations can be compromised. Literacy impacts learning and communication across the age span beginning with the earliest interactions of infants, families and caregivers through entry into school to well into advanced age. The American Speech-Language Hearing Association has made it apparent though its position papers on the Roles and Responsibilities of Speech-Language Pathologists for Reading and Writing in Children and Adolescents (2000) and Knowledge and Skills Needed by Speech-Language Pathologists With Respect to Reading and Writing in Children and Adolescents (2002) that SLPs are uniquely positioned to support literacy. The range of an SLP’s knowledge with regard to communication provides a broad base from which they can analyze the many aspects of literacy and facilitate success in all facets of literacy.

This issue of *Hearsay* contains information about literacy from many perspectives: dialogic book reading, AAC and literacy, literacy and vocabulary, temperament profiles of literacy learners, support of literacy growth in children who are second language learners and the writing of adults. Beginning with Roseberry-McKibbin’s invited article *The Impact of Second Language Acquisition and Bilingualism on Children’s Developing Oral and Written Language Skills*, literacy is addressed as it relates to the issues of specific language impairment and language difference in children learning English as a second language. She describes the impact of second language acquisition on the education process and provides suggestions on supporting children’s literacy development in English. In the second invited article, Boucher and Kaderavek take a broader look at literacy in their article, *Temperament Profiles in Children: Implications for Academic Performance and Literacy Learning*. They define and examine the impact of various temperament profiles in children on their literacy acquisition and provide extensive suggestions on adaptations that both teachers and clinicians can make to promote success in literacy learning. The technology article for this issue is entitled *Augmentative and Alternative Communication and Literacy: Strategies for Building Skills* (Grether, 2006). Here the reader will find valuable information on the issues surrounding the acquisition of literacy in children who use AAC and specific strategies for supporting AAC users in their literacy development. Grether provides a useful resource list including reference to News-2-You, a newsletter produced for special readers by Jacquie Clark, one of Ohio’s own SLPs. In the Schools Forum, Monica Gordon-Pershey writes about *Curriculum-Relevant Vocabulary Strategies for Adolescent Learners*. This article examines the implications of Ohio’s mandated reading and writing tests for working with adolescents with language challenges. It also provides a research based rationale for the importance of supporting adolescents in their vocabulary development. Ball in *Adult Writing across the Years* delineates what is known about writing and the aging process as it pertains to syntax, spelling and narrative cohesion. The article, *Building a Book Reading Program in an Urban Head Start* (Sickman & Smith, 2006) provides the reader with insight into the design and implementation of a dialogic book reading program in collaboration with Head Start teachers. In the Research Forum, Wellman and McCarthy in their article, *Perceptions of the Roles and Responsibilities of the School-Based Speech-Language Pathologist and the Level of Participation in Literacy* discuss the perspectives of a sample of school SLPs regarding their role in developing literacy and the barriers they have encountered in trying to participate in literacy development. The sum total of these articles will provide the reader with a cross-section of insight into the expanse of what is known as literacy. We hope that these articles will increase your knowledge base while simultaneously offering new perspectives.

Jo-Anne Prendeville, Guest Editor
HEARSAY is a publication of the Ohio Speech-Language-Hearing Association for the benefit of its membership and other individuals committed to the highest quality of service to people with communication challenges.

The purpose of this journal is to expand the level of information, research, and clinical science in our professions. It is provided as a vehicle for reporting studies relevant to human communication and its disorders and to provide information on the activities and affairs of members and directors of the Ohio Speech-Language-Hearing Association. Each issue contains (1) invited articles on journal themes or other topics important to state and national issues, (2) peer reviewed research articles, and (3) forum columns or articles on topics of interest to audiologists and speech-language pathologists employed in a variety of settings, as well as pre-service students, whether undergraduate or graduate.

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Submissions to any of the HEARSAY forums or columns are encouraged. Material may be sent to the OSLHA Executive Director c/o the specific forum or column editor for consideration. Individuals interested in submitting material to the Research Forum should follow the guidelines outlined below. All submissions will be considered for publication. Articles submitted to Research Forum are carefully reviewed. Membership in the Ohio Speech-Language-Hearing Association is not a requirement for contributors. No manuscript or other material or content that has been published or is under consideration elsewhere should be submitted. Material should be submitted electronically, saved as a Word document. Images should be included separately electronically. All electronically images need to be provided at their actual size at 300 dpi and formatted as a jpeg, tiff or eps. A high quality hard copy my be provided to be scanned, either black and white or color.
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More and more I find it unusual that we as civilized people do everything we possibly can to accommodate those to whom we are speaking when we are engaged in the art of conversation. What I mean by this is, that if we are perchance engaged in conversation with anyone from a social, educational, cultural, and/or age grouping that is different in any way from our own, we go out of our way to “code switch”; to alter our spoken language significantly to accommodate to the presumed communication levels of the individuals with whom we are speaking. We all do this instinctively and rely on continuous feedback to determine if we have accommodated correctly and are meeting the approximate understanding levels of those we are conversationally engaged with, be they speakers of other languages, persons from other cultures, infants, children, teenagers, persons with cognitive deficits, elderly, disabled in some way, etc. In order to encourage conversation and provide others confidence and well-being, we automatically code switch our speech to make all parties as comfortable as possible for the duration of the exchange.

However, when it comes to print, we show almost zero level of accommodation, unless we are in advertising or marketing and our messages and logos are vitally important for maximizing sales. When it comes to print, there is scarcely a thought that comfort, confidence or comprehension should be encouraged. There seems to be little effort to provide print that fits to the reader’s level of maximum visual effectiveness for participation in print literacy. We do little in print to try to accommodate those who have difficulty deciphering weird fonts and small print feel like they are encouraged to be an involved part of the literate population. We assume that print in any font and style will be equally comprehensible. We assume that readers can “get it,” regardless.

Imagine what trying to read would be like if we had decreased visual abilities. (see sample 1) When we who have no visual deciphering problems are faced with the almost chaotic mess of small print and weird fonts, we generally take it for granted that it’s cute and fun and different and exciting and innovative to change fonts. But for millions of persons with visual problems including all those over age 40, print becomes a permanent obstruction to independence, like sidewalk curbs for wheelchair-bound individuals. Just one man’s opinion.

On occasion HEARSAY receives a provocative piece that pertains to the issue theme but does not fit neatly into one of the forums. The preceding piece is just such a submission, written by Tom Gilbert is just such a submission. Our thanks to Tom for making us think about print tyranny for those with visual impairments. --LWK and MGP
Imagine what trying to read would be like if we had visual problems.

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The picture becomes far more complex. In this article, we will discuss two major topics: 1) second language acquisition phenomena that impact the development of oral and written language skills, 2) practical strategies for working with CLD children who have difficulty with literate language.

Second Language Acquisition Phenomena that Impact Oral and Written Language Skills

In order to avoid an inappropriate diagnosis of SLI, it is important to recognize typical second language acquisition and bilingualism phenomena, especially as they affect literacy skills (Restrepo & Kruth, 2000; Roseberry-McKibbin, 2001). When a child’s language is characterized or impacted by one or more of these phenomena, she can erroneously be labeled SLI when in fact she is a typically developing bilingual learner who displays a language difference, not SLI.

Windsor and Kohnert (2004) describe children with SLI as having “...some breach in their internal language processing system...the poorer language skills cannot be attributed to observable differences in language input” (p. 878). Children with language differences may be struggling with literacy because of language proficiency issues.

Language Proficiency in CLD Students.

Most CLD children are bilingual. A bilingual child has the ability to speak, listen, read, and/or write in more than one language with varying degrees of proficiency (Brice, 2002). Language proficiency is a complex phenomenon that has been defined in a variety of ways. In this section, several models of language proficiency are described. When differentiating between a language difference and a SLI, knowledge of what constitutes proficiency in the two languages is critical.

Separate Underlying Proficiency versus Common Underlying Proficiency

Cummins (1992, 2000) described the Separate Underlying Proficiency (SUP) and the Common Underlying Proficiency (CUP) models. In the SUP model, proficiency in the first language is viewed as entirely separate from proficiency in the second language. Thus, skills learned in the first language will not transfer to the second language. One implication of this model is that language development activities in the first language will not enhance learning of a second language and vice versa.

Supporters of the SUP model have often tried to eradicate languages other than English by encouraging students and their families to speak English only. Children who learn English from models who lack proficiency in the language will speak the language as they hear it used in their environment. Supporters of the SUP model believe that exposure to poor language models in English will be more beneficial to the child in developing English language skills than a language environment in which only the first language is used.

Sadly, many professionals tell CLD parents to discontinue use of the primary language in the home and “just speak English.” This may happen in other parts of the world, too—for example, in Flanders, speech pathologists may tell CLD parents to stop speaking their first language of English in the home and speak only Dutch (Houwer, 1999). Cummins
acquiring new information and linguistic strategies necessary for success in conceptual knowledge and cognitive variety of contexts, they develop the use of their native language in a linguistic development. As children hear are important for cognitive and linguistic development in children. This advice is extremely deleterious on many levels. In terms of cognitive-linguistic skills, children benefit far more from a linguistically rich, proficient language model (usually the primary language) than from an impoverished, hesitant, perhaps even grammatically incorrect model of the second language. Rich, proficient language models in the home will enhance both oral and written language development in children.

In addition, if a child’s parents abruptly stop using the home language in favor of the second language, there can be profound emotional and psychological difficulties for both the child and parents (Houwer, 1999). This is especially true if the child has a SLI (Restrepo & Gutierrez-Clellen, 2004). Despite these problems, supporters of the SUP model tell CLD parents to speak only the second language at home. Moreover, school districts nationwide overtly or covertly do not support the child’s first language, believing that “the more English the better.”

There is no evidence at all to support the SUP model (Cummins, 1992, 2000). As children learn their first language, they acquire concepts and strategies that will facilitate learning another language. Concepts and strategies that will facilitate the learning of a second language. Rich, proficient language models in the home will enhance both oral and written language development in children.

Cummins (1992) described the CUP model as an alternative to the SUP model. In describing the CUP model, Cummins stated that “...the literacy-related aspects of a bilinguals proficiency in L1 and L2 are seen as common or interdependent across languages...experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both either in school or in the wider environment” (1992, p. 23-25). This underlying proficiency is that which is involved in cognitively demanding communicative tasks, and it is interdependent across languages.

There is ample research to support the fact that there is a strong correlation between reading skills in the first and second languages; the better the reading skills in the first language, the better will be the reading skills in the second language (Cummins, 2000; Walqui, 2000; Zecker, 2004). In addition, evidence shows that the student who does not read at all in the first language is likely to have a more difficult time reading in English than the student who reads fluently in the first language (Ramirez, Yuen, & Ramey, 1991).

The CUP model has major implications for SLPs working with CLD students. If a student has had limited exposure and experience in the first language, the conceptual foundation necessary for success in the classroom will be underdeveloped. Many experts (e.g., Baker, 2000; Cummins, 2002; Gibbons, 2002) recommend strengthening the foundation in the first language before instruction is attempted in the second language. Negative cognitive consequences may result if efforts are made to switch the child to English before the first language is fully developed.

Using the second language for instruction when the first language has not been fully developed is like building a house on an unstable foundation. By building a solid foundation in the first language, the child acquires concepts and strategies that will facilitate learning another language. Research has shown that children who possess first-language literacy skills perform much better academically in American schools than children who do not have literacy skills in their first languages (Garcia, 1999; Ramirez et al., 1991; Zecker, 2004). By suddenly switching the child to a new language, school professionals deprive students of opportunities to make use of their previously acquired knowledge when confronted with learning situations in the classroom. When children have difficulty relating new experiences to what they already know, learning is a slow process.

Rather than eradicating the first language, professionals should encourage students to become fluent bilingual speakers. By helping students to develop high levels of proficiency in the first and second languages, students are much more likely to experience growth in various cognitive skills that have been associated with success in school. Children who speak two or more languages fluently have been found to outperform monolingual children in some cognitive and linguistic tasks (Baker, 2000; Thomas & Collier, 1998; Woolfolk, 2004).

The ramifications for CLD students in the schools are clear. If a student is struggling with written English or not learning English as rapidly as would be expected, the SLP might suspect that the student has an SLI. However, it can be seen from the above discussion that limited progress in school is often due, at least in part, to incompletely developed skills in the first language and lack of opportunities for continued development of skills in that language. Thomas and Collier (1998) found that one of the three key predictors of academic success for CLD students was English language support through subject areas in conjunction with support in the first language. Most CLD students in the U.S. do not receive this type of support, and their literacy skills in English are especially affected.

Thomas and Collier (1998) stated that the average English speaker generally gains 10 months of academic
growth in a 10-month school year. Second language learners must out gain native speakers by making one and one-half years' progress on aca- demic tests in English for six successive school years. Thus, in order to per- form at a level commensurate with that of native speakers, CLD students must make 9 years progress in 6 years. It is no wonder that U.S. schools create deficits in students that are not caused by SLI, but rather by an educational system that does not begin to adequately meet the needs of CLD students. This is an especially important consideration in cases where the student is experiencing subtractive bilingualism.

Additive and Subtractive Bilingualism

Additive bilingualism is defined as achievement of high levels of profi- ciency in both the first and second languages. The student's first lan- guage is not eradicated; rather, it is nurtured and encouraged, and con- tinues to grow throughout the school experience. The student also achieves a high level of second language proficiency, thus becoming a fluent and balanced bilingual. This is the ideal for all students. By becoming fully bilingual, individuals develop high level metalinguistic skills as described earlier in this article. Bilingual indi- viduals enhance their employability, and increase their potential for mak- ing valuable contributions to society (Genesee et al., 2004). In today's global economy, bilingualism is a great asset. In many parts of the world, multilingual individuals are considered educated and cosmopoli- tan (Roseberry-McKibbin, 2002). Being a fluent bilingual individual has many advantages (Zentella, 2002).

What occurs much more frequently is subtractive bilingualism, a situa- tion in which a student's first lan- guage is replaced by the second lan- guage. Acquisition of the majority language comes at the cost of the minority language (Genesee et al., 2004). In this situation, language loss in the first language occurs, and the student gradually becomes a mono- lingual speaker of English or the majority language. However, if English skills continue to be limited, the student's cognitive and linguistic growth is likely to be negatively affected. One can see how students who struggle academically and linguis- tically, then, may not actually have SLI; rather, they may be normal learners who have simply experi- enced subtractive bilingualism, conse- quent negative cognitive effects, and reduced conceptual foundation on which to build academic and linguis- tic skills (Owens, 2004; Roseberry- McKibbin, 2003).

When working with CLD students, SLPs must take these language profi- ciency factors into account. Typically developing language learners who have experienced subtractive bilin- gualism and consequent reduced profi- ciency in both languages do not need special education; they need assistance in the first language to enhance conceptual development(). They also need comprehensible sec- ond language input and interactive experiences that will promote com- municative competence. They will often need extra support in pre-literacy skills such as phonological aware- ness that we shall discuss later (Roseberry-McKibbin, 2001; Swanson, Hodson, & Schommer-Aikins, 2005).

Developing Bilingual Language Proficiency

The Monolingual Norm Assumption

Some U.S. citizens have a negative atti- tude toward bilingualism and believe that being bilingual has negative cogni- tive and social effects on children (Houwer, 1999). Malakoff & Hakuta (1991, p. 141) described the monolin- gual norm assumption: the belief that monolingualism is the cognitive-linguistic norm and that the child's cogni- tive system is fragile and only designed to cope with one language.

Genesee et al. (2004) call this belief the limited capacity hypothesis: the belief that language faculty has a limit- ed capacity, so acquiring two languages is problematic. They describe this fur- ther as the belief that a child's underly- ing mental capacity for learning lan- guage is like a balloon that can only contain so much air; when the balloon gets bigger because of the acquisition of one language, there is limited space to acquire another language.

The monolingual-norm assumption/limited capacity hypothesis has given rise to the negative myths sur- rounding bilingualism: bilingualism has been blamed for cognitive, social, and emotional damage to children (Houwer, 1999). The fact is that the U.S. is one of the only aggressively monolingual countries in the entire world. Citizens of most countries speak at least two languages. In many European countries, students cannot graduate from high school unless they speak three languages fluently. Bilingual education is wide- ly used in most parts of the world, but unfortunately has been discour- aged in parts of the U.S.

Bilingual Education

In order to maintain students' first languages and to help them become proficient in the second language (English in the U.S.), ideally these students should participate in bilingual education throughout the elementary years and beyond if possible (Baker, 2000; Gibbons, 2002; Woolfolk, 2004). Such maintenance bilingual educa- tion provides students with culturally appropriate learning experiences, opportunities for continued use of the first language, and experiences designed to promote the learning and effective use of a second language.

Programs of bilingual education appear to promote the greatest linguis- tic, cultural, and cognitive benefits when there is active parent and community involvement. Cummins (2000) states that, in his opinion, ideal bilin- gual programs take steps to develop both oral and written skills in both languages at early ages. He recommends having children read and write in both languages by at least second grade. Professionals who promote oral and written bilingual skills must take into account that these skills develop along different timelines.
Basic Interpersonal Communication Skills (BICS) and Cognitive-Academic Language Proficiency (CALP)

One useful model of language proficiency distinguishes Basic Interpersonal Communication Skills (BICS) from Cognitive Academic Language Proficiency (CALP). Some experts describe these skills as being on a continuum instead of being discrete and separate entities (Cummins, 2000; Genesee et al., 2004). For English Language Learners, BICS take approximately two years (in an ideal situation) to develop to a level commensurate with that of native speakers of the language (Cummins 1992, 2002; Gibbons, 2002); for English Language Learners, CALP takes between five and seven years to develop to a native-like level (Cummins, 2002). This five to seven year period is common for students from enriched backgrounds. Some researchers are even positing that it can take up to 7-10 years for CALP to develop to a native-like level under less than optimal conditions (Perego & Boyle, 1997). Cummins (2000) described a conference where an Israeli speaker reported that in the Israeli context, a period of 7-9 years is typically required for immigrant students to catch up academically with native students-especially in written language skills.

Basic Interpersonal Communication Skills involve cognitively un-demanding, context-embedded forms of communication. Cognitive Academic Language Proficiency refers to the cognitively demanding, context-reduced forms of communication common in school settings. In context-embedded communication, participants can actively negotiate meaning and they have a shared reality. Context embedded communication is typical of that found in the everyday world outside the classroom, where language is supported by a wide range of meaningful situational cues and paralinguistic gestures. Gestures and facial expressions facilitate the communication of meaning in context-embedded situations. For example, on the playground, some students may want to play tetherball and others may want to play tag instead. In the discussion, there is a shared reality, a concrete and visible situation, and facial expressions and gestures to accompany words (Roseberry-McKibbin, 2003).

Context-reduced communication, on the other hand, does not assume a shared reality. It may rely exclusively on linguistic cues for meaning (Cummins, 2002). For example, a teacher might discuss a field trip to the aquarium that will take place next week. For the CLD student, there is nothing to look at; there are no visible cues to support the teacher’s words. The teacher’s explanation is very hard to understand in this case.

Proficiency in context-reduced communication involves the ability to make complex meanings clear by means of language itself rather than by use of paralinguistic cues or contextual support (Cummins, 2000). Long-term academic success ultimately depends upon the ability to read about or express (verbally or in writing) complex, abstract ideas in the absence of experience or contextual support (Genesee et al., 2004). Literacy skills depend heavily upon the student’s ability to succeed in context-reduced communication situations.

Cognitive demands, in a communication situation, are related to the amount of information that needs to be processed simultaneously or in close succession by a student in order to do an activity. Cognitively un-demanding tasks are those that are generally automatized and require little active cognitive involvement for adequate performance. For instance, a cognitively un-demanding task for most people is to state their name and social security number when asked for this information. Cognitively demanding tasks, however, involve situations where the person must make use of various cognitive strategies to perform the task. For example, writing an essay in a foreign language is cognitively demanding for a student who has not yet mastered that language. For the average reader of this article (if you are anything like me), advanced algebra and calculus are cognitively demanding.

Thus, when SLPs are assessing a student because of a suspected SLI, it is important to examine the school environment. Is the student in a classroom situation where cognitively demanding tasks are routinely presented? How much contextual information is available to facilitate comprehension? If the student has not yet acquired the cognitive academic skills necessary to complete classroom assignments, she will struggle in school and written language will be difficult for her.

Students are often placed into immersion or sink-or-swim classrooms where only English is spoken and no special provisions are made to help students learn the English they need for school. Students who speak no English are often expected to learn English in the classroom setting where the linguistic input is often context-reduced and cognitively demanding. Because a student’s initial exposure to English is often of this nature, many students fail to acquire a solid conceptual foundation and thus they struggle academically. The acquisition of CALP is difficult if the student’s primary exposure to the language occurs within situations where contextual cues are limited. Helping students to develop a basic conceptual foundation is critical if they are to acquire the strategies necessary for academic success (Gibbons, 2002).

