Language and Literacy

From Birth...For Life

Research Summary

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CANADIAN LANGUAGE & LITERACY RESEARCH NETWORK
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Canadian Child Care Federation
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This project is funded in part by the Government of Canada's
Social Development Partnerships Program.
The opinions and interpretations in this publication are those
of the authors and do not necessarily reflect those of the Government of Canada.

ISBN:1-894950-28-3

2007

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Until recently, experts believed that children begin to develop language and literacy skills in the first years of school, and that teachers play the primary role in fostering these skills. However, current research has revealed that a great deal of language and literacy learning takes place before children enter school. This has highlighted the importance of parents and other caregivers in planting the seeds for language and literacy development. In Canada, where over half of all children ages 6 months to 5 years receive some form of non-parental child care (Bushnik, 2006), early learning and child care (ELCC) practitioners play a key role in promoting children's language and literacy development.

Most of the current research on language and literacy development is guided by a theory called emergent literacy, which refers to the attitudes, knowledge and skills about reading, writing, listening and speaking that children gain as they develop (as cited in Whitehurst & Lonigan, 1998). According to this theory, oral language, reading and writing develop simultaneously from early infancy and continue to develop throughout the lifespan (Morrow, 2001). This development is greatly influenced by social interactions, because children learn about literacy from everyday experiences with more literate peers and adults (Morrow, 2001; Snow, Burns, Griffin, 1998; Whitehurst & Lonigan, 1998). For example, toddlers may learn about writing by playing school with an older sibling. Or, they may learn that English books are read from left to right through shared reading with a caregiver. These day-to-day learning experiences can be supplemented with support for skills that require more active assistance. For example, children learning letter and letter sounds – critical skills for early literacy – can benefit significantly from active involvement with supportive adults (Adams, 1990; Aram & Biron, 2004; Brodeur, et al, 2006).

Emergent literacy acknowledges that language and literacy learning involves a number of cognitive, linguistic and social skills that interact and fit together in a complex way (Ollila & Mayfield, 1992). Moreover, each child's development varies based on previous experiences (Ollila & Mayfield, 1992) and each child brings a unique set of skills and experiences to the early learning and child care programme that contributes to how the child understands language and literacy. According to emergent literacy, it is important to be aware of children's strengths, challenges and interests and to gear practice to the individual child. (Ollila & Mayfield, 1992).

Many of the daily activities of ELCC practitioners – reading stories, making and using labels, having meaningful conversations with children – help to foster language and literacy growth (Ollila & Mayfield, 1992). Practitioners who support emerging literacy encourage children to explore and become active participants in their learning. They pro-

vide children with early and abundant exposure to literacy materials and enhance these experiences in developmentally appropriate ways.

The first section of this research summary outlines typical language and literacy milestones from birth to age six and discusses the skills that contribute to children's reading, writing, listening and speaking ability. The second section highlights evidence-based methods for fostering those skills, while the third outlines the importance of daily monitoring for supporting personal growth and child development, and the benefits and drawbacks of observation and recording techniques. Finally, there is a discussion of family and community factors that influence the language and literacy development and ways in which ELCC practitioners can partner with families to support learning. ELCC practitioners are invited to use this paper to support the effective practices they are already doing on a daily basis, and to help them in their ongoing improvement of their practice.

NOTE:
A glossary has been provided on page 39 to explain terms that may be unfamiliar to some readers.

Early Connections for a Lifetime of Language and Literacy Learning

Children's language and literacy development is a complicated process influenced by their biology and environment. Most follow a typical progression through a series of developmental milestones. However, the age at which they reach these stages varies from child to child depending on gender, language experience, socioeconomic status and to a lesser degree, birth order (Baker & Wigfield, 1999; Burchinal, Peisner-Feinbreg, Pianta, & Howes, 2002; Nicoladis & Genesee, 1997). Despite this variability, an understanding of the various stages can aid ELCC practitioners in monitoring and promoting growth.

