offer strategies that may be useful to professionals working with young children with visual impairments and to orientation and mobility specialists as proposed by the passion of the authors wanting to share successful approaches to instruction. The article by Deborah Chen and Jamie Dote-Kwan on emergent literacy skill development in toddlers with visual impairments draws upon the larger body of work in language and literacy development for children without visual impairments. The authors describe the potential effect of visual impairment on emergent literacy skills and offer specific strategies that early childhood interventionists and family members can use to promote early literacy skills in children who are visually impaired. The authors have shared the importance of such emergent literacy skills in this article.

Baguhn and Anderson promote the new term "echoidentification" in their report on the use of sound in orientation and mobility. They discuss the importance of the use of echoes to improve travel and the interpretation of space for individuals who are blind or who have low vision. They suggest that many students, through instruction, can go beyond using the skill to identify the location of objects to learn more sophisticated ways to use "echoidentification," such as identifying the size, distance, shape, and texture of objects. Their goal is to improve the use of sound to increase student independence as they share their successes with this strategy.

I hope you enjoy reading the Practice Reports in this issue of *JVIB* and can use them to improve your practice with the students or clients with whom you work on a daily basis, always keeping in mind that the use of any strategy offered must have buy-in and meaning to the individuals you serve.

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Practice Reports

Promoting Emergent Literacy Skills in Toddlers with Visual Impairments

Deborah Chen and Jamie Dote-Kwan

Emergent literacy skills develop from a child's experiences with spoken language in social interactions, written words through storybook reading, and opportunities to interact with print in the environment. These emergent literacy experiences provide a foundation for conventional literacy skills (Dunst, Trivette, Masiello, Roper, & Robyak, 2006; Lonigan, Shanahan, Cunningham, & The National Early Literacy Panel, 2008; Whitehurst & Lonigan, 2003). The Center for Early Literacy Learning (Dunst et al., 2006) describes a three-phase model of literacy development: preliteracy (birth to 15 months), emergent literacy (12 to 42 months), and early literacy (36 to 60 months). The emergent literacy phase, from approximately 12 to 15 to about 36 to 42 months of age, includes the acquisition of first words and the use of communication functions (such as requesting, attention getting, and describing), increased receptive and expressive language, symbol and print recognition, and other emergent literacy skills.

A congenital visual impairment (that is, blindness or low vision) may affect a child's language development and access to visually based emergent literacy. Consequently, toddlers with visual impairments require systematic intervention practices to promote emergent literacy skills. However, given the limited research base of practice guidance in the field of visual impairment (Ferrell, 2006;

Hatton, 2014), this report explores "promising practices" for promoting emergent literacy skills in toddlers with visual impairments. A *promising practice* refers to an intervention that seems to be useful and effective but requires additional research support to be considered an evidence-based practice (Simpson, 2005). To this end, it describes selected strategies that have been found to be effective with sighted toddlers with disabilities and have been used by the authors with families and their toddlers with visual impairments and in training early intervention practitioners. These families and practitioners indicated that these strategies were easy to use within their daily routines and that they motivated communication and an interest in books of toddlers.

POTENTIAL EFFECT OF VISUAL IMPAIRMENT ON EMERGENT LITERACY SKILLS

The literature indicates that young children with visual impairments are at risk for differences in early oral language, listening skills, and concept development (Pérez-Pereira & Conti-Ramsden, 1999; Stratton, 1996; Webster & Roe, 1998). These children tend to use few modifiers (such as soft or cold) and function words (such as what's this?), but more words for social interaction (such as please or thank you) (Bigalow, 1987); and words that refer to a specific object but are not generalized (Dunlea, 1989). However, using rich verbal descriptions that are developmentally appropriate during activities may promote the oral language development of visually impaired young children (Conti-Ramsden & Pérez-Pereira, 1999; Erickson & Hatton, 2007), and these descriptions should be used in early intervention practice.

Compared to sighted peers, young children with visual impairments have limited opportunities to explore the environment and fewer literacy learning experiences, and early intervention programs may not focus on emergent literacy skills (Koenig & Holbrook, 2002). Potential braille readers have limited exposure to braille and written examples of language (such as is found in books, signs, magazines, and notes) and begin preschool without adequate literacy skills (Craig, 1996; Stratton, 1996). A survey found that parents who did not have access to braille or tactile books read less than once a week to their children with visual impairments, whereas parents who had access to these materials read aloud at least once or twice a week (Kamei-Hannan & Sacks, 2012). However, reading activities may not promote learning in young children with disabilities if there is no conversation about what is being read (Goldstein, 2011). Brennan, Luze, & Peterson (2009) reported that although 40% of the homes in their survey had a braillewriter, 90% of parents reported singing songs as the most frequent literacy activity, and 80% engaged in writing and scribbling activities as the next most frequent activity. The authors suggested that these parents were not engaged in forms of activities "that have greatest applicability to helping prepare children for reading and writing skills (that is, braille) that the children will use in school" (p. 701). Thus, a focus on emergent literacy development and shared storybook reading including use of tactile books (Brennan et. al., 2009; Crespo, 1990; Lewis & Tolla, 2003) are critical interventions for toddlers with visual impairments.