When SLPs make judgments about overall proficiency in English based on a student’s performance in face-to-face communication situations (BICS), they risk the possibility of overlooking academic deficits in these students. It is important to remember that skill in BICS is acquired in about two years, but CALP takes much longer. Thus, a student may have good English conversational skills, and perform well in context-embedded and cognitively un-demanding situations but continue to face challenges in subjects that rely heavily on written language skills or context reduced oral abilities. It is important not to make the error of assessing a student for a possible SLI using tests that are context-reduced and cognitively demanding when the student has only been exposed to English for 1-2 years. Speech-language pathologists can support CLD students who
Increasing Emergent Literacy Skills In CLD Students: Direct Intervention Techniques

**Emergent literacy** is a term that is used to describe the concepts, behaviors, and abilities of young children that precede and develop into conventional literacy. Emergent literacy is the foundation for later reading and writing. For most children, the foundation of emergent literacy is acquired from approximately birth to 6 years of age, or the time preceding formal reading instruction. Older CLD students may or may not have developed emergent literacy skills; SLPs must be aware that these students may need work in this area before they can be successful with grade-level reading, writing, and spelling.

Emergent literacy is comprised of at least two different but highly interrelated areas: developmental phonological awareness and print awareness (Justice, Chow, Capellini, Flanigan, & Colton, 2003). Print or written language awareness “describes the implicit and explicit knowledge children acquire concerning the fundamental properties of print, such as the relationship between print and speech and the functions and forms of particular language units (e.g., letters, words, punctuation marks)” (Justice et al., 2003, p. 320). Both print awareness and phonological awareness are critical to later literacy. CLD students may have underdeveloped skills in these areas if they do not have literacy skills in their first language; in addition, they may come from homes where literacy and pre-literacy activities are not emphasized (Swanson et al., 2005; Roseberry-Mckibbin, 2002). There are specific practical strategies that SLPs can use to enhance literacy in students who are acquiring English as a second language. These strategies can be applied to students with and without SLI.

Justice and Ezell (2004) discussed a strategy for enhancing children’s emergent literacy skills, called **print referencing**. Print referencing is an evidence-based strategy that can be used by SLPs and others to enhance the emergent literacy skills of young children. It refers to an adult’s use of verbal or nonverbal cues to direct a child’s attention to the functions, features, and forms of written language during shared storybook reading.

Examples of such cues are as follows, using the book *The Big Red Dog* as an example: 1) the adult can track print; for example, she can say “The title of this book is *The Big Red Dog*” as she tracks her finger under the title; 2) the adult can ask a question about the print; for example, “Which word do you think says *bark*?” and have the child point to the word he thinks says *bark*; 3) the adult can also comment about print; for example, “The author of this book is Jan Hopkins” (the adult points to the two words). Empirical evidence has shown that print referencing is an excellent way to facilitate children’s print awareness, and that print referencing can be used with children from CLD as well as low-literacy homes (e.g., Justice & Ezell, 2001; Justice & Ezell, 2002). (SLPs are cautioned to be sure that CLD students who are struggling with print in English actually come from low-literacy environments.)

Use of storybooks to increase emergent literacy skills (including vocabulary skills) in young children can be very effective. For example, Justice, Meier, and Walpole (2005) used storybooks to foster vocabulary growth with at-risk kindergarteners with low vocabulary knowledge. In the study, the adults who read books to children used a vocabulary word elaboration strategy that was shown to be effective. There were three steps: 1) read the words in context, 2) define the word, and 3) use the word in a supportive context. For example: (Justice et al., p. 23)

1. Adult reads text: “They came down to a **marsh** where they saw a muskrat cleaning his house.”
2. Adult provides definition: “A **marsh** is a very wet place where there are wet lands covered with grasses.”
3. Adult uses word in supportive context: “Like, we took a boat through the **marsh** and we saw lots of birds and alligators.”

Again, for at-risk young children with low vocabulary skills, this strategy proved to be effective in helping the children enrich their vocabularies.

Paul (2001) gave a variety of suggestions for caretakers and preschool teachers to promote emergent literacy skills in young children. Many parents of CLD children have several jobs to support their families; Paul’s ideas are especially relevant for families who may be too busy to set aside specific times for emergent literacy activities during the day. The following activities can be worked into the daily routines of busy parents.

First, Paul emphasized that books should contain simple pictures that can be described or labeled with just a few words. Caretakers can “read” these simple books with their children whenever they find themselves with a few extra moments—for example, while waiting at the bus stop or in the doctor’s office. Caretakers can also draw attention to and talk about print. For example, they can show the child their shopping list or read various signs (e.g., at the grocery store, at the dentist’s office). At the breakfast table, caretakers can even read cereal boxes! Caretakers can also have children “write” thank you notes and letters to others, even if these notes and letters are just scribbles.

In addition to targeting print awareness and encouraging home literacy events, SLPs can also target phonological awareness. Research clearly shows that CLD students are vulnerable to difficulties with phono-
logical awareness skills. (Dodd & Carr, 2003; Nancollis, Lawrie, & Dodd, 2005). As part of literacy development, SLPs may want to target phonological awareness skills in CLD students because these skills are foundational to success in later reading, writing, and spelling.

Phonological awareness is the ability to consciously reflect upon and manipulate the sound component of language. The child with adequate phonological awareness skills is able to analyze the structure of an utterance as distinct from its meaning (Segers & Verhoeven, 2004). For example, a child might know that a dog is a furry animal that barks. She would be demonstrating phonological awareness skills if she told you that the word dog has one syllable, begins with the /d/ sound, and ends with the /g/ sound. This child has analyzed the structure of the word dog. This ability to analyze print should always be combined with reading to and with young children.

We will remember that the promotion of literacy has been emphasized by the American Speech-Language-Hearing Association (ASHA, 2000), and phonological awareness skills are argued to be one important precursor to reading (Gillon, 2000, 2004; Rvachew, Ohberg, Grawburg, & Heyding, 2003). Some research recommends targeting phonological awareness in the preschool years to prevent delays in the acquisition of reading skills during the elementary school years (Rvachew et al., 2003) but again caution is urged so that the literacy program is not focused exclusively on phonological awareness to the exclusion of reading experience. Older CLD students may have phonological awareness deficits that are negatively affecting their reading or writing in English; research shows that even when these students have already reached adolescence, phonological awareness intervention in English can be beneficial (Swanson et al., 2005).

Techniques to develop phonological awareness skills in children have been detailed in other sources (e.g., Gillon, 2004; Hadley, Simmerman, Long, & Luna, 2000; Roseberry-McKibbin, 2001). Several of these techniques are summarized here based on the above-listed sources. As a part of the literacy program for students who need the help, the SLP can teach the student to:

1. Count the number of words in a sentence
2. Identify the number of syllables in a word
3. Identify the number of sounds in a word
4. Identify words that rhyme
5. Demonstrate sound blending skills (e.g., the speech-language pathologist says “c-a-t; what word is that?”)
6. Identify the first sound in a word (e.g., “Jose, what is the first sound in the word dog?”)
7. Identify the last sound in the word (e.g., “Maria, what is the last sound in the word car?”)

Roseberry-McKibbin (2001) has created vocabulary units that teach both vocabulary and phonological awareness skills in English in a hierarchical way that promotes improved print analysis skills in CLD students.

Speech-language pathologists can use fun activities to help children develop their phonological awareness skills. Rhythm sticks and clapping can be used to emphasize the number of sounds or syllables in words. Clinicians can also use rhymes; Dr. Seuss books are excellent for this purpose. Children can recite rhymes, act them out, and even sing the rhymes. As rhymes are sung, recited, or read, children can clap or shake a shaker for each word or syllable they hear. These are just a few of the many ideas available for increasing children’s phonological awareness skills.

Hallahan et al. (2005) discuss the fact that use of appropriate technology for increasing phonological awareness and emergent literacy overall can very valuable to young children, even those with mild disabilities. One option that can be used is computer-assisted instruction (CAI) where a computer is used to present instructional tasks. There are many software programs available for intervention. As one example, some clinicians use Earobics (Cognitive Concepts, 1997-2003), a program on a CD with colorful, interactive games that work on skills including phonological awareness.

We have said that a major challenge for some CLD children who enter a school situation is that they have not been read to at home. When they enter preschool and teachers read in a second language, it can be difficult for them to pay attention and receive any benefit from being read to. The research of Tabor’s (1997) and her colleagues at Harvard found that there were several practical strategies that helped book-reading time become more productive for CLD children who do not have prior literacy experiences.

First, teachers had more success in maintaining the children’s attention when they kept book-reading time short. Second, predictable books worked very well because they had simplified and highly repetitive text that made it easy for CLD children to become engaged. For example, a predictable book might start off by saying “10 little monkeys sitting in a tree-tee-ing Mr. Alligator-can’t catch me! Along comes Mr. Alligator, quiet as can be, and SNAPS that monkey right out of that tree!” Then on the next page “9 little monkeys sitting in a tree...” etc. It was suggested that it was helpful to read the books many times so that the CLD children got more information and vocabulary each time they listened to stories. This is exactly what happens with young monolingual children who love to read and re-read stories. When they were somewhat familiar with a story, the CLD children were encouraged to “read” the story to other children. This increased their confidence with reading.
Conclusion

When SLPs work with CLD students who struggle with English literacy, it is critical to take into account second language acquisition factors. Students who possess good literacy skills in their primary languages will learn English literacy skills much better and faster than students whose literacy skills in their primary languages are weak or nonexistent. Speech-language pathologists need to advocate for continued primary language support—both oral and written—for CLD students. Under ideal conditions, it takes the average CLD student 2 years to learn basic conversational English skills, but it can take between 5-10 years for that same student to become academically proficient in English. We can avoid misdiagnoses of SLI by recognizing this fact.

CLD students may come from backgrounds where they have not been exposed to conventional literacy activities. Speech-language pathologists can use print-referencing, phonological awareness, and other literacy activities to help these students gain a foundation for reading, writing, and spelling in English. Speech-language pathologists can and should play a critical role in assessment of and intervention for CLD students who struggle with English literacy.

Article invited by Jo-Anne Prendergill, Guest Editor

REFERENCES


Temperament has been described as biologically based patterns consisting of linked behavioral and emotional responses that include an individual's activity level, sociability, reactivity to stimuli, self-regulation, and level of fearfulness (Bates, 1994). Temperament is considered a fundamental characteristic affecting an individual's ability to formulate schemas from the environment (Bates, 1994). Temperament extremes do not necessarily equate to dysfunction or psychopathology; it cannot be assumed that a specific temperament profile dooms a child to academic failure (Carey, 1998). However, the "goodness-of-fit" between a child's temperament predisposition and specific academic task demands make it more or less likely that a child will prosper academically. Consequently, children's temperament profiles are shown to be correlated to academic achievement (Carey & McDevitt, 1995; Keogh, 2003; Martin & Holbrook, 1985; Newman, Noel, Chen, & Matsopolous, 1998), learning (Buss, 1991; Keogh, 2003; Martin & Holbrook, 1985), and socialization patterns (Hill Goldsmith, Aksan, Essex, Smider, & Lowe Vandell, 2001; Keogh, 2003).

The New York Longitudinal Study led by Thomas and Chess (1977) is a classic study resulting in a temperament profiling system used to describe and classify individual temperament domains. The Thomas and Chess analysis includes nine domains consisting of activity, rhythmicity, approach/withdrawal, adaptability, threshold, quality of mood, negative emotionality, distractibility, and attention span. The individual's temperament profile influences their approach to new information and learning (Rosenfeld & Rosenfeld, 2004). Specific combinations of the temperament domains are sometimes used to categorize children's general interaction patterns with people and objects and reaction to external stimuli; these sub-categories include the "easy child," the "difficult child," and the "slow to-warm up child" (Thomas & Chess, 1977).

Easy children are described as being well liked and easygoing. Easy-going children present characteristics of adaptability, approachability, mildness, rhythmicity, and generally display a positive mood. In contrast, difficult children are more negative, more intense, and slower to respond to new situations. Difficult children tend to be more challenging for both parents and teachers, possibly demonstrating a variety of behavior problems. The slow-to-warm-up child has a tendency to have negative responses to unfamiliar events and is less likely to respond positively to change. The slow-to-warm-up child is likely to present as being fearful or as a reluctant participant in new or challenging classroom activities.

Since Thomas and Chess' initial study, more temperament characteristics and categorizations, such as "confident," "well adjusted," "inhibited," "under-controlled," "sluggish," "typical," "reticent," and "impulsive" have been identified and described (Caspi & Silva, 1995, Martin & Bridger, 1999). These varying classifications can be helpful to teachers in that they can be used to identify patterns of behavior that contribute to the success or failure of children within academic settings. Children that are the most challenging to work with in the classroom are likely to be less "teachable." Teachability is a term describing a match between a student's temperament characteristics and the teacher's expectations of student behavior (Keogh, 1994, 2003).

Teachability and the adult-child match is a factor in children's early reading development. The "Matthew Effect" has been proposed to describe a negative cycle of events potentially negatively affecting a child's reading development; the Matthew effect describes a situation where a child who struggles to read early on during the school years, becomes discouraged and frustrated and subsequently reads less. As a result, he or she falls further and further behind (Stanovich, 1986). Improving teachability and promoting positive adult-child affective literacy interactions supporting temperament variations is one way to promote an early positive response to literacy events and limit the Matthew effect.

Thoma's and Chess' Model of Goodness of Fit describes the optimal condition in which the educator understands and is aware of a child's temperament characteristics and is able to work with, not against the child's inherent temperament style (1977). A "good fit" between a child and his environment is achieved when a child's temperamental characteristics meet the demands and expectations of a particular environment or when an environment can be modified to pro-
provide a more optimal level of support for the child’s temperament (Thomas & Chess, 1977). Research has demonstrated that children are likely to develop a healthy self-concept, establish positive self-esteem, maximize overall development, and learn more effectively when there is a good fit between a child’s temperament and the teacher’s expectations (Carey & McDevitt, 1995; Chess & Thomas, 1996; Keogh, 2003).

Kagan (1994) has studied the academic impact of two dimensions of temperament, the behaviorally inhibited child and the uninhibited child. Behaviorally inhibited children avoid unfamiliar objects and people because they respond negatively to novelty and uncertain situations. On the other hand, the uninhibited child seeks out or approaches novelty and demonstrates a high tolerance for uncertainty (Rimm-Kaufman, 1996). Uninhibited and inhibited temperament styles have been observed in children as young as four months of age (Arcus, 1991); high reactive infants display physical gestures that include limb movements and an arched back in response to auditory, visual, or olfactory stimuli, while low reactive infants are less likely to demonstrate these characteristics (Rimm-Kaufman, 1996). Uninhibited versus inhibited temperament styles have been noted to continue over time (Calkins & Fox, 1994) and to generalize to naturalistic contexts (Gersten, 1986). For example, Rimm-Kaufman observed 37 kindergarten children of whom 14 were high reactive and inhibited and 17 were low reactive and uninhibited. She observed that inhibited children talked less often in large group, teacher-guided contexts, suggesting that temperament profiles influenced classroom behavior.

Paul and Kellogg (1997) examined the temperamental characteristics of 37 children with a history of slow expressive language development (SELD) as compared to a matched group of children developing typically in a longitudinal study beginning at age two. When the subjects were in first grade, the families completed a temperament questionnaire. Children with a history of SELD were rated significantly lower by parents on the temperament domain of Approach/Withdrawal. The authors also reported a significant relationship between the Approach/Withdrawal domain and the children’s mean length of utterance during a free speech sample at age 6. The results of this study suggest that children with a history of language delay may have associated temperament profiles potentially impacting school performance.

Temperament also has been shown to contribute unique variance to literacy development (Coplan, Barber, & Lagace-Seguin, 1999). A child’s temperament profile may make it more or less likely that he/she will avoid literacy activities during early stages of literacy learning. For some children, particularly those with learning challenges, book reading may appear to be a particularly demanding linguistic context (Kaderavek & Justice, 2002). Perceived higher linguistic expectations may elicit a withdrawal response for children with an inhibited/avoidant temperament profile.

The purpose of this paper is to describe frequently occurring temperament patterns in children, provide examples of how these characteristics may present themselves in the classroom or in therapy contexts. Further, we will provide suggestions concerning the modifications that are likely to facilitate overall school success and support successful reading development specifically and academic performance more generally. Both teachers and speech/language pathologists (SLPs) will find this information of interest.

**Temperament Domain**

As described above, there are many different categorical systems for profiling temperament. However, three specific temperament domains have been identified as being particularly important with regard to academic success or failure: high versus low activity, distractibility/non-distractibility, and persistence/non-persistence (Martin, 1989).

Activity is described in terms of how much energy or action a child uses in his or her interaction with the environment (Thomas, Chess, & Birch, 1968; Martin, 1989). A high activity level can result in a child who moves frequently and is compelled to physically interact with his or her environment. Although not necessarily hyperactivity, which is purposeless and disorganized (Carey & McDevitt, 1995), a high activity level can reduce a child’s teachability.

Distractibility refers to an individual’s ability to inhibit attention to incidental environmental stimulation while at the same time attending to salient stimuli (Thomas, Chess, & Birch, 1968). The distractible child is likely to show a diminished ability to complete work in a busy classroom and to maintain attention to the teacher with the presence of background noise.

The temperament quality of persistence/non-persistence is also associated with a child’s academic success. Persistence is the continuation of an activity and the child’s ability to maintain a deliberate focus in order to complete a task (Thomas, Chess, & Birch, 1968). Students often persist at activities they enjoy; however, when tasks become challenging some students with low levels of persistence are not able to sustain attention and complete the task. While low persistence generally is not a significant factor for students developing typically, it can impact students with learning disabilities (Schor, 1985). These students may be identified as “inactive-learners,” resulting in a lowered degree of teachability. Children with academic challenges are likely to require higher-than-average levels of persistence as well as more direct support from teachers for skill acquisition.

Just as temperament characteristics may put a child “at-risk” for school success, it is important to recognize that certain temperament qualities can serve as a protective factor within children (Smith & Prior, 1995). Resilience is a term that describes individuals who have the capacity to maintain healthy functioning in an unhealthy setting (Smith & Prior, 1995). Individuals who are considered resilient are characterized by having positive temperaments, being good-natured, easy to care for, affectionate and active (Keogh, 2003;
Resilient children are more likely to learn even in negative academic environments or without optimal adult-child relationships. These children are more teachable within the classroom and are more likely to succeed given a variety of environmental conditions, because their temperament characteristics fit within a wide range of environmental conditions and relationships.

Maximizing Environmental Fit

Keogh and Speece (1996) have described three aspects of classroom environment and organization that impact learning by maximizing the “fit” between a student’s temperament and classroom demands. These aspects are considered in the domains of (a) content/nature of the curriculum (how and what information is presented), (b) organization of space, time, and environment (structure of the class and physical setting), and (c) the nature of the interactions between students, peers, and teachers. Pellegrini and his colleagues (1997) found that children with different temperamental characteristics interacted differently with both friends and non-friends. Their data also demonstrated that children act differently with teachers in response to either a positive or negative relationship.

It is important for teachers to consider opportunities to modify the curriculum content, reorganize the classroom, or alter interaction styles when dealing with children with specific temperaments profiles when there is not an optimal environmental fit. Teachers may not be able to dramatically alter their own temperament, but they should be aware of their individual temperament profile and be sensitive to individual child responses to the teacher’s temperament style. Rosenfeld & Rosenfeld (2004) found that a teacher who is aware of his/her own temperament is more sensitive to students’ temperamental characteristics, and is more likely to facilitate “good fit” with students’ temperaments. Additionally, Keogh (2003) suggests that it is important for teachers to recognize their expectations for their students. Recognizing expectations will further a “good fit” between the teacher and student by clarifying a particular student’s level of “teachability.” With older school aged children, awareness of temperament characteristics can be used to help students understand themselves and the way they relate to others since children with different temperament characteristics demonstrate markedly different peer interaction styles (Pellegrini, Galda, Flor, Bartini, & Charak, D. 1997). This awareness may not only benefit a child’s socialization, but also his overall educational experiences, by helping him understand why certain tasks may be more or less challenging.

Implications of Children’s Temperament Profiles in Academic Settings

As highlighted above, the temperament domains associated with high or low levels of activity, distractibility, and persistence have potentially significant implications for academic success or failure. In Table 1, three child profiles are presented as examples of children with specific temperament characteristics. The discussion below is provided in order that SLPs can understand ways to modify their therapeutic approaches, just as teachers modify the curriculum content, classroom organization, or adult-child relationship to promote a good fit between the child’s temperament and classroom expectations. The goal is to appropriately support the child’s temperament to facilitate positive academic growth, literacy learning and communication performance.

The Distractible Child

Rachel, in Profile 1, can be described as a distractible child. Rachel has difficulty concentrating on items or tasks, as well as difficulty returning to the items or tasks following a distraction. As Rachel enters school, this may present difficulties since classrooms have many distractions. Teachers’ or SLPs’ modification of content, environment, and interaction style is very important to minimize negative outcomes for distractible children. Important content should be presented more than once, to ensure the child is attending and processing the task (Carey & McDevitt, 1995; Keogh, 2003). Distractible children often benefit from multiple sources of input (e.g., pictures, graphs, along with auditory information) to assist attention and recall of information. Distractible students should be praised for their on-task behavior rather than as the end result of a large task (Carey & McDevitt, 1995). Distractible students should only be provided with the items needed to complete the designated steps of an activity, in order to avoid being overwhelmed by a variety of interesting items. When appropriate, it is helpful to provide the student with time to explore distracting items. As Rachel enters the primary grades, it may be helpful for her to work in an area where noise and visual stimuli can be limited (Carey & McDevitt, 1995).

Rachel may benefit from reading alone with her parents, rather than always reading with her sister present. Sometimes distractible children attend more carefully to books on tapes, listening with earphones at a slightly-louder-than-usual volume level. Repeated readings may be helpful, as familiarity may help the child enjoy and participate more in the linguistic challenges presented during book reading.