Infancy: First steps into language

In the prelinguistic stage of infancy, children acquire a number of skills that will develop into verbal communication. From birth, infants are biologically prepared to pay attention to the sounds of speech and to process language by breaking it down into phrases, words and sounds. Parents and practitioners can encourage this natural ability by speaking often to and around children. It is common in some cultures – including European/North American culture – to speak to babies and young children using a slower rate and exaggerated pitch and enunciation (e.g. "Are you mommy's baby? Yes you are!"). This infant-directed speech – previously called motherese – can help foster a newborn's awareness of language. Through exposure to infant-directed speech and other models of language, five-month-olds become sensitive to the most common sounds in their native language and they can distinguish among familiar voices (Jusczyk, 2002). By seven and half months, infants can break down fluent speech into individual words, and at eight months they generally respond to a few words representing people (e.g., "mommy," "daddy" and the infant's name). By 11 months, infants understand 10 to 150 words (Fenson et al., 1994). [1]

While infants are learning to understand language, they are also developing the skills needed to produce language. For the first two months of life, they primarily vocalize by crying. At approximately two months, infants begin to coo and a few months later begin to babble. Cooing is characterized by vowel sounds (e.g., "aaaaeeee"); babbling involves consonant vowel combinations (e.g., "dadadada"). At around three months, infants begin to engage in vocal turn taking, and by eight months their pattern of vocalization consistently resembles conversations: they are silent while the caregiver speaks and resume vocalizing when the caregiver pauses to listen (de Boysson-Bardies, 1999). Around 11 months infants may create and use protowords, which are unique

[1] Throughout the document when a range of skills is described it indicates the span between the bottom 10% and the top 10% of children in the reference group.

combinations of syllables that infants use repeatedly to refer to specific objects (e.g., "baba" to refer to a pacifier) (Robb, Bauer & Tyler, 1994). At this time some children may also be producing between 0 to 20 real words (Fenson et al., 1994).

Infants in the prelinguistic stage also develop nonverbal methods of communication, such as joint attention. During joint attention, the child follows the caregiver's gaze toward objects and vice versa. For example, when a practitioner looks at a ball, the infant may follow his or her gaze and also focus on the ball. If the practitioner names the ball, the infant begins to form connections between language and the physical world, which rapidly increases their vocabulary (Campbell & Namy, 2003). Infants also learn to communicate non-verbally by pointing, making facial expressions and waving. As with verbal communication, infants' use of gestures can vary widely. For example, eight-month-old infants may use between 3 and 20 gestures; 14-month-olds may use from 23 to 52.

TABLE 1

Summary of Language and Literacy Milestones (Infancy)

Age	Milestone
Newborn	• Startled by loud noise • Calmed by the sound of a familiar voice
1-2 months	• Smiles when spoken to • Makes cooing sounds
3-7 months	• Responds differently to different intonations (happy, angry) • Babbles
8-12 months	• Turns head toward sound • Pays attention when spoken to • Responds to name • Understands between 5 and 200 words (approximately) • Recognizes phrases from games and routines (e.g. peekaboo)

(Fenson, et al., 1994; Boyson-Bardies, 1999)

Toddlers: Exploring the world of words

Around 12 months and older, children begin to understand and produce speech to interact with others and to express their needs and wants. Although toddlers may develop vocabulary at varying rates, their language development tends to follow a similar sequence. Between 12 and 24 months they start to use holophrastic speech, in which single words represent a number of different meanings depending on the context (Barrett, 1982). For example, a toddler may use the word "sock" to mean "the sock is over there," "put the sock on," or "take it off." The next stage is often called telegraphic speech, named for its similarity to the language typically used in a telegram. Telegraphic speech contains short, two-word sentences made up of crucial content words, and the meaning of these sentences can vary widely depending on the context (Bloom, Lightbrown, Hood, Bowerman, Maratsos & Maratsos, 1975). For example, "mommy go" could mean "Mom is leaving," "Mom, I want to leave," "Mom, I want you to leave," or "Is Mommy leaving?" depending on the specific context in which the phrase is used.

Between the ages of 12 to 24 months, children understand considerably more words than they produce. At 12 months toddlers may understand between 25 and 200 words, yet may produce no words or as many as 25 words (Fenson, et al., 1994). Some children rapidly increase their spoken vocabulary in a short period of time (sometimes called a "vocabulary burst"). Other children develop language slowly over longer periods (Fenson et al., 1994; Goldfield & Resnik, 1990). Over the preschool period, typically developing children learn 17 words on average per week until the age of seven. However, the number of words learned is heavily influenced by their environment. Those children who hear less speech in their home or ELCC setting are generally slower to learn new words, acquiring approximately 11 words on average per week in the early years (Biemiller, 2005). Thus, by 24 months toddlers may produce between 50 and 550 words (Fenson, et al., 1994).