The Individuals with Disabilities Education Act (IDEA) of 2004 requires programs with young children with Individualized Family Service Plans (IFSPs) and Individualized Education Programs (IEPs) to assess early language and literacy outcomes as part of progress monitoring. However, a national survey (Dunst & Bruder, 2007) of 2,300 early intervention and preschool special education practitioners in the United States found that the majority reported a lack of sufficient competence and confidence to assist families in sound and word games and early literacy activities. Similarly, a survey (Murphy, Hatton, & Erickson, 2008) of 192 teachers of young

children (birth to 5 years) with visual impairments found that less than half of the teachers used interventions to promote phonological awareness, concept development, early writing, and alphabet knowledge, or engaged in shared storybook reading.

EMERGENT LITERACY SKILLS

Current knowledge about emergent literacy learning suggests that the foundations for reading include distinguishing between the different sounds of language, participating in stories, and showing awareness of books (Bardige & Segal, 2005; National Institute for Literacy, 2009). Therefore, through developmentally appropriate language input, dialogic reading practices, and natural literacy learning opportunities, early interventionists and families can support the emergent literacy skills of young children with visual impairments. These practices provide learning opportunities for phonological awareness, concept development, early writing, alphabet knowledge, and shared storybook reading.

LANGUAGE DEVELOPMENT STRATEGIES

In the authors' experiences with families of young children with visual impairments, parents often report being told by professionals to "talk, talk, talk," to describe everything that the child cannot see as a way to supplement the child's experiences. This general recommendation is misguided, given that all young children learn and practice words within the context of shared activities; otherwise, an adult's continuous verbal descriptions will serve as meaningless background noise (Hirsh-Pasek et al., 2015). To become meaningful, language input must be tailored to the child's experiences in order to support understanding. Research with young children indicates that child-directed speech and developmentally appropriate language input are likely to facilitate early language acquisition.

So-called child-directed speech is characterized by a repetition of short, grammatically correct phrases, long pauses, exaggerated intonation and higher-than-usual pitch, simple syntax, and vocabulary that relates to what the child is experiencing. These characteristics are likely to attract a child's attention (Segal & Kishon-Rabin, 2011) and promote language development (Matychuk, 2005). Some adults are naturally inclined to use child-directed speech with young children while others may need encouragement to do so. Box 1 outlines language input strategies that are developmentally appropriate for toddlers and that support high-quality interactions (Hirsh-Pasek et al., 2015; McDonald & Stolka, 2007; Weitzman & Greenberg, 2002).

DIALOGIC READING

Dialogic reading is a shared reading practice that has potential for positive effects on the language skills of sighted preschoolers with mild to moderate language delays (What Works Clearinghouse, 2010). A synthesis of research studies with sighted children (aged between 12 and 42 months) who were typically developing or had mild to moderate delays found that shared reading strategies engaged their active participation and facilitated their early language development (Trivette, Dunst, & Gorman, 2010). Dialogic reading encourages adult-child interaction by focusing on the child taking an active role. This method involves the adult asking questions about the story, making intentional comments, and expanding the child's utterances, then waiting for the child to respond (Zenvenbergen & Whitehurst, 2003). It uses PEER (prompting, evaluating, expanding, and repeating) strategies to elicit the child's attention and language. Strategies involve:

> Prompting the child to say something about the book by using completion prompts or by pausing before the last word of a familiar repetitive phrase or rhyme for the child to fill it in; open-ended prompts that focus on pictures (such as "What's happening on the page?"); *wh*-prompts (what, where,

Box 1

when, why, and how questions) that teach new vocabulary and draw on the child's experiences; evaluating the child's responses (for instance, the child says, "Kitty-cat"; the adult responds, "That's right"); expanding the child's responses by rephrasing and adding information (for example, the adult adds, "It's a soft kitty"); and repeating the prompt to make sure the child has learned the expansion (for instance, the adult says, "Can you say, 'soft kitty-cat'?").

Research has found that sighted children (18 to 60 months of age) who are typically developing or at risk for delays demonstrate increased early language and literacy skills when parents use dialogic reading strategies (Fletcher, Perez, Hooper, & Claussen, 2005; Huebner & Payne, 2010). The literature indicates that dialogic reading is also an effective practice with young children with disabilities, including those with Down syndrome and autism spectrum disorder (Jordan, Miller, & Riley, 2011; Towson, Gallagher, & Bingham, 2016; Whalon, Delano, & Hanline, 2013). An analysis of 13 studies on dialogic, interactive, and shared reading interventions by Trivette and Dunst (2007) found that dialogic reading was significantly related to linguistic processing outcomes of typically developing sighted preschoolers and those with developmental delays. The National Early Literacy Panel (Lonigan et al., 2008) found that studies of dialogic reading interventions with preschoolers with or without risk of academic difficulties revealed statistically significant and moderate-sized effects on print knowledge and oral language skills. Together, these studies reported positive results from the use of dialogic reading, although they ranged in frequency between three to five times per week over the period of six to 64 days and did not report intervention fidelity. The term "intervention fidelity refers to the degree to which the evidence-based intervention practice is used as intended. . ." (Dunst, Trivette, & Raab, 2013, p. 89). See Box 2 for an example of dialogic reading and language-development strategies with adaptations for toddlers with visual impairments.