The Active Child

Matthew, described in profile # 2, is an active child. He is constantly moving and interacting physically with his environment, from his arrival at school to his interactions in the classroom. Matthew’s active interaction style can impact his academic performance and ability to learn. In the classroom, Matthew may not obtain background information or benefit from explicit instruction because he is non-attentive and has difficulty monitoring his physical output. A high activity level may have a negative social impact, since a high activity level can limit the establishment of positive peer relationships.
The active child needs modification in the content, organization, and the adult-child interaction style. Content needs to be divided into very short segments, with many opportunities for hands-on practice and exploration (Carey & McDevitt, 1995). If the information requires physical passivity, learning may even be more difficult. A lack of compliance is sometimes a result of the child’s active temperament. Gradually building sitting skills as well as providing the student with time to “wind-down” before a more passive activity may benefit the overall task (Pelco & Reed-Victor, 2003).

The physical environment may influence the active child. Space needs to be as uncluttered as possible with more space between desks whenever possible. Using colored tape to designate specific “routes of travel” around the room may also be helpful in providing the student with a safe way to move within the classroom. Posting picture reminders of the rules may also help clarify expectations of classroom behavior (Pelco & Reed-Victor, 2003).

The teacher or therapist’s interaction style will also influence the teachability of the active child (Keogh, 2003). If the teacher has low energy or tends to be less direct and more passive there may well be a reduction in the adult-child relationship. An active child needs continual encouragement and reinforcement for monitoring his or her behavior and positive reinforcement for inhibiting physical output (Keogh, 2003).

Shared book reading may not be a positive interaction for the highly active child. Book reading with emergent readers that is not dialogic, is inherently a passive task since the child is the “listener” and not the “reader.” Shorter books, books with highly dramatic or exciting story themes, and manipulative books (books with flaps, movable parts, etc.) might be appealing to children who are very active (Kaderavek & Justice, 2002). Very active children may also benefit from acting out stories and participating in dramatic play activities of story themes (Pakulski & Kaderavek, 2003).

### Table 1: Illustrative Description of Children with Varying Temperament Profiles

<table>
<thead>
<tr>
<th>#1: RACHEL</th>
<th>#2: MATTHEW</th>
<th>#3: BRIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel is an active, four year old; she lives with her mother, father, and older sister. She enjoys many activities and toys; however, she typically plays with a toy for less than 5 minutes at a time. Rachel has difficulty sitting at the table for meals; she usually eats only a few bites, and then leaves the table. She attends a morning preschool program. Although she does not appear to have a significant behavior problem, she often is impulsive and has difficulty joining other children in play and interacting in ways that promote positive classroom interactions.</td>
<td>Matthew is a six-year old who enjoys his kindergarten class. His mother walks him to school every morning; most days, Matthew runs ahead of his mother and heads directly for the playground. His mother lets him play briefly, and then insist that he come into school. Mathew moves quickly to the toy area where he often dumps out a number of toys very quickly. With some protest, Matthew picks up the toys and, with strong encourage, goes to his seat.</td>
<td>Brian is a ten-year old who is small for his age. He was born two months pre-mature. Brian is very bright and now, in fourth grade, has been identified as being “gifted.” However, Brian is not performing well in his classroom because he does not generally complete his work, particularly when the work is more challenging.</td>
</tr>
<tr>
<td>Rachel’s mother or father read to their daughters every night before bed. Whereas Rachel’s sister always enjoyed book reading, Rachel does not seem interested in storybook reading. She interrupts, attempts to turn the pages before her parent has finished reading, and often leaves the book reading interaction before the story is finished.</td>
<td>Matthew’s teacher, Mrs. Rao, reports that after entering the classroom each day, Mathew moves quickly to the toy area where he often dumps out a number of toys very quickly. With some protest, Matthew picks up the toys and, with strong encourage, goes to his seat. During seatwork, Matthew squirms and fidgets during much of the time. He often gets out of his seat to throw out trash and get materials. His behavior frequently disrupts other students.</td>
<td>Brian’s mother has attempted to interest her son in some out-of-school activities such as piano lessons, martial arts, and gymnastics. Initially, Brian is very enthusiastic, but he quickly loses interest with the required practices and skill-building exercises.</td>
</tr>
<tr>
<td>Rachel’s parents have asked her preschool teacher for advice.</td>
<td>Mrs. Rao feels Mathew is a bright and interesting student, but he is often difficult to control in the group setting. He generally does not listen to book reading, either at home or during group story time in class.</td>
<td>Brian’s mother is concerned about her son. She worries that he will become a life-long “underachiever.” She approaches Brian’s teacher at school for advice.</td>
</tr>
</tbody>
</table>
The Non-Persistent Child

Brian, profile # 3, would be described as a non-persistent child. Clearly, Brian is capable of doing well in school; however, he does not respond well to challenges and has not been successful. This is evident in school and also demonstrated in his extracurricular activities.

Teacher or clinician modification of the instructional cycle or therapeutic interaction is appropriate and can benefit the student with low levels of persistence. It is best to avoid telling the student that something is “hard,” since this may only reinforce their tendency to avoid challenging tasks (Carey & McDevitt, 1995; Keogh, 2003; Pelco & Reed-Victor, 2003). It may be helpful to give the student high levels of success with easier tasks and only gradually expose them to more challenging activities. Another option while working on challenging tasks is to break down the difficult task into smaller, easier ones (Pelco & Reed-Victor, 2003).

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Table 2: Summary Table of Temperament Profiles

<table>
<thead>
<tr>
<th>The Active Child</th>
<th>The Distractible Child</th>
<th>The Non-Persistent Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Child has difficulty sitting still; may squirm during quiet activities.</td>
<td>• Child may be distracted from a task when mother enters the room.</td>
<td>• Child will move from one task to another without completion.</td>
</tr>
<tr>
<td>• Child will often run; sometimes ahead of group.</td>
<td>• Child may be distracted by unusual noise such as the telephone or doorbell.</td>
<td>• Child easily becomes frustrated/discouraged when attempting tasks.</td>
</tr>
<tr>
<td>• Child will exhibit a lot of physical activity: running, jumping, climbing.</td>
<td>• Child’s may look around the room while attempting a task.</td>
<td>• Child may complete tasks poorly.</td>
</tr>
<tr>
<td>• Child may have difficulty waiting in line.</td>
<td>• Child may have difficulty completing routine tasks such as getting ready for bed.</td>
<td>• Child may respond intensely with screams when he is confronted with a difficult task.</td>
</tr>
<tr>
<td>• Child may jump, scream, or yell when excited.</td>
<td>• After being distracted, child may have difficulty returning to present task.</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Summary Table for Working with Students in the School Context.

<table>
<thead>
<tr>
<th>Working with Active Students</th>
<th>Working with Distractible Students</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Divide content into short segments, include hands on practice and opportunities for exploration whenever possible.</td>
<td>• Be prepared to present important content information more than once.</td>
<td>• Avoid telling the student that something is going to be “hard.”</td>
</tr>
<tr>
<td>• Gradually build sitting skills.</td>
<td>• Present information in a variety of different ways (include visual and auditory information).</td>
<td>• Let the student experience success with easier tasks before introducing more challenging tasks.</td>
</tr>
<tr>
<td>• Post picture reminders of the rules throughout the classroom.</td>
<td>• Limit the noise and number of visual distractions by the position of the student's desk.</td>
<td>• Break large tasks into smaller easier portions.</td>
</tr>
<tr>
<td>• Clearly mark “routes of travel” within the classroom.</td>
<td>• Only provide the student with items needed to complete designated steps of a task.</td>
<td>• Do not become frustrated because a child is not working to his potential.</td>
</tr>
<tr>
<td>• Provide student with uncluttered area and spacing between desks.</td>
<td>• When appropriate, allow the student time to explore distracting items.</td>
<td>• Directly teach the student positive ways to handle his frustration.</td>
</tr>
<tr>
<td>• Allow student to take “breaks” when working on activities with a great degree of passivity.</td>
<td>• Encourage and reinforce the student for on-task behavior.</td>
<td>• Support the student with encouragement and reinforcement throughout the task.</td>
</tr>
<tr>
<td>• When the student inhibits physical expressions reinforce his behavior.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Children with low persistence may need to be presented with more challenging material in short segments; longer time periods are likely to promote their withdrawal from the activity (Carey & McDevitt, 1995; Keogh, 2003). Rather than being frustrated that a child is not working to his potential, the low levels of persistence must be factored into the child’s overall learning paradigm. It is imperative to recognize how these children learn in order to help them avoid negative reactions to learning experience. Directly teaching the child positive ways to handle his own frustration will provide him with a method for working through difficult tasks in the future (Pelco & Reed-Victor, 2003).

Brian, in example #3, was a gifted student and is likely to become a good reader. However, for other students, who have similar temperament, reading can be a more difficult task. Children with low levels of persistence and a tendency to avoid or withdraw should be carefully monitored during these more explicit literacy interactions.

Any young child who is at-risk for learning to read must be given many opportunities for successful book reading interactions. The goal of shared book reading should be to enhance a child’s language and literacy skills; maximizing enjoyment and eliciting a shared positive affect as an important first step and foundation for language and literacy growth.

More explicit literacy attention to print and sound should be embedded within an overall context of mutual enjoyment and participation.

In summary, it is important to be aware of children’s temperament characteristics in order to facilitate an optimal educational environment. With increased awareness of temperament profiles, teachers and clinicians are more likely to modify the environment and vary adult-child interaction patterns to facilitate a “good fit” for the child within the classroom or therapy context thus maximizing each child’s potential for academic success.

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Reading, writing, listening, and speaking are infused into every aspect of educational subject material; therefore, literacy proficiency is necessary for ongoing academic success. We use literacy every day, not only in school, but in our employment, social contacts, and daily living activities. We need to be literate to take advantage of organizational aids, to access the web, to express ourselves through writing, and for our self-esteem. Literacy support for students with severe speech and physical impairments is critical since 70-90% of individuals who use augmentative and alternative communication (AAC) read and write at levels significantly below their same-age nondisabled peers (Koppenhaver & Pierce, 1994). Cunningham et al. (1999) reports that the majority of these children are actually reading below the third grade level, while Light and colleagues (2005) confirm that a majority of individuals who require AAC do not acquire functional literacy skills. As speech/language pathologists and teachers, our goal for individuals who need to use AAC for communication, is for them to become fluent readers and writers, because any individual who can read and write will be able to say anything that is on his/her mind and will never have to be dependent on a preselected vocabulary set to communicate.

**Literacy Learning**

Research has demonstrated that AAC strategies support literacy learning in children with special needs (Hetzroni, 2004; Sturm et al., 2002). So what can we do to support better literacy learning for individuals who require AAC? According to Light and colleagues (2005), three areas need to be addressed: appropriate instructional content, appropriate instructional procedures, and making adaptations to allow active participation of individuals who cannot produce spoken responses.

Instructional content and procedures should model those of our typically developing students with an expectation that these children will move from being emergent readers and writers to becoming fluent readers and writers. As with typically developing students, we need to read interesting texts to students, talk about the stories and relate them to the students’ experiences. Active participation needs to be encouraged, comprehension needs to be built, and repeated readings need to be provided in order to build competence. To support literacy development, we need to build language skills, both semantic and syntactic knowledge, as well as phonological awareness skills (including phoneme segmentation and sound blending), letter-sound correspondences, early reading and decoding skills, and early writing skills (i.e., dictating/telling stories, writing stories, invented spelling).

For all students, principles of effective instruction should guide us to use meaningful materials and to provide direct, explicit instruction in basic skills when needed (i.e. model the skills; prompt the student and provide guided practice; check the student’s performance). Scaffolding should be provided as support initially for oral production/rehearsal for the student and then gradually faded. Repeated opportunities are needed for students to practice, ensuring their active involvement, and incorporating their new skills into meaningful literacy experiences.

**Children Who Use AAC**

So what needs to be different in order for children who use AAC to achieve the same levels of literacy success as their peers? First of all, we need to think from the perspective of the input and output modes. The input for these students will be the same, but the output and the modes of practice will be different. Alternative response modes need to be defined for the student, such as, will they need to be pointing to pictures/words, spelling, signing, eye pointing, vocalizing, or using speech output via a speech generating device or computer? When will they use each of these modes? For example, will they respond to yes/no questions by vocalizing, eye point for multiple choice questions and then use a speech generating device to discuss character development? A plan needs to be developed to determine the most efficient response mode for each task.

The second, but equally important point, is providing access to vocabulary. We can’t expect a student to successfully use any alternative modes of communication if he does not have access to the appropriate vocabulary that will allow him to answer the questions, talk about the characters, or share his experiences.
Unless the child is using sign language, vocabulary is generally accessed through the use of a communication board/overlay. These boards/overlays can be simple or complex, topic specific or generic, and either speech generating or reliant on the communication partner to provide the voicing.

**Communication Boards**

Communication boards can be used in a variety of ways from a basic choice board for allowing the child to select the book that she wants to read, all the way to boards with extended vocabulary sets of nouns, verbs, adjectives, and objects that will allow the child to generate novel multi-word utterances. Vocabulary is represented graphically using vocabulary symbol sets such as Picture Communication Symbols (Boardmaker by Mayer-Johnson Company, Inc.; http://www.mayerjohnson.com), orthographically through spelling, or by using scanned images.

The organization of the communication board is extremely important whether the child is using a low-tech picture board or a sophisticated speech generating device. Time needs to be spent on developing a template prior to creating the first board so that the location of vocabulary on each board will be as predictable as possible so the child does not have to search randomly each time a new board/overlay is accessed. Vocabulary/messages should always be sequenced left to right and top to bottom, whenever possible, so the child follows the natural pattern for reading. When visually scanning any new symbol page/overlay, the child should be encouraged to look for the symbol/word by following the left/right/top/bottom pattern.

Any message, command, or word that appears on all overlays, should be placed in the same location on each and then new vocabulary can be added into the other available locations. Vocabulary should never be moved around on a board to “test” a child. Just as we have learned to rely on our computer keyboards to have the letters in the same location each time we access them to type, so vocabulary should be kept in the same locations, so the child will begin to build automaticity and speed when accessing his communication system for speaking, reading, and writing tasks.

**Emergent Readers and Writers**

We know that for emergent readers and writers, homes and classrooms need to be language and print rich environments to stimulate and enhance the emergent literacy experience, especially for individuals at risk for language and literacy failure (King DeBaun & Musselwhite, 2001). Pictures (or whatever graphic symbol system complements the student’s understanding of language) with the printed word on them, should be paired with spoken language during learning activities throughout the day. There needs to be an emphasis placed on the individual’s receptive language learning or input, with the understanding that over time students will better comprehend events and activities in their surroundings and make sense of the world. The key words are participation and opportunity. Just as typical children in the early stages of interactive reading need to develop attention to task and have opportunities for turn-taking and basic interaction, children who use AAC must have those opportunities as well.

Communication boards can provide story specific vocabulary for both receptive and expressive language use, but it is important to note that when initially introduced, they are not intuitive for most individuals. (As speakers, we may access a mental dictionary for vocabulary retrieval, but we do not need to search visually to find the word we want and then access it.) Most graphic symbol sets categorize symbols/words in two ways: 1) by grammar/syntax (subject words/prenomouns, verbs, adverbs, adjectives, “little words” - determiners, prepositions, conjunctions, interjections) and 2) nouns/objects are further subdivided into categories such as buildings/places, clothing, food, drinks, etc. Object symbols are generally more transparent and easily understood, but symbols for actions/verbs, adjectives, and determiners are more opaque and are many times not easily understood without explanation. If the student is not yet literate, the printed word paired with the picture will not cue them as to the meaning of the symbol/picture. Aided language stimulation techniques need to be used to teach receptive vocabulary and model use of the communication board by pointing to the pictured vocabulary/graphic symbol as you simultaneously read/speak the words or talk about the story with the student (Harris & Reichle, 2004). Initially, strategies for finding words should also be talked through (i.e. “jumping - that’s something we do. It’s an action word. Let’s look for it here with these other action words.”; “Airplane - that’s like a car or truck. We call those vehicles. Let’s see if it’s stored here. See the picture of a car and train on this symbol.”). If a particular word is not found where it was thought to be, then once located, talk with the child about the semantic features that may have put it into a different location. Let the child see that it is okay to make mistakes when you are searching for vocabulary, but that it is important to continue to look to find the word you want. The child will need multiple opportunities to work with vocabulary before it will be easily and efficiently retrieved.

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1 See AAC Intervention.com for an extensive list of books with repeated lines (http://www.aacintervention.com/repeatl.htm).
For younger readers, there are a number of strategies that can increase participation (Tufte & Maro, 1999). For example, select repetitive phrase storybooks and pull the repetitive phrase/phrases from the story. Find a graphic symbol representation for this phrase or scan an image from the book you are reading. Place this image on a simple communication device or single message device such as a BigMack by Ablenet, Inc. (http://www.ablenetinc.com) or a Talking Photo Album. “Generic” communication boards can also be built to increase interaction with social vocabulary such as: “Turn the page!”, “What’s that?”,”Read that again!”, “I like that!”, “Yuck!”

**Early and Fluent Readers and Writers**

To increase participation, as the child advances in her reading skills, communication boards should provide a rich, single word vocabulary set for flexibility in combining words into novel sentences. These boards should be organized syntactically (following a left to right progression: question words, subject words, verbs/action words, determiners/conjunctions/prepositions, adjectives, object words) with color-coding for different parts of speech to assist visually in locating the vocabulary. Access to syntactical markers are needed so the child can mark tense, plurality, and comparatives during both reading and writing as well as access to print conventions such as punctuation marks for marking intonation and for writing.

Children who use AAC typically use only one or two word messages, have difficulty with both receptive and expressive word order tasks, use atypical syntactic structures, omit words that appear frequently in their language (i.e. verbs, articles), and use simple clauses, with limited use of complex structures such as questions, commands, negatives, and auxiliary verbs. (Beukelman & Mirenda, 2005). In order to increase syntactical complexity, it needs to be regularly modeled using the student’s augmentative communication system, expanding and extending from what the student has produced, much like we model for children who are verbal and learning language. As the child becomes a reader, he will be able to visually see the order of words, the appropriate structure, and morphological markers that make up more complex sentences. As a writer, we need to encourage the student to produce more complex syntactically correct sentences.

Communication boards need to do more than just provide choices. They should allow for multiple pragmatic opportunities - greetings, making comments, asking questions, acknowledging someone else's viewpoint. Students should be able to answer open-ended questions, thinking questions, and cause/effect questions rather than just yes/no questions. Figure 1 is an example of a word-based communication board with vocabulary specific to the story, *If You Give a Mouse a Cookie* by Laura Joffe Numeroff. This communication board allows the student to ask questions, comment, and tell/retell the story using syntactically correct multi-word sentences.

Soto and Liboiron (2005) have demonstrated effective use of multiple scaffolding strategies to achieve higher levels of semantic complexity, such as metalanguage, inference and
interpretation, during a shared book reading activity with a child using AAC. These strategies included the use of comprehension questions, cueing, pointing and gesturing, print reference, constituent questions, binary choices, expansions, cloze procedures, and modeling the use of the speech generating device.

Users of AAC often are considered at risk for delays in the area of phonology and experience difficulty learning to read, spell, and write as a result of decreased phonological awareness skills (Beukelman & Mirenda, 2005). Because the student may not be able to produce speech or her production is deviant, it will be difficult to practice phonological awareness tasks such as segmenting sounds of words, blending individual sounds to form words, and rhyming. A simple modification of most literacy curriculum materials can be made by voicing for the student each of her choices. Allow the student to attempt to vocalize/verbalize if at all possible to assist with learning. Using the keyboard page on a synthesized speech generating device or a computer with text to speech software, the student can be given opportunities to experience segmenting, blending, and rhyming.

Light et al. (2005) point out the importance of moving the child sequentially through literacy instruction, beginning with the development of phonological awareness skills and letter sound correspondences. Once the student is competent with sound blending and knows approximately 6 to 7 letter-sound correspondences, then they are ready to learn single word decoding while continuing to learn new letter-sound correspondences. As new correspondences are learned, then it is important to integrate these by introducing new words that use the new letter and old letters in combination. Begin then to have the student decode target words in the book during shared reading tasks. As always, continue to build language skills through vocabulary and syntactical/morphological development and infuse new skills into meaningful reading experiences. At the same time, be sure that reading to and with the student is a routine part of literacy experience. From single word decoding of CVC words, gradually introduce longer, more complex words (i.e. CVCC and CCVC words) and begin to introduce rules such as long vowel/silent e. Teach frequently occurring irregular words as sight words and encourage independent reading of short sentences and phrases.

Children need time for independent practice. Books you share with students will be most effective if the materials are made available for them to further explore. Students will naturally want to practice what has been presented in order to assimilate the new information. They will want to manipulate, repeat, share, and expand upon the materials that were used. If the child has a speech generating device or text to speech computer software, he will be able to type in unfamiliar or forgotten words as he reads/rereads independently and have the device/computer read the word/phrase aloud.

Writing instruction also follows the above progression beginning with instruction in specific skills such as phoneme segmentation and letter-sound correspondences. Have the child use his AAC system or a computer to access letters and sounds. Opportunities need to be provided to engage students in meaningful writing activities. These could include dictating/telling stories, patterned story telling (rewriting a familiar story such as “If You Give a Mouse a Cookie” with new characters or scenarios), or writing using a familiar story and expanding the story line.