Toddlers often make errors when producing new words (de Boysson-Bardies, 1999). They may generalize the meaning of words inappropriately by over- or under-extending the meaning. Overextending the meaning of a word occurs when a toddler uses "Rover" to refer to all dogs, not just his own dog. Conversely, under-extending occurs when the toddler uses "dog" to refer only to their pet and not to other dogs. Once again, language exposure influences the number and type of words learned by an individual child. ELCC practitioners may foster language development by elaborating and using a variety of synonyms (e.g., big, large, gigantic) in everyday contexts (Hoff & Naigles, 2002).

Toddlers demonstrate their growing language awareness by comprehending and acting on words and phrases without external hints. At approximately 13 months, toddlers understand and respond to some spoken instructions, such as "Look at the sleeping dog," without hints from body language or eye gaze (Thomas, Campos, Shucard, Ramsay & Shucard, 1981). As children grow they become more sensitive to the role of each individual word in a phrase and other aspects of grammar. By 20 months, children use cues from the sentence structure and from the context to extract the meaning of words. For example, when exposed to a new pretend word like "daxy," children use the surrounding sentence context to determine whether the new word is a proper noun (e.g. "This is Daxy"), or a common noun (e.g., "This is a daxy") (Bélanger & Hall, 2006).

Nonverbal communication also continues to improve steadily over the 12 to 36 month period. Toddlers become experts at joint attention and begin to understand the meaning of other non-linguistic gestures (Behne, Carpenter & Tomasello, 2005). In one study, parents looked and pointed at an uninteresting box. Fourteen-month-old children followed their parent's non-verbal signal and guessed that there was a reason for calling attention to the box. Based on this guess, the children generally chose to look inside the box, where they found a prize (Behne et al., 2005). This demonstrates that children understand that adults focus on people or objects for a reason, and toddlers use that information to guide their actions.

TABLE 2

Summary of Language and Literacy Milestones (Toddlers)

Age	Milestone
12 months	• Uses 0 to 30 words
12-18 months	• Uses learned words and phrases over and over again
18 months	• Uses 10 to 250 words
18-24 months	• Uses at least 10 words; may use as many as 550 words • Understands basic directions such as "put the book on the shelf" • Combines words into two-word sentences • Speaks intelligibly approximately two-thirds of the time • Uses at least two pronouns correctly (e.g. I, you, she, he, we, and they)
24-36 months	• Uses at least 50 but may use more than 700 words • Uses some plural forms of nouns • Uses some past tense forms of verbs • Knows and can point to main body parts when asked • Understands and responds to most simple questions • Takes part in brief conversations • Knows at least three prepositions (in, on, under)

Note: The information presented forms a consensus in the literature as these milestones are frequently cited in overview texts and websites.[2]

[2] Boyson-Bardies, 1999; Child Development Institute, 2005; The Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA), 2006; Fenson et al., 1994

Preschool (ages 3 to 4): Playing with letters and grammar

Between the ages of three and four, children's utterances become increasingly sophisticated and they begin to produce grammatically correct speech. They use "-s" to indicate plural, and "-ed" to indicate past tense. Initially, when children are learning to use affixes they may over-generalize the use of these grammatical units. For example, a child might use the regular rule when it should not be applied, and say "tooths," instead of "teeth" or "goed," instead of "went." Overgeneralization of grammatical rules, while technically incorrect, is a positive sign that children are learning and applying the rules of grammar. It is usually not effective for adults to correct these types of errors; they usually self-correct over time (Marcus, Pinker, Ullman & Hollander, 1992).

At age three, early literacy skills begin to develop and then continue to progress in parallel with language skills. Literacy development is determined heavily by the physical and social environment provided by parents and ELCC practitioners (Jalongo, Dragich, Conrad, & Zhang, 2002). Through shared storybook reading, children learn to hold a book, turn the pages in order, look at the pages from left to right, and follow along with the illustrations. During reading, children may assign basic labels and ask questions about the visual content of the book. For example, in response to "Where is the duck?" the child points to the image, or the child may point at the duck and ask, "What's that?" Simple picture books are particularly useful for fostering these skills (Jalongo et al., 2002). The skills children develop are also influenced by direct teaching. For example, with instruction, three-year-olds can name the letters of the alphabet and segment the initial sounds of a word (e.g., /p/ of "pot" or the /m/ of mommy; Aram & Biron, 2004; Whitehurst & Lonigan, 1998). Children actively taught about letters, phonological awareness (e.g., ability to recognize and talk about the sounds of speech) and writing skills perform better on literacy tasks than older children who were not provided with this training (Aram & Biron, 2004).