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Example of dialogic reading and language-development strategies for the book *What's in My Pocket?*

Prompt toddler to say something about the book.

Adult: "What's this?" Use hand-under-hand guidance to guide the child's hand to the teddy bear on the page or use a completion prompt.

Adult: "Pocket, pocket, what's in my _____?" Use hand-under-hand guidance to help the child find the pocket on the page.

Evaluate the toddler's response.

Toddler: "Baba." Pats teddy bear on page.

Adult: "Yes, that's a bear."

Expand the child's response by rephrasing and adding more information.

Adult: "A teddy bear."

Repeat the prompt to make sure the child learns the expansion.

Adult: "Can you say 'teddy bear'?"

Comment on focus of attention and wait so the child has time to respond.

Adult: "Nice, soft teddy." As child pats teddy, imitate this action right beside the child's fingers.

Ask questions and wait so the child has time to respond.

Adult: "What is teddy doing?"

Expand the child's response by adding a little more and wait so the child has time to respond.

Toddler: "Night-night."

Adult: "Teddy is going night-night."

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Box 2

EMERGENT LITERACY LEARNING EXPERIENCES

Finger plays, songs, rhymes, print-rich materials, conversations, storytelling, word plays, scribbling, and writing are emergent literacy activities (Robyak, Masiello, Trivette, Roper, & Dunst, 2007) that have been identified as promoting early language development and reading readiness (McCollum, Ree, & Chen, 2000). Frequent and positive verbal interactions with caregivers and access to literacy-rich environments are essential (Bus, 2003; Robyak et al, 2007). Interventions are most likely to be effective when implemented during everyday routines (Chai, Zhang, & Bisberg, 2006; Dunst, Bruder, Trivette, & Hamby, 2005). Furthermore, studies with toddlers and preschoolers with autism indicate that practices based on the child's interests are associated with positive language outcomes (Dunst, Trivette, & Hamby, 2012). Early interventionists should discuss the importance of providing literacy-rich home environments and should encourage families to identify opportunities for emergent literacy learning during everyday activities, particularly those based on the child's interests. Suggestions for creating literacy-rich environments are listed in Box 3.

Books on preferred topics are likely to engage a child in storybook reading activities. For example, if the toddler is very active and prefers physical movement to sitting and looking at a book, selecting a book on different movements (such as dancing or crawling under a table) might engage the child's attention. For a child with low vision, a book may be created with photos of the child's different movements.

Box 3

Tactilely illustrated or print-braille books are available from a variety of sources.

CONCLUSION

The intentional promotion of emergent literacy skills through strategies that facilitate language development and shared storybook reading is an essential foundation for conventional literacy skills. Dialogic reading encourages both adult-child interaction and the child's active participation, and literacy-rich environments can potentially facilitate the emergent literacy skills of young children with visual impairments. Using the suggested promising practices requires that early interventionists tailor them to fit the individual family and child. Further, these strategies should be delivered with sufficient fidelity (used as intended) and frequency (number of times during the day or week) to be effective. A child's progress in emergent literacy skills must be monitored through data collection to determine how much support is needed and whether the child is benefitting from the selected strategies. Through these efforts, the effectiveness of identified practices with visually impaired toddlers may be evaluated.

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Echoidentification: Teaching Individuals with Visual Impairments to Get the Most Back from Sound

*Sarahelizabeth J. Baguhn
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People who are visually impaired (that is, those who are blind or have low vision) use a wide variety of sensory information to understand the world around them. Hearing is a particularly useful sense because of its range. Many visually impaired people use some form of echolocation to monitor the space around them (for example, the sound of a cane tip reflected off a wall is a common way to keep a parallel path without trailing or shore lining).

LITERATURE REVIEW

One purpose of this report is to introduce the generic, catchall word "echoidentification" to refer to this skill categorically. A review of the literature found a range of terms that try to differentiate subskills within this topic in ways that may not be functional for practitioners. What some authors call "human echolocation" (Buckingham, Milne, Byrne, & Goodale, 2015; Fiehler, Schutz, Meller, & Thaler, 2015; Kuc & Kuc, 2016; Pelegrín-García, Rychtáriková, & Glorieux, 2016; Schenkman & Nilsson, 2010), others call "blind echolocation" (Milne, Arnott, Kish, Goodale, & Thaler, 2015; Vercillo, Milne, Gori, & Goodale, 2015); still others use the expression "human sonar" (Wallmeier & Wiegrebe, 2014); and another author uses the term "seeing" (Kish, 2009). Distinctions exist between active echolocation and passive echolocation, based on whether the person