Adapted Materials

For children with more physical disability, additional adaptations may include increasing physical access to printed materials by using page separators, page-turners, book pages inserted in plastic page protectors or paperback books that are hole-punched with spines removed and placed in small binders for easier page turning. CD-ROM books, books on tape, and videos can also be used as supplemental materials and accessed independently using switches.

A large variety of software is available to assist students with writing and spelling activities. For the purposes of this paper, only a few are highlighted as examples and are not to be viewed as all inclusive.

Word prediction technology is used to assist with text entry. These software packages predict the word you are typing and the next word based on word frequency and context. They may also include features such as spell checking as you type, speech synthesis, and hotkey’s for frequently used words. Word prediction is particularly useful for slow typists, probe or pen users, and people with minor visual impairments or dyslexia. It is available on all synthesized speech generating devices. One of the more popular word prediction programs is Co:Writer Solo. It can be used along with Write:Outloud Solo (Don Johnston, Inc.; http://www.donjohnston.com), a talking word processing program with purposeful revision and editing tools to assist students with making changes and improving their writing.

Inspiration and Kidspiration 2 software (Don Johnston, Inc.) are other popular programs that help younger students build early literacy skills and older students develop their ability to understand and communicate ideas. Using visual learning strategies, students create graphic organizers with pictures, text and spoken
words. Students build concept maps, diagrams and webs that will help them synthesize, analyze and evaluate information.

Writing with Symbols 2000 (Mayer Johnson Company, Inc.) is a word/picture processing program that allows the student to type words with the option of having picture symbols appear with each word. This program has three primary purposes: to allow teachers and parents to make picture materials, to allow individuals who don’t recognize text to write with pictures, and to allow text users to have a talking word processing program with a pictorial spell checker.

One additional resource is an online newspaper for beginning readers and individuals with special needs, called News-2-You (http://www.news-2-you.com). This is an exciting literacy tool that provides weekly access to sources of "new information" that are interesting and meaningful to students. Each issue includes a current event, a recipe, a joke, and activity pages related to the weekly lead story. Additional pages include updates on weather, sports, and movie reviews. Each edition is available in three levels: regular, simplified, or high and can be accompanied by a communication board to assist with conversation regarding the newspaper articles. Each paper is designed to address the Academic Standards for Reading, Writing, Speaking, and Listening written by the National Council of Teachers of English (NCTE) and the International Reading Association (IRA) while providing enriching and interesting literacy activities.

**Summary**

Success in school starts with reading. When children become good readers in the early grades, they are more likely to become better learners throughout their school years and beyond. Learning to read is hard work for some children and even harder when they have significant difficulty with producing verbal language. But, the end result of a child who can fluently read and write and is able to say exactly what is on his/her mind is worth the effort.

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**REFERENCES and RESOURCES**


SCHOOL FORUM - Curriculum- Relevant Vocabulary Strategies for Adolescent Learners

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The Federal No Child Left Behind Act of 2001 (NCLB, 2002) requires states to administer ongoing assessments of students’ achievement of the curriculum learning outcomes identified by the state. In Ohio, assessments of reading curriculum achievement are administered in grades three through eight to demonstrate students’ annual outcomes and in grade 10 to demonstrate competency for graduation. Achievement of writing outcomes is assessed in grades four and seven and demonstration of writing competency for graduation is assessed in grade 10 (Ohio Department of Education, 2005b).

The purpose of this article is to provide information for speech-language pathologists (SLPs) who want to assist in preparing adolescent learners for mandated testing in reading and writing. It is important for SLPs to be familiar with (1) the demands of the tests and (2) the curriculum standards on which the testing is based. As an example of test demands, the eighth grade reading test administered in March 2005 (Ohio Department of Education, 2005c) is available at http://www.ode.state.oh.us/proficiency/previous_test/8th_grade_achievement/8thReading_March2005.pdf.

It is apparent that students’ success will depend on utilizing a variety of reading comprehension strategies (e.g., finding paragraph details, summarizing, inferencing) and strength in vocabulary (e.g., contextual usage of words such as scythe, elude, plait, timothy, whetstone).

The primary task of the March 2005 Ohio Graduation Test in writing (Ohio Department of Education, 2005a), available at http://www.ode.state.oh.us/proficiency/ogt/PDFs/Spring_2005_Writing_Base_Test.pdf, appears to be application of the conventions of writing. In addition, students must write with elaboration on required topics. Two of the vocabulary words necessary to complete the writing tasks were donation and cloak.

Ohio’s achievement testing is designed to correspond with curriculum content standards and to measure cumulative learning and overall school achievement. The English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001) identify ten general areas of achievement which are further specified as numerous benchmarks and grade level indicators that serve as behavioral objectives pertinent to each area. For students to demonstrate achievement of all of the standards, benchmarks, and indicators entails their adept use of many complex processes, skills, and strategies that are central to attaining higher levels of literacy. The ten standards are:

- Reading Applications: Literary Text
- Writing Process
- Writing Applications
- Writing Conventions
- Research Standard
- Communication: Oral and Visual

Ohio achievement tests require students to apply multiple skills simultaneously, for instance, comparing the meaning of two statements while applying the meaning of contextual vocabulary to the statements. Preparing students to apply and integrate the processes, strategies, and skills that are derived from the ten areas of achievement can be a challenge (Pershey, 2003a). Which areas of strategy instruction might have significant impact upon students’ success on achievement testing? Might there be certain areas of instruction where SLPs could focus their efforts in order to attain impact on students’ performance on mandated testing? How can SLPs determine which areas of the curriculum might be the most important areas to align with the objectives written on students’ Individualized Educational Plans?

I’ve conducted some research that may help answer these questions. A few years ago teachers from a district which had consistently poor performance on state mandated reading and writing testing asked me if I could help them determine whether certain language capabilities might predict or influence students’ achievement test performance. The teachers’ subjective impressions were that regular education students’ substandard scores were likely due to an inadequate oral language basis that impacted negatively on reading and writing achievement test performance. Researchers Meisels (1989) and Popham (1999) suggested that language development could be a factor in achievement test performance;
however, this appeared to be an unexplored area of research. I found little data on how developmental language capabilities impact performance on tests of curriculum mastery. To explore this hypothesized connection, I administered 21 different sub-tests of oral and written language and reading skills to 263 mainstream fourth and sixth graders. The sub-tests probed skills in syntax and grammar, vocabulary, knowledge of the conventions of written language, reading comprehension at the word, sentence, and paragraph levels, and several other language-based skills. By conducting multiple regression analyses, I found that vocabulary capabilities accounted for roughly 46% of the variance in fourth graders’ scores on Ohio’s mandated reading tests. This means that 46% of the outcome on reading testing could be accounted for by vocabulary abilities; the other 54% would be attributable to other factors, but roughly half of student performance was predicated on oral vocabulary, reading vocabulary, and/or written language vocabulary. Reading ability itself was not more important than vocabulary for predicting outcomes on reading achievement tests.

For sixth graders, vocabulary accounted for approximately 30% of the variance in reading achievement test outcomes. For both grades, the ability to manipulate compositional elements (choosing and ordering words to form sentences, expressing multi-sentence ideas, choosing how to best convey a purpose, and writing mechanics) also had some predictive power. Reading comprehension testing was also predictive. But none of these areas of skill had as strong an influence on test performance as vocabulary knowledge. Students with higher vocabulary scores did well on mandated reading achievement testing and students with lower vocabulary scores performed more poorly on mandated reading achievement tests. In addition, although vocabulary abilities were a marginaly significant predictor of variance in mandated writing test scores, vocabulary was still a stronger predictor than any of the other areas tested (Pershey, 2003b).

From my research I have cultivated the impression that vocabulary knowledge is central to successful achievement test performance. Other researchers (Beck, Perfetti, & McKeown, 1982; Blachowicz & Fisher, 2000; Johnson & Pearson, 1984; McKeown, Beck, Omanson & Perfetti, 1983; Moats, 1999; Nagy, 1988; Reutzel & Cooter, 2003; Stahl, 1983; Stahl, 1991; Stahl, 2003) described how vocabulary knowledge influences reading comprehension and, it would follow, performance on reading achievement tests. These authors provide a conceptualization of the components of effective vocabulary instruction. What remains, then, is to apply these effective instructional measures to the demands of the English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001).

The English Language Arts Academic Content Standards (Joint Council of the State Board of Education and the Ohio Board of Regents, 2001) identify benchmarks for vocabulary acquisition for adolescent learners. By the end of grades four through seven, learners are expected to:

- Use context clues and text structures to determine the meaning of new vocabulary.
- Infer word meaning through identification and analysis of analogies and other word relationships.
- Apply knowledge of connotation and denotation to learn the meanings of words.
- Use knowledge of symbols, acronyms, word origins, and derivations to determine the meanings of unknown words.
- Use knowledge of roots and affixes to determine the meanings of complex words.
- Use multiple resources to enhance comprehension of vocabulary.

By the end of grades 8 through 10, additional objectives are added to the earlier bank of skills, including:

- Examine the relationships of analogical statements to infer word meanings.
- Recognize the importance and function of figurative language.
- Explain how different events have influenced and changed the English language.
- Apply knowledge of roots and affixes to determine the meanings of complex words and subject area vocabulary.

Learners who have completed grades 11 through 12 are expected to also add the following knowledge:

- Verify meanings of words by the author’s use of definition, restatement, example, comparison, contrast, and cause and effect.
- Distinguish the relationship of word meanings between pairs of words encountered in analogical statements.
- Explain the influence of the English language on world literature, communications, and popular culture.

While these vocabulary usage skills and strategies are integral for comprehending text, it would be difficult and probably ineffective to try to teach these processes one by one. Nevertheless, it is clear that to comply with the curriculum standards we need to teach vocabulary strategies, not vocabulary words. We need to promote the acquisition and use of vocabulary to learn and to communicate. As Reutzel and Cooter (2003) explained, we use our vocabularies to express ideas and concepts. Our vocabularies grow almost daily as we learn new information and experience different events. In this way, as Hirsch (2003) also described, word knowledge and world knowledge provide students with the background they need to comprehend the ideas and concepts presented in texts. It has also been promoted that the best way to increase vocabulary is to read widely (Anderson, Hiebert, Scott, & Wilkinson, 1985). We have a cyclical effect - on the one hand,
interesting learning experiences help build the vocabulary students use to comprehend text, while on the other hand reading widely helps build the vocabulary that students need to benefit from their in school and out of school learning experiences (Reutzel & Cooter, 2003). A half century of research on effective vocabulary instruction has been driven by this reciprocal effect and has resulted in several guiding principles. I’d like to summarize these principles and provide some examples for helping adolescents become strategic vocabulary learners.

Integration, Repetition, and Meaningful Use

Successful vocabulary instruction is based on three key instructional practices - integration, repetition, and meaningful use (Nagy, 1988). Students need to work with words that they can integrate into their daily lives and school experiences. The words we teach need to be repeatedly integrated with subject matter in meaningful ways. Repetition may involve direct instruction as well as indirect, incidental exposure to important words. Stahl (2003) wrote that it usually takes 12 encounters with a new word before the word is known to us and comprehended - until we know what the word means. Given fewer than 12 encounters, with little integration or meaningful use, words may remain in that gray area of “I’ve heard of it, but I don’t know what it means,” or “I recognize it in context - it has something to do with…..”. Johnson (2001) suggested as many as 40 encounters per word may be necessary for mastery.

Which words are worthy of repeated exposure? We may think it would be the arcane words like scythe or cloak that would beleaguer the test taker. But the research on vocabulary instruction informs us that it’s less important to comb our reading passages for unusual words that seldom appear. Instead, we need to help our readers know the strategy of examining unknown words for their potential meanings in context and immediately generating class and example relationships. They will be seeing scythe or cloak in relation to other words in a passage and they should ask themselves how they can search the passage for clues to meaning. In the case of scythe and cloak, the reader can ask what class of objects these might belong to - what kinds of things might these be? Given the general categories they fall under (tools and clothing) it’s pretty easy to generate other examples in this category (other cutting tools are knives and axes; other warm garments are coats and sweaters). By thinking of a probable category and other examples in that category, properties of the

Figure 1: Semantic web, map, or cluster

Directions: Place a new vocabulary word in the center circle. With your group, complete as much information in the other circles as you can. Be sure to consult a dictionary.
but he or she will become more expressive by using common words in imaginative ways. For example, the simple word dark can very meaningfully express the traits or motives of characters or can be used to describe periods in history.

We can also teach vocabulary-building base words and word parts - words that will help the learner understand what other words mean, e.g., temper will lead to learning temperamental, temperament, temper tantrum, temperate, temperate zone, tempest, tempestuous. This type of word study builds in integration and repetition. Although vocabulary learning is basically a convergent task - we learn the meanings of words as they are commonly used - we can allow for some divergent activities to enhance meaningfulness and to alleviate the common problem of equating vocabulary instruction with memorization. An activity such as "Draw a picture of your temper." would be a divergent task that would allow for creative expression around learning the word temper.

**Breadth, Depth, and Connections**

Nagy (1988) noted that vocabulary instruction should build a breadth of word knowledge. Our students should know a lot of useful and relevant words. Instruction should also allow learners to know a fair number of words in depth and in detail. Third, learners should be able to use their vocabularies to make connections among words.

To help learners acquire vocabularies that are broad and deep with word meanings that are easily connected, Nagy (1988) suggested two main approaches for vocabulary study. One approach is to guide learners to understand unfamiliar words by analyzing the contexts for the use of words. This would mean analyzing how words are used interrelatedly in a text to help the author develop a concept. The meaning of an unknown word is supported by the meaning of other words that are known. The second approach would be to teach analysis of the structure of words. Words interrelate when they share roots, base words, affixes, and origins. I think that in contextual analysis we are asking learners to look outside of the word to know its meaning. In structural analysis we are looking inside the word to see what it means.

To make the most of contextual analysis we need to expose students to words systematically and in depth. Vocabulary words will coincide with a topic of study or a text. The vocabulary words should be learned in ways that reinforce the concepts and ideas under study. Words can be presented in relation to concept networks by using semantic webbing, mapping, or clustering (Figure 1), or by using semantic feature analysis, where words are used more than once across contexts, such as to describe different characters in a story. (Figure 2).
We can keep vocabulary posted on a word wall that relates to the topic of study. Cunningham (2000) described a word wall as simply a place on the wall where important, useful, and sometimes troublesome words are posted. The words are visible for repeated referencing. Structural analysis features may be emphasized, for example, by using two different colors of ink to differentiate root words from affixes. Or words can be sorted and categorized to aid understanding of their contextual interrelatedness. Posted words can be accompanied by concept cues, such as using the word in a sentence or in a quote from a text, by providing an illustration that depicts the word, or by including a contextually relevant definition. Word walls should be co-constructed by students and their teachers and SLPs. Learners should be encouraged to contribute to the word wall frequently.

Vocabulary study has its tools - dictionaries, thesauruses, and glossaries - but these should be used meaningfully and purposefully. Students usually don't need to know the definitions of words per se. Definitions tax memory and may be difficult to apply to context. Stahl (1986) found that vocabulary instruction that was based on definitional information failed to improve comprehension. Instead of definitions, we can use a think aloud procedure - “I know what this word means because.....” (Baumann, Jones, & Seifert-Kessell, 1993; Oster, 2001). Students can use their own reasoning to create personal dictionaries or glossaries of important words.

**Timing Is Everything**

To connect vocabulary instruction with reading comprehension, SLPs may choose to emphasize vocabulary building activities that occur before students read their texts, during reading, or after reading text. There are advantages to timing vocabulary interventions at each stage of the reading process.

Pre-reading discussions can help students brainstorm the vocabulary that they already have on a topic. This discussion can help establish focus for the reading and can help students generate pre-reading questions and predictions based on their prior knowledge. Students can skim the text’s organizational features, such as its headings and glosses, and identify known and unknown words. We can introduce challenging structural variants that will be encountered in the text, such as homonyms, homographs, abbreviations, and words borrowed from other languages.

During reading, key words can be recorded and, if necessary, grouped; for example, technical words, places, action words, or describers. Figures of speech can be analyzed. The text’s signal words can be noted (on the other hand, finally, since, for example, in order that) and the purposes of these words can be explored (to signal sequence, to enumerate, to contrast ideas, and to otherwise order the ideas found in the text). During reading, students should be continually self-monitoring their understanding and describing aspects of the text that have made an impression on them. The use of text vocabulary is integral to this process. During reading, if necessary students can refer to dictionaries, glossaries, thesauruses, and other informational sources to mediate their understanding of text.

After reading, students can participate in reflective writing where they share their thoughts and opinions about the text. Students can use the vocabulary of text to clarify their comprehension of concepts, confirm their predictions, and form conclusions.

In summary, to help adolescent learners acquire the vocabulary skills and strategies that may help them successfully complete Ohio’s mandated achievement tests in reading and writing, SLPs’ interventions can focus on (1) integrating vocabulary words with meaningful learning experiences, (2) providing repeated exposure to key words, useful words, and vocabulary-building base words by using word walls and personal dictionaries or glossaries, (3) helping students use common words in a variety of ways, (4) guiding learners to use context cues to ascertain word meaning, (5) teaching analysis of the structure of words, (6) teaching words in conceptual networks, (7) teaching meaningful and purposeful use of dictionaries and other tools, and (8) studying words systematically and in depth before, during, and after reading activities.

**Additional Resources**

There are many print and web based resources to consult for information on vocabulary instruction for adolescent learners. A few useful examples follow:


Henry, M.K. (1990). *WORDS: Integrated decoding and spelling instruction based on word origin and word structure.* Austin, TX: PRO-ED.


REFERENCES


Introduction

Recently, the National Center for Education Statistics reported that only 33% of college graduates were considered proficient in prose literacy in 2003. The majority of college graduates, 53%, were considered at an intermediate level for prose reading, and 14% were at basic level for prose reading. Of those adults with high school diplomas, only 4% were considered proficient in prose literacy, and 39% were at the basic level. Although these data are for reading skills, it is highly likely that there is an equally wide range of writing skills among adults who have a minimum of a high school education.

After leaving high school, these adults encounter different experiences with much variation in use of writing throughout their lives. Varied backgrounds of educational, work and leisure activities present a diverse experience on which to compare writing experiences in adults. In addition, we have to deal with variations in cognitive skills, such as attention, phonological processing, and spelling skills. So how do we know what is “normal” in adult writing? In children, we can compare by age and grade level although the variation here is substantial as well, depending on writing use and experience emphasized in different school systems. We have an understanding of the frequency and duration of writing activity within academic settings, but after formal schooling, there is no “grade level” correlate to aging and the use of and experience with writing is quite varied.

Studies of changes in adult writing over time have been limited. Researchers have analyzed a wide range of linguistic variables in either longitudinal studies or age group comparisons. This makes it difficult to compare research studies. The purpose of this paper is to summarize what we do know about adult writing and about changes with aging in the areas of syntax, spelling and narrative cohesion. Developing baselines for adult writing is imperative if we are to a) use writing as a predictor of neurological change over the course of a person’s lifetime, or b) use writing as one way to differentiate persons who are typically aging from those with neurological conditions.

Handwritten samples from adults without pathological disorders can be observed to contain “normal” errors at all ages. These include movement and selection errors of letters and/or whole words. Examples of letter errors include letter reversals, letter perseverations, insertions, substitutions and deletions. Sgaramella, Ellis and Semanza (1991) published a comparison of normal handwritten material with writing produced by adults with aphasia. The researchers recognized that normal individuals produce errors that are performance based or slips of the pen. The study included analysis of essays from 150 Italian university students. Results demonstrated that of the letter errors, 62% were graphemically and/or phonologically similar. Of the word errors produced, 83% were semantic word substitutions and only 10% were phonological. The majority of letter and word errors were substitution and omission selection errors in the “normal” writers. Production of neologisms (new or nonsense words) did not occur in the normal adult group.

More recently, Moretti et al. (2003) analyzed handwritten productions from 16 Italian women, (mean age of 23.4 years), who were at a university educational level. The written tasks included description, dictation, copying and summarizing. The study investigated performance in normal conditions and with two distracters - vocalizing of nonsense speech syllables and tapping with forefinger of the left or non-writing hand. The distracters were designed to determine if external conditions affected handwriting and will not be summarized here. The analysis included word level classification of writing errors, including word and letter movement and selection. The researchers found that in the normal condition group, letter-movement, letter selection, word movement and word-selection errors occurred. The largest percentage was letter-selection errors (53/82%)}
total mistakes). Moretti et al.’s 2003 finding supports the well-accepted fact that people normally make some selection and movement mistakes in handwriting tasks.

In contrast to information about typical young adults, what do we know about normal errors in the writing of older adults? Studies on the writing of older adults tend to focus on linguistic change, with an expectation that change will occur with normal aging due to declines in working memory and attention. Narrative skills may continue at a sophisticated level well into a healthy person’s 9th decade. What differences are normal and which correspond to normal cognitive aging? A number of studies have information that adds to our knowledge of syntax, spelling and narrative cohesion in the writing of older adults.

**Syntactic Complexity in Aging Adults**

Kemper (1987, 1988) and her colleagues (Kemper, Kynette, Rash & O’Brien, 1989; Kynette & Kemper, 1986) investigated changes in written and oral productions with aging. Her research revealed an age difference in the type of embedding of sentence clauses, and argued that this was due to a decline in processing ability. These studies reported a decline in the accuracy of left branching clauses with age. Left-branching sentences may require more working memory because there is a disconnection between the information and the source of the reference. A writer has to hold the idea in active working memory. Kemper provides an example of a left-branching subordinate clause: “Because Bill left the party without his coat, John was upset”, while a right-branching version would be “John was upset because Bill left the party without his coat” (Kemper, 1988, p. 61). Kemper has continued to support the findings of her earlier research with more recently published studies (Kemper, 1990; Mitzner & Kemper, 2003).

Glosser and Kaplan (1989) compared the writing of individuals with Alzheimer’s disease or aphasia to those without neurologic pathology. Although their main purpose was not to describe normal syntactic performance, the study does provide us with some data to add to our knowledge base. Glosser and Kaplan included three age groups (45-59 years, 60-74 years, and 75-89 years) with 32 normal subjects who were examined on the production of word and sentence level writing. The sentence level writing tasks included sentence completion, sentence description, sentence dictation and sentence copying. The sentence dictation and copying tasks involved 8 sentences matched in length, syntactic complexity and word frequency to the sentence description task. The researchers did not find any statistically significant group effects or group X task effects for mean length of sentence or number of linguistically referenced content units. There were no age group differences for omission of subject, verb or other morpho-syntactic errors. They did report two differences for the oldest age group (age 75-89) as compared to the younger groups for the task of sentence description. There was an increase in functor omissions in the oldest group. In addition, the oldest group produced fewer complete intelligible sentences and more incomplete intelligible sentences in the sentence description task than the two younger groups.

Bromley (1991) performed a cross-sectional study of 240 participants in six age groups from ages 20-86. There were no details provided regarding the age range within each group. The writing task involved constructing a written personality description of nine target individuals, i.e. “a man I like”. One sheet of lined paper was provided for writing each description. Bromley (1991) concluded that there was a significant age effect on sentence complexity and on subordinating conjunctions. In reviewing his mean score data for age groups, there did not appear to be a decline in sentence complexity rating. Age group 1 mean complexity score was 3.7, age groups 2 and 3 had mean complexity scores of 3.4, and age groups 4 and 5 had a mean complexity score of 3.6. The lowest score was found for the oldest age group at 3.1. Without knowing the specific ages of these groups, it is difficult to use these data in a clinical context. Bromley’s study did not include specific syntactic analysis so information about the effects of aging on syntactic use could not be derived. In contrast, Kemper, Greiner, Marquis, Prenost & Mitzner (2001) did report a gradual decline in grammatical complexity over an age range of 22 to 89 year olds in a longitudinal study of autobiographies.

Pennebaker and Stone (2003) analyzed written text from a large number of participants (n=3,280) divided into 6 age groups (8 years to 70+). They analyzed the writing to enumerate words of emotional state (e.g. happy, ugly), social and identity (e.g. me, you, friend), time orientation (includes time-related words and verb tense) and cognitive complexity (e.g. words with causation, insight). Pennebaker and Stone’s oldest age group (70+) was limited to a relatively small number of subjects (n=44), and the oldest participants’ age range was not provided. They did track use of first person pronouns, past tense verbs and present tense verbs for all age groups and reported a

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4 He developed a measurement of complexity based on a 1-5 scale, ranging from “1. Primitive phrases or word groups that are incomplete grammatical forms but meaningful, a sort of “telegraphese” to 5. “Complex sentences using elaborate grammatical constructions linking several phrases and forming a complete system of ideas or arguments” (Bromley, 1991, p. 298)
Table 1: Syntactic Errors for Normal Older Adults (ages 55-80, n=15) from Ball, 1998

<table>
<thead>
<tr>
<th>WRITING TASK</th>
<th># OF SENTENCES</th>
<th>MEAN PERCENTAGE ERROR SCORE *</th>
<th>RANGE OF PERCENTAGE ERROR SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copied Sentences</td>
<td>25</td>
<td>0.20</td>
<td>0-1.33</td>
</tr>
<tr>
<td>Dictated Sentences</td>
<td>25</td>
<td>1.24</td>
<td>0-7.38</td>
</tr>
<tr>
<td>Self-generated Sentences</td>
<td>15</td>
<td>1.12</td>
<td>0-5.66</td>
</tr>
</tbody>
</table>

*percentage error score = total number of errors / total number of words

decline in first person singular pronouns and an overall decrease in use of past tense verbs with normal aging. The authors stated that there appeared to be more present and future comments in the writing of older subjects, rather than focus on the past.

In a 1998 study, I analyzed normal writing and handwriting of 15 adults, ages 55-80 (mean 62.7 years) in a comparison with adults with aphasia. The normal group was not subdivided by age, but performance was examined for copied and dictated sentences, as well as sentences generated to pictures (e.g. “Write a sentence describing what will happen”). The normal individuals, 8 females and 7 males, had a mean educational level of 14.3 years (range 12 to 20 years of education). Mean educational level of the females was 13.7 years, and of the males was 14.8 years. The copied and dictated sentence stimuli were 25 sentences with increasing complexity evenly distributed for syllable length, sentence length and syntactic structure. The pictures used to generate 15 sentences were the Problem Solving Picture Cards (Pitti & Meier, 1992).

The results indicated a slightly higher error rate for dictated sentences, than either copied or self-generated sentences (see Table 1). Syntactic errors were produced by 8 of the 15 normal participants (53%) for dictated sentences. A limitation of the study was a lack of analysis of the writing for other linguistic measures. I recently expanded the analysis of data from my 1998 study to provide more detail on the normal group alone on the picture-generated sentences. I selected this task, as the output was generated by each individual and was not limited in form. Findings revealed no correlation between educational level and syntax error scores. Scores from a writing use questionnaire were also evaluated. There was no correlation between the amount of writing used in daily life and the percentage syntax errors.

The educational level of the participants did correlate with a writing use questionnaire (see Appendix A). This suggests that educational level and degree of daily writing use do not necessarily correspond to syntactic complexity or the type or frequency of syntactic errors. Qualitatively this was evident when writings of the individuals with the highest and lowest educational histories were compared. Participant AS was a 56-year old with 20 years of education with degrees in law and finance. He did not produce any syntactic errors in picture-generated sentences and his writing was the most concise of all the writers. He produced 89 words for 15 sentences, with an average of 5.94 words per sentence. His production of the Boston Diagnostic Aphasia Examination (Goodglass & Kaplan, 1983) “Cookie Theft” picture description was rated a 3/5. Figure 1 is an example of his handwriting. A second participant, who was also a lawyer with 19 years of education, produced sentences that averaged 9.2 words for picture-generated sentences. He rated 5/5 for his “Cookie Theft” picture description. There were six individuals with a high school education. Three of six produced syntactically correct sentences, two of six produced minimal errors (<1% error rate), and one produced mild errors (3.78% error rate). The individual with the highest syntactic error rate (5.66%) had 2 years of college and was a receptionist. Figure 2 is an example of a picture-generated sentence written by a high school educated participant in the original Ball study. Average total words for 15 sentences produced by the high school educated individuals were 149 words or 9.97 words per sentence. Thus, for this study, those subjects with lower levels of education produced longer sentences than those with the highest education.

Spelling in Normal Aging Adults

Glosser & Kaplan (1989) investigated spelling in word and sentence tasks for three age groups (45-59 years, 60-74 years, and 75-89 years). The word tasks included confrontation naming, word dictation, and copying. Each word task was comprised of 16 nouns and verbs matched for word length, word frequency, and regular and irregular spellings. The sentence tasks were sentence completion, picture description, sentence dictation and copying. They found a low incidence of spelling errors for normal subjects. There was also no significant increase in frequency of spelling errors with aging. They did find that most of the spelling errors were phonologically accurate spelling errors.

Stuart-Hamilton & Rabbitt (1997) investigated three age groups, representing individuals in their 50s, 60s, and 70s. This study involved a small set of spelling words (10 high frequency and 10 low frequency words) and found a significant Age Group X Word Frequency interaction. They summarized their findings as indicating that a decline was noted on low frequency words with age. However, they cautioned that the interaction could be due to a ceiling effect on the
high-frequency words” (Stuart-Hamilton & Rabbitt, p. 439). The researchers did not comment on the types of errors made, i.e. phonetic regularization errors. They did rule out the effect of education and general vocabulary knowledge on spelling performance. Further, they argued that there is a loss of “knowledge of more obscure words” (p. 440) with aging. Since the obscure or low frequency words included items such as “cyclostome” or “satyriasis”, it seems likely that most people could not have spelled them correctly at any age. Thus, it could be argued that for this task nothing may have actually been “lost” with age.

MacKay and Abrams (1998) reported a study on spelling for three age groups of 85 adults ages 12-23, 60-71 and 73-88. The middle age group had the highest education level (M 17.32 years). The procedure involved auditory presentation of low and high frequency words. Results were scored for percentage of correct spellings, correlations with a questionnaire of writing behaviors, and errors on regular or irregular words in the high frequency set. MacKay and Abrams reported, “…no age effect for low frequency words…but a reliable age effect for high-frequency words” (p. 653). However, no difference was noted between the older two groups. The discussion of this difference involves the “familiarity hypothesis”, which suggests that there is a decline in the ability to recall spelling of words that were once familiar. MacKay and Abrams argue that the fact that young adults tended to make the same regularization or phonetic spelling errors on low frequency words supported the “familiarity hypothesis”. The youngest group employed a phonetic strategy to spell these unfamiliar words. The high frequency words, resulted in a higher degree of correct spelling in the younger than older groups.

MacKay and Abrams (1998) did find a significant difference between the younger and the two older groups on the hours spent writing per day. However, there was no correlation between time spent writing and spelling accuracy. In addition, the older groups had more education and higher vocabulary scores than the younger age group, but this did not improve spelling ability as one might think. This study does not discuss the possibility of younger and older groups having different educational training for spelling strategies.

Some studies have investigated the ability to detect when words are spelled accurately across age groups, but have not included the skill of generating accurately spelled words (Mackay, Abrams & Pedroza 1999; Abrams & Stanley, 2005). Findings of such studies support the theory that the older adults (post age 73) have an age-related decline for a task of word recall presented in rapid succession, which the authors call “retrieval”. Abrams & Stanley, (2005) proposed that misleading auditory cues affected the recall ability of their oldest group. Another reason for the decline in “retrieval” is hypothesized to be the demand on working memory. Correct spelling recognition may not be related to generated spelling ability in aging adults. Often, when seeing or trying to judge a misspelled word, a person may “second guess” him or herself on how to the word is actually spelled. Personally, I know that I need to write the word without the visual distraction of the “wrong” word to verify my spelling knowledge.

I investigated spelling for three sentence tasks: copied, dictated and self-generated picture description (Ball, 1999) for a group of adults, ages 55-80. This study revealed a higher percentage of spelling errors when the task was restricted, such as with sentence dictation. In this situation, writers are forced to use words that may not be common to their written vocabulary. Due to the task type, they could not substitute words that may be better known. I also found that there were a few words that were difficult for a number of individuals to spell such as “opinions” or “bicycle” (see figures 3 & 4) (Ball, 1999). Of the group of adults ages 55-80, all but three had evidence of at least one spelling error for the dictated set of 25 sentences (see Table 2). For sentence copying most “spelling” errors were really handwriting movement errors, such as letter additions or omissions. These are considered more slips of the pen and may be attentionally based and not true spelling errors. In the task of self-generating sentences to a picture, the majority of spelling errors for this group were homophones, phonemic similarities, and handwriting movement errors. The “creative” spelling that was witnessed in the dictated task did not occur in self-generated writing.

For the current article, I performed additional analysis on the performance of the 1999 sample for the picture-generated task. There was a significant correlation between the percentage error scores for the picture generated task and spelling to dictation on the Boston Diagnostic Aphasia Exam subtest ($r=0.728$, n=15, df13, p<0.05). In addition, I observed that individuals were accurate self-raters of their spelling abilities.
Narrative Cohesion

Kemper (1990) is one of the few researchers who has conducted longitudinal tracking of written discourse in adults. She analyzed written diaries from eight individuals who were born between 1856 and 1876. It might be expected that style and linguistic changes would result in differences in writing that occurred more than a century ago. Kemper’s discourse analysis revealed an age-related change in complexity, with an increase with age. She stated: “elderly adults were able to produce elaborate narrative structures with multiply-embedded episodes and evaluative codas” (p. 216). However, these more complex sentences were reserved for special topics, and were not representative of daily narratives for the older adults. She also reported that the narrative cohesion was related to structural complexity. Kemper explained that this sample of diary writers in their 60-80’s used less anaphors (words to cut across sentences such as pronouns) and conjunctions than they did as younger adults, ages 20-50. This change did not affect the writers’ ability to tell interesting stories well into their 80s.

Pennebaker and Stone’s 2003 study provided some information on discourse content from writing samples from various age groups. They found an association of aging with a greater use of positive emotion words than negative words. The shift began to occur within age group 40-54 years, with a substantial change at the 70+ age group. As discussed in the syntax section above, Pennebaker and Stone also found an increase in present and future concepts, rather than past. There was no significant pattern of use of causation words with age. They did not investigate writing cohesion.

Summary and Implications

It is important that clinicians who work with mature adults on aspects of literacy should have knowledge of normal writing changes associated with age in order to understand how writing behaviors might change as the result of a neurological impairment. In summary, some non-pathological errors that occur in the normal writing of older adults include handwriting movement errors of letter or word, phonemic spelling errors, and a shift in clausal relationship within sentences. In addition, there is evidence of an overall shift in perspective from the personal or internal narrative to a third person or external narrative. Focus of time, may also shift toward more present or future events than use of past tense.

A change in an individual’s writing can be used as qualitative evidence of a change in mental status, in cognition and emotional states, and in language skills. For example, an increase in handwriting movement errors, a decline in anaphoric relationships, and declining spelling ability, or even neologisms can be early signs of cognitive alterations. Changes in visual-spatial or orthographic formations could be related to right hemispheric stroke, or apraxic agraphia. Left hemispheric strokes, particularly non-fluent aphasia, may result in declines in written syntactic abilities. Researchers should continue to log error types by etiologies, to better use writing evidence as a predictor of pathology or as a source of identifying additional neuropsychological changes. However, we must remain vigilant to the differences among typical adults. All of us who consider ourselves as having no neurological problem will still write with errors. Even after a thorough editing of a paper, errors continue to be found among the best writers. It is critical to recognize when those errors go beyond the expected range of normal mistakes.

Writing is an easy method for tracking development or changes in linguistic and cognitive behaviors over time. The material is already in “hard copy” and can be reviewed at any time. We continue to need more research on specific linguistic information in adult writing such as morphological accuracy, sentence level syntactic complexity, discourse cohesion and discourse effectiveness in normal adults as they age.

Longitudinal studies, though more challenging to obtain, will provide us with a better picture of how adult written language changes. In addition, researchers should pursue comparisons of written sample types. Glosser and Kaplan (1989) pointed out that writing style differences of the elderly may depend on the writing task. Much more investigation of writing changes with type of task and cognitive demands is needed.

Finally, we have a responsibility to continue to address the needs of a growing portion of our society, namely, adults over 60. Statistics on aging indicate that at present at least 1 in 8 Americans are over age 65, and by 2030, 20% of the population will be over 65 (Administration on Aging, n.d.). These individuals are also taking advantage of ongoing learning opportunities. A study from Adult Education and Lifelong Learning Survey of 2001 indicated that 41% of participants ages 51-65 and 22% of those 66 and older had participated in some formal education during the prior 12 months period (Kim, Hagedorn, Williamson & Chapman, 2004). Writing is not a skill used just in educational environments, but also in recreational activities, including maintaining personal interactions, e.g. correspondence, and personal journals or notes to one’s self. Adults are taking just as much advantage of technology that facilitates writing as is the younger generation.

Consequently, the ability to use writing is an increasingly critical component of one’s quality of life regardless of age. We need to continue to learn about this important aspect of literacy as it changes across the years.
REFERENCES


Emergent literacy skills are important for later school success. Preschool teachers and speech-language pathologists (SLPs) can play significant roles in children’s lives to prepare them for an elementary school education, roles that can involve emergent literacy and language development. Emergent language and literacy activities, such as interactive reading, can create the building blocks needed for children to be successful in school (Massey, 2004). One way to develop activities suitable for children’s needs is to collaborate among the professional staff in a pre-school. Collaboration among educational professionals is encouraged in today’s classroom. The benefits of collaboration extend not only to the children within that classroom, but also to the collaborators. Collaborators, such as pre-school classroom teachers and SLPs, can share knowledge of child language and emergent literacy development (Hartas, 2004). Indeed, Hadley, et al. (2000) acknowledged “classroom-based collaboration… holds promise as a highly effective means of facilitating development of both vocabulary and phonological awareness skills” (p. 290).

The keys to successful collaboration are time and effort contributed by both sets of collaborators. Collaborative relationships often begin with joint dialogue. They begin with the SLP asking the teacher entree questions such as, “What is happening in the classroom environment? What is needed in the classroom?” The next logical question might be: “In what ways can I support what is needed in the classroom environment with my knowledge and skills?” Successful collaborations can be built when one is not seen as an “expert.” By building a relationship, the collaborators are free to ask questions of each other and understand that they are both working toward common goals. These goals can range from learning more about a specific topic, such as book reading, to better serving the children in developing conversation abilities. It is when this relationship is built that a “win-win-win” environment is established for the collaborators and for the children.

SLPs can support teachers’ language and literacy efforts through various means such as modeling book-reading strategies for the classroom. As SLPs and doctoral students, we developed a book reading program in response to an expressed need from a local urban Head Start director. This book-reading program was developed by understanding the need, consulting the evidence, and then constructing and implementing the program. The purpose of this article is to share one case example of a successful, evidence-based classroom practice.

Understanding the Need

The local Head Start director noticed that her Head Start teachers tended to read to the whole group rather than to small groups or individual children. She also noted that the teachers were not reading very often and that they rarely asked questions during reading or made comments to draw the children into the book reading. As a result, this director wanted a reading program developed to assist this set of Head Start teachers in engaging the children in book reading experiences.

Consulting the Evidence

The next step involved consulting the evidence to determine possible areas to include in this program. In the area of interactive book reading, three areas of research indicated positive results. These included dialogic book reading, language and concept of story, and phonological and print awareness. These areas were chosen because of the potential future impact for the children and the potential benefit for the teachers. The strategies chosen for this book-reading program were supported by evidence, (Justice & Ezell, 2003; McGee & Richgels, 2003; Zevenbergen & Whitehurst, 2003) were aligned with Ohio Early Learning Standards (Ohio Department of Education, 2004) and with the Head Start Child Outcomes Framework (U.S. Department of Health and Human Services, 2003).
Dialogic Book Reading

Dialogic book reading is reading technique in which adults provide opportunities for children to become active participants (Zevenbergen & Whitehurst, 2003). It is based on the theory that learning is achieved through an adult gradually withdrawing support from a learning interaction and encouraging the child to become more independent (Vygotsky, 1978). For example, during dialogic book reading adults ask children questions to elicit responses, expand children’s utterances and encourage children to independently retell stories (Arnold & Whitehurst, 1994). Therefore, dialogic book reading emphasizes the important adult role of purposeful prompting.

Many studies examining the effectiveness of dialogic book reading with adults and children indicate that this reading technique improves children’s language and emergent literacy skills (Zevenbergen & Whitehurst, 2003). This is especially true for children from low-income families (Whitehurst, et al., 1994). As a result of this evidence, this event was selected as a major component of the book reading program.

Language and Concept of Story

Among many things, language development is about learning new words. Persuasive research exists that examines the relationship between book reading experiences and the understanding and use of new words (Senechal, LeFevre, Hudson, & Lawson, 1996; Senechal, LeFevre, Thomas & Daley, 1998). This research indicates a high correlation between early vocabulary size and later reading ability (De Temple & Snow, 2003). Consequently the recommended book reading program was designed to emphasize vocabulary development with the theory that book reading could be a valuable vehicle for facilitating vocabulary development.

In addition to vocabulary, this book reading program targeted concepts of story such as story structure. Story structure includes, but is not limited to, understanding the beginning, middle and end of stories as well as describing story characters and events. Knowledge of how a book is structured helps children draw meaning from the text. In turn children use this knowledge to construct narratives such as story telling and retelling.

Print Awareness

Print awareness is the ability to notice and think about printed or written units such as letters or words. Awareness of the forms, functions and use of print help children construct meaning from written language. When their attention is drawn to print, children begin to understand that there is a relationship between what is spoken and what is written on the page. This awareness of print naturally has been linked to future reading achievement (Adams, 1990) in that children who have a good grasp of the conventions of books and print have a good understanding of how to read.

Print awareness in children can be facilitated through print referencing. Print referencing is the act of drawing the child’s attention to print either nonverbally through pointing or tracking words as they are read or verbally through questions or comments about the print (Justice & Ezell, 2003).

Phonological Awareness

Phonological awareness is the ability to reflect on units of spoken language such as syllables and sounds. Phonological awareness is thought to develop in a step-wise (developmental progression) fashion with awareness of larger segments of sounds such as syllables and rhymes understood first and smaller units such as phonemes understood later (Goswami, 2002). Deficits in phonological awareness have been linked to later language and reading disabilities (Catts & Kamhi, 1999). Children with language and reading disabilities have been shown to demonstrate difficulty analyzing and segmenting sounds in words. As a result many interventions that target phonological awareness skills in children at-risk for later reading disabilities, have reportedly produced positive outcomes (McGee & Richgels, 2003).

Constructing the Program

The resulting book reading program was designed to continue for 10 weeks, with three book reading concepts: dialogic book reading, language and concept of story, and print and phonological awareness to be focused on. Weeks 1-4 targeted strategies associated with dialogic book reading. Weeks 5-7 targeted strategies associated with language (vocabulary) and concept of story. Weeks 8-10 targeted print and phonological awareness strategies. The number of strategies per week per topic, varied from two to four. Every strategy included a definition and an example to help the Head Start teachers understand and implement them. See Table 1 for a description of a strategy from each of the three sections.

A meeting was set with the director, educational coordinator and the Head Start teachers prior to the beginning of the school year. The administration assigned two classroom lead teachers (LTs) to each SLP. The LTs were the active participants; however, the assistant teachers were also invited to observe, if possible. The SLPs shared the book reading program with the staff and distributed book reading program folders to each LT. The folders contained each week’s strategies and an example from a book to illustrate the strategy. The SLPs gave each LT an information sheet to further facilitate their learning, and to serve as a resource list. In addition, the SLPs volunteered in each of the assigned classrooms one day per week until the date of the beginning of the book reading program. These efforts were made to build a collaborative relationship with both the teachers and the children.
### Table 1: Building a Book Reading Program

**Weeks 1-4 — Dialogic Book Reading**  

<table>
<thead>
<tr>
<th>SELECTED STRATEGIES</th>
<th>DEFINITION</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask open-ended questions</td>
<td>Prompts with no “right” answer encourage the child to respond to the book in his or her own words. Open-ended questions can be simple or more difficult.</td>
<td>Simple: “What do you see on this page?” and “Tell me what’s going on here.” More difficult: “Think about what we already know about…” or “So we know…, but why does it say…?”</td>
</tr>
<tr>
<td>Ask text-to-life questions</td>
<td>Ask questions that require the child to relate the content of the book to aspects of life outside of the book.</td>
<td>“Did you ever go to a parade like Susie?”</td>
</tr>
<tr>
<td>Encourage peer interaction</td>
<td>Be responsive to comments made by children to encourage group conversation. Extend conversation to other children and redirect one child’s comment to another child.</td>
<td>“Sam, ask Johnny what he thinks about…” or “I can see you all have a lot to say about this. Let’s take some time for you to talk to the person next to you about…”</td>
</tr>
</tbody>
</table>

**Weeks 5-7 — Language & Concept of Story**  

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>DEFINITION</th>
<th>EXAMPLE</th>
</tr>
</thead>
</table>
| VOCABULARY: Select 8-10 words ahead of time | Choose vocabulary words or phrases that are critical for understanding the story, children may encounter in other stories or are more difficult labels for everyday objects. | Book: “If You Take a Mouse to School,” (Numeroff, 2002)  
Vocabulary Words Selected: notebook, locker, experiment, tuck |
| CONCEPT OF STORY: Main character has a problem and how to solve it | Discuss the main character’s problem in the book and also have the children predict what the main character might do next. | In The Very Hungry Caterpillar (Carle, 1987) you might say, “The caterpillar has a problem. He’s very hungry.” Then ask, “What do you think he’s going to do?” or “What do you think will happen next?” |
| CONCEPT OF STORY: Main character takes action to solve a problem | This strategy has 2 parts:  
1. Help children decide if their predictions were on target.  
2. Inferencing: Help children make conclusions about parts of the story using pieces of information from the story. | 1: Book: The Very Hungry Caterpillar (Carle, 1987): “Think about your prediction; was it the same as or different from what happened in the story? If you guessed that the caterpillar would take a swim, what would have happened in the story?”  
2. Book: The Hungry Caterpillar (Carle, 1987): “This story begins with the words, ‘in the light of the moon.’ What time of day do you think it is?” |

**Weeks 8-10 — Print & Phonological Awareness**  

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>DEFINITION</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track print</td>
<td>Run your finger below the words as you read.</td>
<td>Tracking print links the spoken words to the written words on the page.</td>
</tr>
<tr>
<td>Make requests about print</td>
<td>Ask questions about the letters/words you read.</td>
<td>“Find another word on the page like this one, ‘dog.’”</td>
</tr>
<tr>
<td>Rhyming</td>
<td>Detection: Help children notice rhyme.</td>
<td>“I hear two words that rhyme, ‘up’ and ‘cup.’”</td>
</tr>
<tr>
<td>Beginning and Ending Sounds</td>
<td>Identification: Find another word that begins or ends with a certain sound.</td>
<td>“I am looking for a word that has the same sound at the beginning as ‘fan.’ I have ‘ball’ and ‘foot.’ Which word has the same beginning sound as ‘fan…ball or foot?’”</td>
</tr>
</tbody>
</table>

These are only selected strategies from this book reading program. If you would like the entire program please email sickmals@email.uc.edu or sma5@email.uc.edu
Implementing the Program

After the program began, each SLP continued to visit one day per week in her two assigned classrooms. The selection of the book to read to the children was designed to be a collaborative effort. The SLP and LT discussed the nature of the target strategies for the week. In addition, the theme for the current month was also considered. The selection of the book for the next week was made either during weekly debriefing meetings or immediately after the current week’s book reading. The flexibility in meeting and the selection process was needed to accommodate the LTs’ schedules. Children in each classroom were divided into groups of two to four children based on teacher recommendation. The SLP read the book to one group of children using the week’s targeted strategies. The LT observed the book reading and then the LT read the same book to another group of children using the same targeted strategies. The SLP observed the LT and responded to the LT’s questions/comments, shared feedback or gave ideas for extension activities. Written examples of the strategies used with each book each week were left for the teacher as a reference. The reference material was given to encourage continued implementation of the week’s targeted strategies on days when the SLPs were not present.

The LT and the SLP also worked together to identify ways of helping any children with communication challenges, as well as children with stronger skills so that each child could be given the chance to participate in more complex tasks, at their level.

Results

A meeting of each SLP and their collaborative LTs was held at end of the program. Teachers’ reactions to the implementation of this book-reading program were recorded as well as their observations about whether and how the children related the books read to other aspects of the curriculum (see Appendix A for the list of questions posed to the LTs). The SLPs asked the LTs what changes they observed in the children in their classroom as a result of the book reading strategies used. The LTs reported that children transferred new vocabulary learned to reading other books and to other classroom activities. The teachers also observed improved peer interactions not only during the book reading sessions but also in other classroom activities. “Increase in (children’s) self-esteem” was observed by some teachers. The SLPs inquired about what went well with the book reading program. The LTs indicated that they enjoyed giving the children more individualized attention.

In response to the question posed, “How do we see ourselves improving,” the teachers related that they encouraged the assistant teachers to learn to use these book reading strategies. They also requested more training throughout the Head Start Centers, by having the teachers themselves train other teachers. They stressed the importance of observing other teachers using these strategies. The teachers wanted more guidance with making book choices, stating they would have liked to have a list of books from which to choose and/or chose the books to be used further ahead of time than 1 week. Finally, the teachers added their general comments. They noted that this program went beyond what they learned in their preprofessional education and training. One teacher commented that some of these strategies were presented in pre-professional education programs but their usefulness was not appreciated until the techniques were put into a real-life situation.

In summary, this book-reading program is just one example of how to incorporate evidenced-based practice into the classroom environment. This supportive model has several benefits, whether it is used during book reading or other classroom activities.

Acknowledgement

The authors would like to acknowledge Jo-Anne Prendeville for her assistance with the development of this program.

Appendix A- Questions for LTs post book reading program

- What are your impressions of the program?
- What went well?
- What are you seeing in the kids?
- What would you like to change?
- How do we see ourselves continuing?
REFERENCES


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Consider Joining the HEARSAY Editorial Staff

Contact Laura Kretschmer

University of Cincinnati, 513-558-8514
The ability to read and write are highly valued in our society and necessary for economic and social success. There are numerous and diverse definitions of reading development that reflect the varying perceptions, roles, and experiences of educators who support and research reading development. Depending on how reading development and disabilities are defined, it is estimated that 2.3% to 16% of elementary aged students have a reading disability (Catts & Kamhi, 1999). For most children in the United States, formal literacy instruction will begin in the kindergarten classroom, with more intense instruction in the first grade. However, prior to formal literacy instruction, the foundational skills of literacy are acquired between birth to approximately five years of age (Invernizzi, Justice, & Meier, 2002). Researchers have concluded that early literacy knowledge and experience serve as the foundation for children’s subsequent acquisition of conventional reading and writing (Catts, Fey, Tomblin, & Zhang, 2002). Educators and allied professionals are given critical responsibilities to foster children’s literacy at all ages. Therefore, professional knowledge about literacy learning and the developmental milestones for reading and writing acquisition are critical in supporting children’s literacy development (Ukrainetz & Fresquez, 2003).

Because of the legal requirements of the Individuals with Disabilities Education Improvement Act (IDEIA; 2004), curriculum-based services are now a central part of the services that speech-language pathologists provide in school settings (American Speech-Language-Hearing Association [ASHA], 2001). The roles and responsibilities of school-based speech-language pathologists (SLPs) have changed greatly over the past few decades. While ASHA (2001) has clearly defined the roles and responsibilities of SLPs with regard to reading and writing in children and adults, it is still unknown how school-based SLPs define their roles and responsibilities in collaboration and participation in literacy activities. To be effective contributors to literacy development, SLPs must acquire a common understanding of the oral language-literacy interaction. In addition, the roles and responsibilities of each educational professional must be clearly defined in order to coordinate collaborative interventions effectively (Filmore & Snow, 2000).

The Language Basis for Reading Acquisition and Development

According to Catts and Kamhi (1999), it is well accepted that reading and writing are language-based processes. It is important for professionals to understand that reading and writing share many of the same processes and knowledge bases as listening/understanding and expressing spoken language (Catts & Kamhi, 1999). Catts et al. (2002) reported that the foundation of early literacy development is strongly influenced by a child’s oral language proficiency. In a study that examined the reading outcomes of kindergarten children with language impairments, Catts et al. (2002) found that children with language impairments in kindergarten were at risk for reading problems in later grades and there was a relatively high incidence of reading problems in children with speech and/or language impairments.

Language-based reading disabilities may present as problems involving word retrieval, verbal and print memory, comprehension of spoken and written information, and expressive language including phonological awareness (ASHA, 2001; Bourdreau & Hedberg, 1999; Butler, 1999; Catts & Kamhi, 1999). The evidence supporting the importance of early language exposure and interaction for later literacy success was demonstrated by Hart and Risley (1995), who concluded that children from low-income homes remained well behind their economically advantaged peers later in school. This evidences the need to enhance children’s language exposure at a very young age in order to prepare them for later reading demands (Hart & Risley, 1995).

Research in the area of language and literacy suggests that SLPs have the knowledge and expertise to play a critical role in promoting literacy for children with communicative impairments (ASHA, 2001). There are several arguments that support SLPs’ participation and facilitation of reading and writing. First, oral language...
development precipitates and establishes the foundation for the development of literacy. Second, the relationship between oral language development and literacy development is reciprocal in nature, with interconnections originating in early childhood. For example, as with difficulty in learning to listen and speak, difficulty in learning to read and write can involve any of the components of language. These components include phonology, morphology, syntax, semantics, and pragmatics. Problems can occur in production, comprehension, and metalinguistic awareness of language at the sound, syllable, word, sentence, and discourse levels (ASHA 2001). Lastly, children with speech and language impairments are at increased risk for difficulties with early and conventional literacy development (Invernizzi, Justice, & Meier, 2002). Therefore, young children who have difficulties acquiring oral language skills, such as children with language impairments and children with phonological disorders, are at risk for delayed acquisition of early formal reading instruction (Boudreau & Hedberg, 1999).

SLPs and Collaboration

The roles and responsibilities of school-based SLPs have been redefined in the past few decades. In the 1950s, SLPs were known as “speech teachers” whose main responsibility was to correct articulation errors or fluency disorders (Butler, 1999). However, as a result of legal requirements of IDEA ’97 and subsequent reauthorization, there is an increased focus on providing curriculum-based services (Staskowski & Zagaiski, 2002). Services are to be collaboratively based in order for all students to gain access to the general education curriculum. In terms of a national perspective, the definition of the responsibilities and roles of school-based SLPs has changed dramatically, specifically in regards to literacy and the importance of collaboration (Butler, 1999).

With a shared understanding of literacy-language interactions, service delivery is most effective through coordination of collaborative interventions with SLPs, general education teachers, reading specialists, and all other educational professionals (Filmore & Snow, 2000). Hadley, Simmerman, Long, and Luna (2000) explored the effectiveness of a collaborative, classroom based model to enhance phonological awareness and vocabulary development in kindergarten and first grade students. They found significant gains in receptive and expressive vocabulary, beginning sound awareness, and letter sound associations suggesting that classroom collaboration was highly effective in facilitating phonological awareness and vocabulary development.

Other researchers have focused on effective collaboration and facilitation of literacy learning. Staskowski and Zagaiski (2002) conducted research on factors contributing to successful literacy teaching in our education system. They defined a literacy team as the “professionals, parents, and administrators concerned with literacy instruction, progress, and intervention.” They found that a successful literacy team must have frequent and meaningful communication, understand one another’s expertise and role, have common intervention plans, share attitudes, have support from principals, and participate in common professional development. They observed that some SLPs have incorporated literacy into their services for many years but many have not. Additionally, their findings indicated that SLPs were at all different stages of incorporating reading and writing into their practice.

In order for collaborative services to be successful, mutual understanding of each team member’s role is critical. A survey conducted by Shaughnessy, Sanger, Matteucci, and Ritzman (2004) explored kindergarten teachers’ perceptions and understanding of early childhood language and literacy and the role of SLPs. Responses indicated that 47% of the teachers participating in the survey were familiar with numerous aspects of typical and delayed language development during early childhood, with interventions to support students’ linguistic growth as well as the importance of SLPs in providing support services for literacy. Many of the teachers surveyed had some understanding of oral language development and its implications for literacy development. Respondents acknowledged the importance of phonemic awareness activities and children’s experiences with environmental print, books, and other literacy materials. This information is not only critical to SLPs, but also teachers. In order to collaborate and provide best practices for intervention, both professionals must have an understanding that literacy skills develop in conjunction with oral language skills. A lack of understanding or limited perspective could result in a teacher’s failure to recognize delays in children’s language development and could detract from effective collaboration with SLPs. A lack of appreciation of teachers’ roles in formal literacy acquisition by SLPs could also hinder effective collaboration in educational settings.

With the collaborative and expanded roles in regard to reading and writing, school-based SLPs may face specific obstacles for implementing their services. They may be concerned about fulfilling the roles of planning team member, direct service provider, collaborative consultant or indirect service provider. Barriers to successful collaboration may be individual or system inhibitors or attitudes of specific professionals on the team. For example, SLPs may be reluctant because of their own role perception, lack of training, or fear of change to participate in literacy development teams. However, to overcome factors that inhibit collaboration in literacy, SLPs need to be proactive and take charge of their actions by assuming a “new” role by preparing themselves to participate in designing and implementing literacy programs (Ehren & Ehren, 2001). Influencing others and effective team participation can be accomplished by several leadership tools, which include “marketing” SLPs’ expertise, establishing effective communication with others, and using negotiation in order to persuade others to support
change. System inhibitors include caseload variables, lack of collaboration due to time limitations, or school districts having programs in place that hinder the active role of the SLP in reading and writing. In order to overcome barriers SLPs can take action by identifying the individual and system barriers that apply, preparing through formal course and literature search for new or expanded roles, seeking collaborative opportunities with teachers, considering alternative service delivery models, enlisting the support of others, and becoming involved in overall school-reform efforts (Ehren & Ehren, 2001).

ASHA and SLPs’ Role in Literacy

It was not until 2001 that ASHA published an official statement regarding SLPs’ roles and responsibilities related to language-based reading and writing disorders in children and adolescents. By broadening service delivery to include literacy, SLPs can attempt to minimize children’s likelihood of experiencing fewer academic and learning problems that are associated with language impairment, particularly those involving literacy difficulties (Invernizzi, Justice, & Meier, 2002; Kamhi, Allen, & Catts, 2001). The ASHA position statement on reading and writing provides guidance for SLPs in all work settings. It indicates that SLPs are essential to the intervention team responsible for helping students learn to read and write. Responsibilities include prevention, identification of children at risk, assessment, intervention, documentation of outcomes, program development, advocating for effective literacy practices, and advancing knowledge through scientifically based research (ASHA, 2001).

Prevention

In order to support prevention of language-based reading and writing problems, SLPs can promote opportunities for success in spoken and written language interaction by increasing children’s motivation in the classroom and other learning environments. It is no longer sufficient for SLPs to focus solely on phonemic awareness and early literacy skills, but rather they must use a more comprehensive approach in order to aid in preventing reading disabilities and future academic failure or frustration (Kahmi, Allen, & Catts, 2001).

Identification/Assessment

SLPs should play an active role in the early identification of children at risk for reading and writing problems before children experience academic failure and frustration, which can occur in preschool years or after formal instruction. School-based SLPs can support teachers and other professionals with early recognition of language disorders that are associated with later literacy problems, such as difficulties in articulation or phonological processing, word finding, language comprehension, narrative discourse, and by noting family history of speech and language or literacy problems (ASHA, 2001; Invernizzi, Justice, & Meier, 2002). SLPs can participate on child study teams and consult with government agencies, teachers, school administrators, and other health professionals regarding the use of diagnostic assessments (ASHA, 2001).

Throughout formal and informal assessment of use of print, SLPs can bring their unique knowledge relating phonology, morphology, syntax, semantics, and pragmatics of language to literacy acquisition. Literacy assessment included at the emergent level (preschool) must include family literacy, phonological awareness, print awareness, spoken language, and narrative discourse (ASHA, 2001; Invernizzi, Justice, & Meier, 2002). At the early elementary level assessment should include phonological awareness, rapid naming, phonological memory, letter identification, invented spelling, reading, writing, and spoken language. In the upper grades, SLPs should assess higher level reading and writing abilities (ASHA, 2001).

Intervention

Literacy intervention involves direct service and collaborative assistance to general education teachers, students, and parents that is research based, culturally and developmentally appropriate, and curriculum based (Catts et al., 2001). It is the role of an SLP, in collaboration with other professionals, to select appropriate therapeutic activities to enhance students’ understanding of spoken language as well as print. Specifically, SLPs can play an important role in helping children and adolescents with language impairments to construct meaning from spoken and written language (ASHA, 2001; Prelock, 2000; Ukrainetz & Fresquez, 2003). Applying intervention strategies for reading comprehension in collaboration with education professionals and parents in multiple service delivery formats is an important focus in order to provide the optimal learning experience and to introduce strategies for seeking meaning and monitoring understanding (Silliman, Bahr, Beasman, & Wilkinson, 2000). Staskowski and Creaghead (2001) described language intervention techniques to enhance reading comprehension, which include the development and enhancement of background knowledge and schemata, vocabulary, knowledge of text structure, and strategy use. Intervention directed toward the construction of meaning must consider the learner, the learning environment, and the language systems that support comprehension of meaning (Smith, 2004). The characteristics of the learner include experiences and prior knowledge, cultural background, learning strengths and weaknesses, and the ability to strategically comprehend and seek meaning (Smith, 2004). Characteristics of the learning environment include teaching techniques used to help learners associate new information with learned information and monitor comprehension. It is critical for SLPs, teachers, and other professionals to consider the importance of the learning environment and how children learn information (Staskowski & Creaghead, 2001).
Perceptions of the Roles and Responsibilities of School-based SLPs: What is the Level of Participation of Practicing SLPs with Regard to Literacy?

Currently there is little research on how school-based SLPs perceive their role in the facilitation of literacy. Few reports describe whether SLPs are in agreement with ASHA’s guidelines with regard to reading and writing or not. It is uncertain whether SLPs are aware of the importance of their role in literacy development. Studies focusing on SLPs and collaboration with other professionals have yet to determine the level of participation of practicing school-based SLPs with regards to literacy. SLPs may be aware of their role in facilitating literacy in the schools, but their degree of participation may not meet ASHA’s guidelines for the roles and responsibilities of the school-based SLP. As discussed above, Ehren and Ehren (2001) identified potential individual and system inhibitors to SLPs in facilitating literacy and provided valuable suggestions for overcoming such obstacles. However, there is little research directly asking school-based SLPs to comment on specific barriers preventing their degree or level of participation in literacy or collaborating with team members. SLPs’ perceptions of their role in reading and writing may be consistent with ASHA’s scope of practice, but it is hypothesized that variables such as limited time, caseload size, or resistance to branching outside of traditional roles may be inhibiting SLPs from carrying out their role in literacy facilitation.

Purpose of the Present Study

The purpose of this study was to determine how SLPs perceive their role(s) in literacy instruction in relation to the responsibilities outlined by ASHA and the extent of their participation in schools. Additionally, the aim of this study was to determine existing barriers that limit SLPs’ participation in reading and writing in schools. The research questions were:

1. How do school-based SLPs perceive their roles and responsibilities in regard to reading and writing?
2. Do the perceptions of school SLPs concerning their role in reading and writing match the ASHA (2001) Roles and Responsibilities statement?
3. Does the current participation of school SLPs with regard to reading and writing match ASHA (2001) Roles and Responsibilities statement?
4. Does the current participation of school SLPs with regard to reading and writing match their perceptions of their roles and responsibilities?
5. What, if any, do SLPs consider as existing barriers with regard to their collaboration and participation in literacy?

Procedures

Participants

The participants included 99 school-based SLPs employed by an educational service center serving urban and suburban school districts in a large metropolitan area in the Midwest and school-based SLPs employed by an urban school district in the same metropolitan area. The age of the participants ranged from 23 years to 60 years and both male and female participants were included.

Instrumentation

Participants were asked to complete a survey. First, a brief history was obtained from all participants, including geographic location of their current school setting (Rural, Suburban, or Urban), number of years employed in the school setting (0-5, 6-10, 11-15, 16-20, 21-25, 26-30, or more than 30), highest degree earned, (B.A./B.S. or M.A./M.S./M.Ed.), certifications/endorsements, (Early Childhood, Special Education, Reading Specialist, Speech-Language Pathologist), in-service training (Yes or No), and pre-service preparation on literacy development, (undergraduate or graduate courses). The information obtained did not make the participants identifiable.

The items on the survey were adopted from ASHA Guidelines for the Roles and Responsibilities of Speech-Language Pathologists with Respect to Reading and Writing in Children and Adolescents (ASHA, 2001). The items targeted preventing written language problems by fostering language acquisition and emergent literacy, identifying, assessing, and providing intervention to children at risk for reading and writing problems, and assuming other roles, such as providing assistance, advocating for effective literacy practices, and advancing the knowledge base.

Data were analyzed by using both quantitative and qualitative measures. Surveys were coded by numbers (1-99) and all responses were entered into an Excel document. Participants’ background information was coded using a data dictionary regarding geographic location of school, highest degree earned, num-
ber of years employed in school, certifications/endorsements, pre-service preparation on literacy development, and in-service training. For items that measured agreement with ASHA statements on perception of role, each response received a rating from 1 to 5. For example, ‘strongly agree’ was assigned to 1, ‘agree’ was assigned to 2, ‘neutral’ was assigned to 3, ‘disagree’ was assigned to 4, and ‘strongly disagree’ was assigned to 5. In regards to participation, ‘never’ was assigned to 1, ‘rarely’ was assigned to 2, ‘sometimes’ was assigned to 3, ‘frequently’ was assigned to 4, and ‘consistently’ was assigned to 5. The data were entered into a SAS (1975) data analysis program, giving the frequency, percent, cumulative frequency, and cumulative percent for each question in regards to the respondent’s current participation.

Results

Table 1 ranks the questions by frequency of response in regard to school-based SLPs’ perceptions of their role and responsibility for reading and writing. Table 2 displays the order of role and responsibilities receiving the highest number of participants reporting ‘consistent’ participation. Figure 1 displays the barriers reported by school-based SLPs in regards to their facilitation of literacy.

In terms of perceptions of role and responsibilities, 72.7% of the participants strongly agreed that it is school-based SLPs’ role to advance the knowledge base for language and communication development. No participant felt neutral, disagreed, or strongly disagreed with this role and responsibility. Sixty-four percent of the participants strongly agreed that their role was to collaborate with classroom teachers and reading professionals to enhance academic success for children with language/communication difficulties. Sixty-one percent of participants strongly agreed and 34% agreed that the SLP’s role was to assist general education teach-

### Table 1: School-Based Speech-Language Pathologists’ Perception of Their Role and Responsibilities in Reading and Writing

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Advance the knowledge base for language and communication development</td>
<td>72</td>
<td>27</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Collaborate with classroom teachers and reading professionals to enhance academic success for children with language/communication difficulties</td>
<td>64</td>
<td>34</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Provide assistance to general education teachers, parents, students for reading and writing</td>
<td>61</td>
<td>34</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Collaborate with other school personnel</td>
<td>35</td>
<td>48</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Advocate for effective literacy practices</td>
<td>29</td>
<td>43</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Participate in the selection or modification of language arts and instructional strategies curricula for use in integrating instruction in reading, writing, speaking and listening</td>
<td>22</td>
<td>43</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>7</td>
<td>Preventing reading/writing problems by fostering language acquisition and emergent literacy</td>
<td>22</td>
<td>42</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>8</td>
<td>Provide information and training regarding linguistic bases of reading and writing</td>
<td>15</td>
<td>45</td>
<td>32</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Identify children at risk for reading/writing problems</td>
<td>14</td>
<td>35</td>
<td>17</td>
<td>28</td>
</tr>
<tr>
<td>10</td>
<td>Provide intervention for reading /writing</td>
<td>11</td>
<td>41</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>11</td>
<td>Document outcomes for reading and writing</td>
<td>11</td>
<td>28</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>12</td>
<td>Assess reading/writing</td>
<td>8</td>
<td>28</td>
<td>20</td>
<td>27</td>
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47
ers, parents, and students. The agreement with perceived roles and responsibilities decreased for the question about collaboration with other school personnel to develop emergent literacy, with 35% strongly agreed and 48% agreed. Regarding SLPs’ role in advocating for effective literacy practices, 29% and 43% were in strong agreement or agreement. Over 65% of the participants either strongly agreed or agreed that the selection or modification of language arts curricula and instructional strategies is part of the role and responsibilities of SLPs (22% strongly agreed and 43% agreed). Similarly, 22% strongly agreed and 42% or agreed that SLPs should play a role in preventing reading and writing problems by fostering language acquisition and emergent literacy. Interestingly, 35% either felt neutral or were in disagreement with the role of prevention. Sixty percent of the participants felt that school-based SLPs should provide information and training regarding the linguistic bases for reading and writing [15% strongly agree and 45% agree].

Fourteen percent of the participants strongly agreed and 35% agreed that it is an SLP’s role to identify children at risk for reading and writing problems, but 33 participants disagreed with the role and responsibility of identification of reading and writing difficulties. Eleven percent strongly agreed and 41% agreed that SLPs should provide intervention for reading and writing. Regarding the role of documenting outcomes for reading and writing and assessing reading and writing, participants’ responses were mostly within the categories between agree and disagree with fewer responses in the strongly agree and strongly disagree response categories. Eight percent of participants strongly agreed and 28.2% agreed that it is the role of the school-based SLP to participate in the assessment of reading and writing.

Table 2 displays frequency of participation from consistently participates to never participates in reading and writing for this sample of SLPs. Almost half (n=45) of the participants were consistently participating in

| Table 2: School-Based Speech-language Pathologists’ Current Level of Participation in Reading and Writing (N = 99) |
|---------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
|                                                                 | Consistently | Frequently | Sometimes   | Rarely      | Never       |
| 1. Advance the knowledge base for language and communication development | 45          | 32          | 20          | 1           | 1           |
| 2. Provide assistance to general education teachers, parents, students regarding reading and writing | 45          | 23          | 24          | 5           | 2           |
| 3. Collaborate with classroom teachers and reading professionals to enhance academic success for children with language/communication difficulties | 43          | 33          | 18          | 4           | 1           |
| 4. Preventing reading/writing problems by fostering language acquisition and emergent literacy | 25          | 13          | 40          | 12          | 9           |
| 5. Provide intervention for reading /writing                   | 21          | 14          | 38          | 15          | 11          |
| 6. Collaborate with other school personnel                     | 20          | 28          | 34          | 9           | 8           |
| 7. Advocate for effective literacy practices                   | 17          | 25          | 33          | 14          | 10          |
| 8. Identify children at risk for reading/writing problems      | 14          | 14          | 43          | 18          | 10          |
| 9. Document outcomes for reading and writing                   | 13          | 7           | 37          | 21          | 20          |
| 10. Assess reading/writing                                      | 11          | 9           | 33          | 30          | 15          |
| 11. Participate in the selection or modification of language arts and instructional strategies curricula for use in integrating instruction in reading, writing, speaking and listening | 10          | 17          | 19          | 25          | 28          |
| 12. Provide information and training regarding linguistic bases of reading and writing | 5           | 13          | 29          | 32          | 20          |
advancing the knowledge base for language and communication development; 43% consistently collaborated and 33% reported frequent collaboration with classroom teachers and reading professionals. Almost half of the participants [45%] reported that they consistently assisted teachers, parents, and students. Twenty percent of the SLPs reported that they consistently collaborated and 28% reported that they frequently collaborated with other school personnel to develop emergent literacy. Only 17% consistently and 25% frequently advocated for effective literacy practices.

Twenty-five percent of the participants reported that they consistently participated in prevention of reading and writing problems. Only 5% reported consistent participation in providing information regarding the linguistic bases for reading and writing. Fourteen percent reported consistent and 14% reported frequent participation in the identification of children at risk for reading and writing problems. Twenty-one percent consistently and 14% frequently provided intervention for reading and writing, with approximately 26 participants reporting they rarely or never provided intervention. Interestingly, only 20 participants reported frequent or consistent participation in documenting outcomes. Similarly, 11% consistently participated and 9% frequently participated in the assessment of reading and writing.

Figure 1 indicates the barriers reported by school-based SLPs about their facilitation of literacy through participation on literacy teams. (Twenty-three participants did not respond to this qualitative question.) The largest number of participants (28) felt that, because of significant amounts of paperwork, caseload size, and the severity of the children they serve, lack of time is their biggest barrier to facilitating literacy. Fourteen participants reported that other professionals are “not accepting of their participation” or they are simply “unaware of SLP’s role in facilitating literacy.” Thirteen school-based SLPs believed that lack of collaboration with colleges, students, and family serves as a significant barrier. Nine of the participants felt they needed additional formal training or were not comfortable or competent in the area of reading and writing. Similarly, six school-based SLPs perceived literacy facilitation as a more important focus for other professionals, such as reading specialists or general education teachers. Three participants reported that “roles overlapping” among reading professionals, teachers, and SLPs serves as the greatest barrier to literacy facilitation. Only one response indicated that the lack of consistency in reading programs creates a barrier to their participation in literacy.

Discussion

Results of this survey indicated that over 50% of the surveyed school-based SLPs were “neutral” or reported some degree of disagreement with participating in the identification, assessment, and documentation of outcomes for reading and writing.
However, the longitudinal research conducted by Cat et al. (2002) implied that children with a history of language impairments are at high risk for failure in reading achievement. Clinicians working with such children should ensure they are identified as at risk and that they receive appropriate early intervention services. Over 50% of the school-based SLPs reported that their current level of participation was ‘sometimes,’ ‘rarely,’ or ‘never’ in prevention, intervention, identification, and assessment of reading and writing. Over half reported similar responses for collaborating with other school personnel, advocating for effective practices, documenting outcomes for reading and writing, participating in selecting instructional strategies for reading, writing, speaking, and listening, and providing training regarding linguistic bases of reading and writing. It could be said that this sample of SLPs was not adequately participating at the level which ASHA has proposed. These responses also indicated that school-based SLPs were not utilizing their knowledge and expertise in the area of oral-written language. As hypothesized, the level of participation for each role did not match the SLPs’ perceptions. The mismatch may be a result of several barriers, which will be discussed in detail.

**Roles and Responsibilities Perceived and Participated in by School-Based SLPs**

It is appropriate to highlight the roles for which participants reported the highest level of participation and those which were perceived as being highly significant. All school-based SLPs were in strong agreement or agreement with advancing the knowledge base for language and communication development. This role also received the highest degree of participation in regards to reading and writing. Ongoing professional development is apparently necessary in order to enhance SLPs knowledge of language-literacy relationships and to provide information for them on effective instructional methods. Collaboration with classroom teachers and reading professionals to enhance academic success for children with language and communication disorders was highly valued by the participants and was reported to be consistently practiced by many SLPs. Collaborative, in-classroom intervention has received much attention in the last fifteen years, as SLPs serve the needs of children with language learning impairments in inclusionary classrooms (Prelock, 2000). Thus, in collaborative models, professionals jointly determine children’s needs, develop goals, plan activities to achieve the goals, implement the activities, and evaluate the progress of the students (Hadley, Simmerman, Long, & Luna, 2000). SLPs in this sample, agreed that assisting general education teachers, parents, and students in reading and writing development was important.

**Barriers Faced by School-based SLPs in Facilitating Literacy**

School-based SLPs sampled reported being confronted with obstacles in their efforts to participate in literacy facilitation. The barriers were a result of personal inhibitors or administrative constraints. The most common response was time constraints due to size of caseloads, the severity and range of communication needs of the children being served, and expectations in regard to collaborating with teachers, parents, and other professionals. Paperwork was a further significant factor in time constraints. Paperwork reduces the amount of time available to serve students so that the amount of time spent in administration duties is actually greater than the time spent in direct service. Obstacles noted at the administrative level were lack of consistency in implementing specific reading programs and other professionals’ perception of the SLP’s role in literacy facilitation. SLPs reflected on individual barriers as well. For example, some believed they would benefit from additional formal training in the area of reading and writing. They commented on not feeling “competent” in this area and one response even indicated that other professionals had more training, and therefore, the SLP could not fulfill a significant responsibility in the facilitation of literacy. School-based SLPs have an awareness of their role; however, they need guidance and/or better professional development in the area of reading and writing. SLPs were aware that lack of collaboration with professionals, students, or families serves as a significant barrier.

**Limitations**

The sample included in this study was geographically limited. Only two different types of institutions employed the participants so where training, referral practices, etc. are likely to be homogenous in nature.

**Future Research**

Additional studies might determine if results are replicable in a larger, more geographically and ethnically diverse population. Researchers might compare school-based SLPs’ perception and participation in reading and writing to the number of years in practice and to their license and certification status. That type of research may explain more about specific groups that need or want professional development. Pre-service education should address the critical contributions of literacy competence. Teachers’ perceptions of the roles and responsibilities of school-based SLPs in regards to reading and writing need further exploration as well. These results could provide significant information as well.

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For up to date information on the Ohio Speech-Language-Hearing Association, go to www.ohioslha.org
Abstract

A decade after cochlear implantation in children was approved by the FDA, researchers and educators are evaluating the long-term effects on communication development of young cochlear implant recipients with severe to profound hearing loss. Parents often struggle in making a decision when considering a cochlear implant for their child. Data regarding the speech ability of older children with cochlear implants may be helpful to parents in making this important decision.

Speech-language pathologists, audiologists, and educators of the deaf continually strive to evaluate the effectiveness of remedial techniques for children with hearing impairments. Pakulski and Kaderavek (2001, 2005) have recently investigated the effect of story role-play (i.e., having children reenact the plot of a story they have read or have had read to them) as a means of improving story comprehension and narrative ability. It is also worthwhile to investigate the effect of story role-play on other aspects of communication, such as speech intelligibility. In this article, we present a case study of a child who participated in brief story reading and role-play as part of a summer camp experience. A description of the child’s speech intelligibility in a story-retelling task is provided to suggest the potential impact of a remedial story role-play technique.

Introduction

It is common to think of speech production only at the level of articulatory output; articulation refers to the motor movements and sequences needed to produce the individual sounds. However, children also need to learn to develop deeper or more linguistic levels of knowledge about sounds, which includes phonological knowledge. Phonological knowledge is a child’s internalized understanding of sound combination and sequencing rules. Phonological knowledge can contribute to a child’s knowledge of phonic, which refers to a child’s ability to associate a sound with particular alphabetic letter sequences within the context of a written word. This close association between phonological knowledge and phonics is argued to underlie the important link between sound awareness and reading development.

Because of this likely link between phonological awareness and reading, whether a child uses oral communication as a primary mode or as an adjunct to signed communication, a well-developed phonological system helps a child become a good reader. As typically developing children acquire intelligible speech, phonological knowledge and phonic skills are typically improved, as well. It is important to monitor a child’s development of intelligible speech not only as a means of assessing oral communication, but as a way of calibrating a child’s internalization of speech sound relationships that are thought to contribute to later reading development. Role-playing as used in this case study has been a staple of education of the deaf programs for many years. Cast as scenarios, it even forms the basis for a curriculum for conversational development (Stone, 1988).

Case Study

Katie (a pseudonym) is a 9-year-old child who has excellent speech and language ability and reads above grade level. She has a bilateral sensorineural hearing loss that was first suspected when she was one year old. Following several months of extensive medical evaluation, Jervell Lange-Nielson Syndrome was diagnosed as the cause of Katie’s profound hearing loss and related medical problems. Since Katie’s hearing loss was congenital and prelingual, her speech development was severely delayed. Katie wore bilateral hearing aids for about five years, prior to receiving a cochlear implant at nearly seven years of age.

Katie and her siblings are homeschooled. Katie developed speech, language, and listening through an Auditory-Verbal approach first with hearing aids and then a cochlear implant. Cognitive and achievement testing has demonstrated that Katie is currently at or above grade level in all academic areas. Katie enjoys participation in children’s community theater.

The information about her speech samples presented here were gathered as part of a larger project con-
ducted at a summer camp for oral communicators who are deaf or hard of hearing. Along with the other participants, Katie was read two stories (with accompanying illustrations) three times over a three-day period. Book readings were completed in small group settings (cabin-by-cabin) by familiar readers under similar conditions (e.g., lighting, voice intensity, cabin background noise, etc.). Following the 3 days of repeated book reading, Katie and the other participants were engaged in a story role-play skit of one of the stories. The children were invited, but not forced, to participate in a story skit using simple props. Katie was an active participant in the story reenactment. The next day following the story role-play, the children were asked to retell both stories; the story that had been read-only (Story A) and the story that had been read and role-played (Story B) .

Katie’s two story retellings were analyzed for speech intelligibility. The entire speech sample for the two combined retellings consisted of 63 utterances. Informal observation of Katie’s speech throughout the sample indicated a high degree of intelligibility, as well as developmentally appropriate language skills. Her inflectional patterns and vowel production were observed to be within normal limits for children with normal hearing sensitivity.

Objective measurement of the sample was completed by calculating Katie’s Percentage of Consonants Correct (PCC), a global measure commonly used to quantify the degree of intelligibility of spoken speech (Elbert, Dinnsen, Swartzlander, & Chin, 1990). To compute a PCC, the number of correctly articulated consonants is divided by the total number of consonants produced and is multiplied by 100 to obtain a percentage. Analysis of the entire sample (Story A and Story B) produced a PCC of 79.8 %. That is, almost 80% of the consonants Katie produced while speaking were correctly articulated. It should be noted that, 79.8 % may be a low estimate of Katie’s degree of intelligibility, since several of the words in the sample were counted multiple times when calculating her PCC (e.g., the word “frog” was produced multiple times and Katie had some distortion of the /r/ sound).

This intelligibility ranking can be compared to the intelligibility ratings of the general population of individuals with profound hearing loss. Generally, studies have reported a range of 20-28% of correctly produced consonants in individuals with an average hearing level of 95-dB HL. Katie’s PCC level of almost 80%, after having a cochlear implant for only two years, demonstrates significant achievement in speech intelligibility. It is possible to postulate that her now solid phonological knowledge has contributed to her well-developed reading ability.

A second finding in this study was the difference in Katie’s intelligibility levels during the retelling of the two stories. Katie’s PCC was comparatively higher during the retelling of the role-played story; she obtained a PCC of 83.8% during her retelling of the role-played story in comparison to 75.4% for the read-only story. This is a noticeable difference and is preliminary evidence of the usefulness of role-playing in therapeutic intervention to improve overall communication function.

Katie’s excellent speech intelligibility in this story-retelling task provides insight into the potential of children with profound hearing loss to develop oral communication with the aid of a cochlear implant. This case study also provides some preliminary information regarding the potential of role-play to enhance one aspect of spoken communication.

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There are a number of important ethical issues related to pediatric cochlear implants which parents, health care professionals, and others might consider before deciding whether an implant is appropriate. Our purposes in this paper are to describe some of these issues by focusing on the findings of two research projects examining general societal and deaf community perceptions of cochlear implants and deafness and to discuss some of the ethical dilemmas that supporters and opponents of pediatric implants have faced during the past 15 years since cochlear implants have become widely available. 1

The concerns and viewpoints of parents of deaf children are particularly important to consider since the majority are hearing people who generally have little, if any, contact with deaf people and know next to nothing about deafness. Whether they learn of their child’s deafness on their own, or whether their child’s deafness is diagnosed by an audiologist or pediatrician, many parents are shocked and devastated by the news, have few clues about what course of action to take and feel that they need to “do something.”

Two Research Studies: Surveys and Interviews
A nationwide survey published in 1999 was conducted by the Gallaudet University Research Institute (GRI). Data were obtained from 439 responses to a 12-page instrument, “Survey of Parents of Pediatric Cochlear Implantees.” Respondents to the GRI survey were invited to participate in follow-up interviews. We conducted 56 interviews with a total of 82 persons, including parents of children with cochlear implants and one parent who decided not to get an implant. We did not attempt to randomly select people to talk with, but we did interview people from different regions of the country in order to make the sample geographically representative. The majority of parents that we interviewed were strong supporters of the cochlear implant; therefore sample bias is evident in our survey and interviews. 2

The GRI and subsequent interviews focused on perceptions regarding a number of important issues. Parents were asked how they discovered their child was deaf and how they reacted to this (usually) unexpected news. We asked parents about their contacts with health professionals, implant centers, and members of the deaf community. Parents were asked to discuss some of the reasons why they decided to get an implant for their child, how much speech and listening therapy their child had, the modes of communication (signing, speaking, or both) that their child typically uses, and their child’s educational experiences.

Responses raised some important ethical issues. First, many parents had a very difficult time discovering that their child was deaf, and a number of parents shared experiences with insensitive pediatricians and other health professionals, including audiologists. Others portrayed their experiences with such professionals as very positive and helpful. Parents were often devastated by the unexpected news that their child was deaf, and if the diagnosis was delayed until the child was two years old, that compounded a difficult situation for the families. Many parents reported receiving conflicting advice, especially related to the question of whether or not they should use some variant of sign language with their child, and what type of pre- and

1 Readers interested in examining these issues in more detail than is presented here are invited to check our book, Cochlear Implants in Children: Ethics and Choices, Gallaudet University Press, 2002. The information, including quotations, which is taken from the book and reported here, is reprinted with the permission of Gallaudet University Press.

2 In addition to these sources of data, we interviewed several current or former Gallaudet students who are using, or have used, a cochlear implant. We conducted interviews with adolescent cochlear implant users with their parents. We distributed a four-page questionnaire dealing with cochlear implants to a sample of Gallaudet faculty, staff, students and alumni (see Christiansen and Leigh, 2002, Cochlear Implants in Children: Ethics and Choices, for more information).
The attitudes of some of the parents we talked with frequently reflected general societal views of deafness and implantation, which can be summed up quite easily: Deafness is a physical disability, and, as such, a deaf person (or the parent of a deaf child) would do well to consider any prosthesis, from a hearing aid to a cochlear implant, that might restore at least part of what has been lost. Indeed, popular magazine and newspaper articles frequently describe implants as a medical breakthrough or a miracle cure that enables the recipient to escape from a “prison of silence,” even though, at the present time, the implant does not restore normal hearing (see, for example, Foster, 2000, and Wheeler, 2002). Not all parents share these general societal views of deafness.

In contrast to a disability-oriented medical model which sees deaf people as disabled, many people in the deaf community oppose pediatric implants. When deafness is seen as a culture, deaf people do not see deafness as a disability and, consequently, see no need to “fix” something that is not broken. In this sociocultural model, deafness is seen as a way of life and not a disability. By using American Sign Language (ASL) and sharing a vibrant culture, upwards of a half-million deaf people in the United States consider themselves to be part of the deaf community. Another reason expressed for opposing implants is that parents should wait until their child is old enough to decide for himself or herself if implantation is desired. Many people in the deaf community do not oppose adult implantation since this represents a mature individual’s presumably informed choice.

Parents who reported contacts with deaf people told us that they encountered some criticism from the deaf community about their decision to get an implant for their child. Not surprisingly, many of these parents did not appreciate the criticisms they received, especially because parents typically see their implanted child as deaf, because many children continue to use sign language post-implant, and because many implanted children have non-implanted deaf friends. As a result, many parents of implanted children, as well as implanted children and adolescents themselves, are quite vocal in their desire to reach out to the signing deaf community.

The historical opposition to pediatric implantation has changed in recent years. For example, more and more signing deaf adults are deciding to get an implant, deaf adult children of deaf parents are beginning to get implants, and deaf parents are starting to get an implant for their deaf children, as witness the McBride family shown on TV in a Good Morning America segment. Some residential schools, including the Laurent Clerc National Deaf Education Center at Gallaudet University, now have programs for children with implants. While these programs typically combine signing and speech, they do represent a rather dramatic shift from outright rejection of pediatric implants a decade ago, especially in residential schools, to a more flexible position today.

In what is perhaps the clearest manifestation of this change, in 2000 the National Association of the Deaf (NAD) issued a position paper that recognized the right of parents to make informed choices that take into account that early implantation may promote the development of language and literacy. This is in contrast to a 1991 NAD position paper that was critical of the Food and Drug Administration (FDA) for approving pediatric implantation (children under age 17). We asked Gallaudet students, faculty, staff and alumni to comment on this shift. One representative respondent said: “I formerly did not support the cochlear implant as I felt it would destroy the deaf community. But now I respect individual choice and feel the cochlear implant is part of deaf culture, anyway. People’s perspectives on deaf culture are different now.”

**Ethical Dilemmas**

What do we mean when we talk about ethics? Ethics are moral principles adopted by an individual or group to provide rules for appropriate conduct. Behavior perceived as ethical within one community or culture may be perceived as unethical in another.

Ethical considerations have been raised by both supporters and opponents of pediatric cochlear implants. Should parents implant a child without the child’s consent, or should they wait until the child is old enough to decide? Does implanting a deaf child deny the child “the right to be deaf?” Is cochlear implantation of a deaf child tantamount to “child abuse” or “genocide” against the deaf community, as some allege?
Research involving human subjects is subject to a plethora of bioethical requirements. Bioethics “examines the ethical dimension of problems at both the heart and the cutting edge of technology, medicine, and biology in their application to life” (T. Shannon, 1997, p. 4). Bioethics deals with medical issues created by new technology, such as the cochlear implant. Medical decisions must take into account the extent to which expected benefits outweigh risks, and the extent to which new technology will contribute to accepted clinical procedure and not be primarily for the sake of research (Blume, 1994; Clark, Cowan, & Dowell, 1997). Bioethical decisions are based on the principles of beneficence, nonmaleficence, and respect for autonomy (Jonsen, Siegler, & Winslade, 1998; T. Shannon, 1997). Beneficence means that the duty of physicians is to do good and avoid evil. This duty is closely tied to their ability to fulfill the goals of medicine in conjunction with the patients’ preferences about the goals of their lives. It involves judgment about the extent to which individuals believe the technology will be of benefit to them. Corollary to beneficence is the principle of non-maleficence, which is the duty to refrain from causing harm in the interest of maintaining well-being. Surgical risks and technology failure need to be considered as well as psychosocial considerations related to medical procedures. In medical decision-making both beneficence and nonmaleficence are judgment calls of how degrees of benefit are weighed against degrees of harm. Respect for autonomy is based on the principle that individuals must be perceived as capable of deliberating courses of action and making decisions for themselves (T. Shannon, 1997). This process requires informed consent, which is defined as “the willing acceptance of a medical intervention by a patient after adequate disclosure by the physician of the nature of the intervention, its risks and benefits, as well as of alternatives with their risks and benefits” (Jonsen, Siegler, & Winslade, 1998, p. 55).

**Ethical Perspectives of Supporters of Pediatric Implantation**

**Beneficence:** Medical school training focuses on why people do not hear and the methods needed to conquer deafness (“The death of deafness?” 2000). Doctors, allied professionals such as audiologists, and the general public do not see hearing loss as a natural occurrence but as a pathology that adversely affects the individual’s quality of life. This easily leads to the social construction of hearing loss as an abnormal condition, handicap, or disability that needs to be corrected or cured in order to avoid the negative consequences of deafness (Cohen, 1995; Crouch, 1997; Tyler, 1993). Creating the ability to hear by providing the child with a cochlear implant is portrayed as an effort to minimize disability, or to “activate a God-given thing,” as John Niparko, a cochlear implant surgeon, puts it (Arana-Ward, 1997, p. 1). It is beneficial to provide communicative value, auditory enjoyment, and enhance safety. One is “doing good” for the child (Balkany, Hodges, and Goodman, 1996). The hope is that after implantation the profoundly deaf child, especially one implanted at a relatively early age, will benefit by mastering spoken language and interacting more often with hearing peers (Geers, Nicholas & Sedey, 2003; Moog & Geers, 2003; Spencer & Marschark, 2003). This will presumably lead to enhanced opportunities for education, employment, and personal relationships. Based on this perspective, the implanted child will have a chance for an “open future,” one that is not constrained by deafness or by limitations in spoken communication. This open future is generally defined as consisting of infinite possibilities over and above those available when one remains primarily within the deaf community. An ancillary concept is that of freedom of choice. With cochlear implants, the expectation is that children will eventually be able to choose where they want to be, whether among hearing people, part of the deaf community, or straddling both the deaf community and the surrounding hearing society.

A related consideration, repeatedly mentioned by the parents we talked with, as well as widely acknowledged in the literature, is that hearing parents would like their children to be “like them,” that is, part of the hearing mainstream (Crouch, 1997). On this basis, one can argue that enabling the profoundly deaf child to participate in the culture of the parents contributes to the principle of beneficence, or doing good for the child. The alternative possibility is that potential harm could ensue should the child be estranged from the family of origin, or if life possibilities are limited when the child enters the deaf culture/community. This is not to say that those who join the deaf community necessarily become estranged from their family of origin. However, parents do worry about this possibility.

**Nonmaleficence:** The medical community no longer considers the surgical procedure itself to be experimental. Medical complications occur in a minuscule percentage of patients (Cohen, 1995, 2000). The FDA approved pediatric implants as being medically safe following years of extensive testing (American Academy of Audiology, 1995), and children were implanted only after extensive work with deaf adults, as based on ethically accepted practices for research (Clark, Cowan, & Dowell, 1997). However, some of the parents we surveyed and interviewed reported a few surgical problems and technology failures. Most technology failures are amenable to correction by repeat surgery when the internal components fail. Even if minimal, not only the frequency but also the severity of technical failure needs to be considered in the harm versus benefit calculation.

Another factor that needs to be considered in this calculation is whether the cochlear implant sufficiently facilitates spoken language development and ease of interaction with hearing people to make the procedure a viable option for deaf children. The literature reveals numerous articles that attest to successful outcomes of implantation in children with severe-to-profound hearing loss (e.g., Clark, Cowan, & Dowell, 1997;
omy is violated by the biased nature of deaf children. The principle of autonomy requires that benefits are not really all that great for presenting the information in ways that are easily comprehended by parents and patients.

As noted above, most of the parents we interviewed did not feel pressured by the cochlear implant center to decide in favor of the implant. Parents generally felt they were well-informed consumers who were actively involved in the decision-making process. Practically all of the parents we interviewed acknowledged being informed of the possibility that all their child could achieve might be awareness of environmental sounds.

**Ethical Perspectives of Opponents of Pediatric Implants**

For opponents of pediatric cochlear implants the overriding perception is that benefits are not really all that beneficient and harm is being done to deaf children. The principle of autonomy is violated by the biased nature of information provided to parents by professionals with a vested interest in cochlear implants.

**Beneficence and Nonmaleficence:**

In the deaf community, people do not see themselves as condemned to an inferior world of silence. From their perspective, opening the child up to deaf community membership will facilitate access to a signed language such as ASL. As some researchers have found, in spite of misperceptions to the contrary, ASL can provide a link to the written language of the hearing society (Erting, Thumann-Prezioso, & Benedict, 2000; Lane, Hoffmeister, & Bahan, 1996; Marschark, 1998). Consequently, ASL is seen as a form of beneficence. In this conceptualization, the medical construction of deafness as a disability to be overcome, is jettisoned for a social construction of deafness as a characteristic way of life. Cochlear implantation means that the focus is on the disability and not on the child as a deaf person. The surgery forces the child away from a “natural” means of communication (i.e., ASL) into an artificial hearing status that will still not guarantee full acceptance by the hearing community. To opponents of pediatric implants harm is done by depriving a deaf child of “natural” opportunities and by promoting implants as the prime avenue to accessing hearing society when there are options that do not require surgery.

In view of the wide variation in speech and language acquisition among implanted children, those who question the procedure emphasize that the ethical question of whether children benefit enough from the cochlear implant to make much difference in their lives demands careful scrutiny (Blume, 1994; Crouch, 1997). Their lives are already impacted by the fact that the path to oral language development is arduous, with no guarantee of fluency or ease of function in hearing society. The community validates that a deaf person is able to learn, work, and play. The right of the child to be free of “force” or “undue pressure” to perform in hearing society is stressed. Not being implanted lessens the ongoing struggle to be part of the hearing community.

Opponents of pediatric implantation feel justified in continuing to claim that the principle of nonmaleficence has not been upheld. The presence of potential harm is a serious consideration, taking into account the fact that deaf children without the implant can and do achieve psychological health, independence, and happiness in adulthood.

**Respect for Autonomy:** Respect for parental autonomy involves a parent’s right to decide based on unbiased information. Pediatric implant opponents wonder how alternatives to cochlear implants are presented to parents by cochlear implant teams (Carver, 1990). Deaf adults who can clarify the implications of all options are rarely represented on cochlear implant teams. The parents we interviewed generally acknowledged receiving information about deaf community viewpoints from implant centers, but rarely if at all were they exposed to deaf people who could present such viewpoints as part of the routine screening. Part of the reason for exclusion may be attributed to the perception that the deaf community is entrenched in irrational opposition to the implant. Opponents of pediatric implantation see informed consent procedures as being rendered suspect by the biases inherent in presenting implants as a means of minimizing the isolation of deafness. Parents therefore psychologically may not have freedom of choice, contrary to what proponents of cochlear implants believe.

**The Principle of Justice**

Of equally pressing concern is the fact that technology, especially cochlear implants, is not universally or equally available to low socioeconomic deaf children, including many deaf children of color. For example, even though minorities comprise over 40% of the Gallaudet annual survey of

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3 One of the authors (Irene W. Leigh) served on a cochlear implant team in the early 1990’s.
more than 40,000 deaf and hard-of-hearing children throughout the United States (Gallaudet Research Institute, 2003), in the GRI cochlear implant survey approximately 85% of the respondents were white. In our interview sample only one set of parents was from an ethnic minority group. Data from the Allen, Rawlings, and Remington (1993) report on preliminary findings in Texas indicated that 90% of their pediatric implantee sample was white. Geers and Brenner’s (1999) cochlear implant child sample was 162 white, five African American, five Hispanic, five Asian, and four “other.” The under-representation of racial and ethnic groups is a serious ethical concern.

**The Issue of Choice**

At what age are children sufficiently competent to participate in the decision-making process? How is the information packaged and presented to the child or adolescent? How vulnerable is the deaf child to pressure from parents and professionals, whether overt or subtle? How seriously is the child’s discomfort with the idea of surgery or of wearing the implant paraphernalia addressed? These are all ethical questions that require thoughtful consideration.

The role of children and adolescents in the decision-making process is a sensitive one, especially since the process requires that they undergo surgery and the intensive post-surgical rehabilitation required to effectively learn how to comprehend and use speech. Legally a child or adolescent need not play a role in decision-making or formally consent to treatment. Ethically, most professionals believe children should be allowed to express preferences, and their assent to treatment should be obtained whenever possible (Deaton, 1996). Children and adolescents, insofar as possible, should be afforded the principle of autonomy. They should be given the right to participate in the decision-making process with their parents. However, the extent to which young children can collaborate in such decisions is a complex issue.

We interviewed a number of young deaf adults in our research, and they have some interesting perspectives on choice. Thirteen of the young adults we talked with were not using the implant while 14 were using it. Three of the nonusers reported they were too young to understand much about the surgery, and another nonuser, implanted at age 7, reports that her mother did not ask her how she felt about the cochlear implant. A female implanted at age 13 reported that her parents did not ask her if she wanted the cochlear implant. She was taken to the hospital without explanations or any interpreting of what was going on. When she woke up, she had an implant. Another female who was implanted at age 13 said, “My parents asked me. It was my decision if I wanted this cochlear implant thing. I said yes, fine, but my main reason was to please my parents. They seemed to be so excited over this new thing that can help me hear…. I mean, I was 13 years old, and I had a hard time with the whole concept of not wanting to be shown that I’m deaf... A lot of conflicting feelings, but as time went on I was ready for it.”

The issue of choice includes not only the decision to start, but also the decision to stop using the implant. One female decided that after one year of use she had had enough and wanted to go back to “quiet time.” Other nonusers stopped using the cochlear implant during adolescence. It either did not work, it was too noisy, discriminating sound was too difficult, they got headaches, or there was no real change in communication. For them the benefits were not worth the effort to use the implant. Some of them mentioned identity issues, peer pressure, and the desire to be connected with Deaf Culture.

No young adult nonuser expressed intense anger at parents for having chosen an implant. Three appreciated having had the chance to use the implant and to know what hearing was like.

Of the 14 adolescent and young adult CI users six indicated they chose the implants for themselves. Their ages at the time of surgery ranged from 13 to 17. One 16-year-old reported that her mother asked her if she was really sure she wanted the implant because she did so well with hearing aids. One 18-year-old female initially expressed skepticism about the effectiveness of the implant over hearing aids. Additionally, she hated doctors, but decided to pursue implantation at the age of 15 after seeing her implanted friends surpass her in oral communication skills. Her parents were the reluctant ones!

The implanted young people we interviewed, both users and nonusers, do not take choice issues lightly. Nor do the respondents to the Gallaudet University survey of students, faculty, staff and alumni that we conducted, half of whom felt parents should not be permitted to choose the implant for children under the age of 5, even after careful research.

How strongly do deaf young adults agree with the decision their parents made to implant them when they were children? The interviews we conducted indicated variability in agreement, with a good number of users and nonusers expressing concern about very young children being implanted. Consequently, parents need to take their children’s opinions and feelings into account if possible. Whether their children participate or not, parents need to carefully weigh potential risks and benefits in terms of successive stages of development. This involves not only exploring the literature and talking to a wide spectrum of professionals, but also meeting members of the deaf community, both those who have grown up with implants and those who have not. When they have done all these things, their final decision to proceed or not will have been fully informed. This is especially pertinent considering that the FDA now approves specific cochlear implants for children as young as 12 months of age (e.g., FDA Releases Next Generation Cochlear Implant System, 2004). Parents owe that to their children, who live with the consequences of that decision.

**Conclusions**

We offer five general conclusions based on our research. First, a deaf person with or without a cochlear implant can have good psychological health. Second, a cochlear implant does not inevitably separate young
deaf children from the deaf community or deaf friends. Third, implantation does not mean that implantees will never sign or that they will not need support services. Fourth, pediatric implantation will in all likelihood facilitate the development of spoken language, particularly if implantation occurs at an early age and appropriate intervention follows. Fifth, deaf people can lead successful, rewarding and immensely satisfying lives using either signed or spoken languages. Ethical perspectives need to be carefully considered in the decision-making process when cochlear implants are being considered, particularly for children.

Edited by: Monica Gordon Pershey, Associate Editor of Hearsay

REFERENCES:


The theme for the next issue of *Hearsay* is Neurogenic Communication and Swallowing Disorders. The Guest Editor is under negotiations.

It is ASHA’s position that SLPs and audiologists play a primary role in the assessment, diagnosis, and treatment of infants, children, adolescents, and adults with neurogenic disorders of communication and swallowing. These disorders encompass difficulty with any aspect of communication or swallowing that is affected by disruption of neurophysiologically based functions. Communication disorders may be verbal or nonverbal and affect listening, speaking, gesturing, reading, and writing in all domains of language (phonologic, morphologic, syntactic, semantic, and pragmatic). Cognitive processes and systems (e.g., attention, perception, memory, organization, executive function) may be affected, as can behavioral self-regulation, social interaction, activities of daily living, learning and academic performance, and vocational performance. Neurogenic disorders of communication and swallowing may be congenital or acquired. Congenital etiologies include but are not limited to genetic disorders and pre-, peri-, and postnatal neurologic injuries and diseases. Acquired etiologies include but are not limited to stroke, brain tumor, traumatic brain injury, anoxic or toxic encephalopathy, and non-degenerative and degenerative neurologic diseases, including the dementias.

Given the high incidence and prevalence of neurogenic disorders of communication and swallowing and their potentially serious impact on social, academic, and vocational success, on quality of life, on caretakers, and on personal finances, it is critical that SLPs and audiologists provide appropriate preventive efforts, assessment, diagnosis, and management. ASHA has published a number of position statements, technical reports, and guidelines with respect to neurogenic disorders of communication and swallowing. Professional competencies related to neurogenic disorders of communication and swallowing are recognized in the ASHA Scope of Practice statement and the Code of Ethics. SLPs and audiologists are obliged to address brain-behavior relationships, pathophysiology, and neuropsychological processes related to neurogenic disorders of communication and swallowing. This broad scope of habilitative and rehabilitative practice includes but is not limited to identification of individuals at risk for or presenting with neurogenic disorders of communication and swallowing, assessment by implementing clinically, culturally, and linguistically appropriate approaches to diagnosis, intervention that entails clinically, culturally, and linguistically appropriate practices and evidence-based approaches that enhance functional skills, compensatory strategies, caregiver involvement, and support services, counseling that is culturally and linguistically appropriate for individuals with neurogenic disorders of communication and swallowing and their significant others, collaboration with professional colleagues in developing and implementing assessment and intervention plans, case management as service coordinator or team leader, education for families, caregivers, and other professionals, prevention that includes informing the public on factors contributing to neurogenic disorders of communication and swallowing, advocacy for individuals with neurogenic disorders of communication and swallowing, and research that advances knowledge about neurogenic disorders of communication and swallowing.

In recognition of this broad scope of practice, this theme evokes a wide range of subject matter. We invite research and observations conducted by SLPs and audiologists regarding all aspects of neurogenic disorders of communication and swallowing, including reports on the nature of neurogenic disorders of communication and swallowing, and professional techniques or practices.

We invite you to submit articles pertinent to this theme, to seek out others who might be interested in writing, or to contact the column editors who are listed in the front of this journal to discuss your ideas. As always, we welcome submission of any research that would be of interest to our readers whether it relates to the theme for the next issue or not. Please send submissions for the next issue by e-mail to Dr. Laura W. Kretschmer, Managing Editor, at laura.kretschmer@uc.edu, by surface mail to Mail Location 379, University of Cincinnati, Cincinnati, OH, 45267-0379, or by FAX to 513/558-8500. To send letters to the editor or to volunteer to serve as a column editor, forward correspondence via email or phone 513/558-8514.

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