TABLE 3

Summary of Language and Literacy Milestones (Preschoolers)

Age	Milestone
3-4 years	• Names common objects in picture books or magazines • Uses sentences of three or more words, often with adult like grammar • Asks questions of who, where and why • Uses past tense often • Tells a simple story • Follows simple directions easily, even when the target objects are not in visual range • Repeats words, phrases, syllables and sounds

Note: the information presented forms a consensus in the literature as these milestones are frequently cited in overview texts and websites.[2]

Preschool (ages four to six): Connecting language and literacy

At age four many children participate in organized activities or lessons, and by age five or six many children are enrolled in kindergarten or first grade. During the later preschool years, children's vocabulary increases at a rate of 800 to 1000 words per year (Biemiller & Slonim, 2001). By late in their fifth year, children can comprehend and produce thousands of words (Anglin, 1993; Biemiller & Slonim, 2001). Children use their expanding vocabulary to produce more complex language. Older preschoolers begin to skilfully use language and grammatical conventions to form questions (e.g., "What was I eating?"), negatives (e.g., "I was not eating carrots.") and compound sentences (e.g., "I was eating cheese and it was yummy."). They also understand relational contrasts (e.g., big-little, heavy-light) and use them in sentences (e.g., "My truck is bigger than yours."). At age five, children generally understand and use passive sentence structure (e.g., "The car was hit by a truck.") (Shaffer, Wood, & Willoughby, 2002).

At this stage, phonological awareness becomes an increasingly important skill. Around age four, children demonstrate this skill by clapping along with each syllable or sound and by recognizing words that rhyme (e.g. bat and cat) (National Institute of Child Health and Human Development [NICHHD], 2000). Growth in phonological awareness leads to many new skills. For example, children become able to identify which word does not belong in a group using phonological information (e.g., rat, rag, river, bag). They also become able to break words into their parts (e.g., /b/-/ae/-/t/ in bat) (NICHHD, 2000).

Older preschoolers also have a growing understanding of written language and the conventions of print. Four-year-olds begin to understand that sentences are broken into words, words are made of letters and letters are oriented in a certain way on the page (Levy, Gong, Hessel, Evans, & Jared, 2006). Many five-year-olds can handle a picture book, turn the pages correctly and form a comprehensive narrative based on the visual images displayed (Jalongo et al., 2002). Typically, they have good print awareness skills (e.g., letter orientation), but cannot distinguish real words (e.g., basket) from strings of consonants and vowels (e.g., bneaort) or from pretend words (e.g., bornt) (Levy et al., 2006).

TABLE 4

Summary of Language and Literacy Milestones (School-age)

Age	Milestone
4-6 years	• Speaks in a way that is intelligible to unfamiliar adults • Uses adult-like grammar consistently • Uses fairly long sentences, with some compound and complex sentences (e.g., "My sister plays soccer and wears a uniform," or "When I get bigger, I can wear a uniform too.") • Knows common opposites: hard-soft, big-little • Counts to 10 and understands number concepts to 4 or more • Repeats sentences as long as nine words • Describes use of common objects (e.g., shoe, hat, table) • Uses descriptive words spontaneously (e.g., "This Play-Doh is soft") • Makes up rhymes, including nonsense rhymes and chants • Tells a complete story with a beginning, middle and end • Predicts what happens next in a story

Note: the information presented forms a consensus in the literature as these milestones are frequently cited in overview texts and websites.[2]

[2] Boyson-Bardies, 1999; Child Development Institute, 2005; The Canadian Association of Speech-Language Pathologists and Audiologists (CASLPA), 2006; Fenson et al., 1994

Early Learning and Child Care Practitioners:

Supporting Children to Make the Connections

Language and literacy development are interrelated. Children with positive early language experiences develop literacy skills, which in turn contribute to language growth. ELCC practitioners play an active role in both language and literacy development. They introduce children to words, sounds, letters, and books and they highlight the relationships among them. The following section outlines a number of key emergent literacy skills as well as empirically based strategies for encouraging successful language and literacy development.

This section describes how practitioners use a variety of evidence-based strategies to build children's language and literacy skills. It also illustrates the benefits of scaffolding in terms of helping children to develop these skills. For example, when a child is first learning to count, the practitioner may sit with her and provide the names of the numbers through modelling. The next time, the practitioner may sit with the child again to give encouragement and support but only supply the numbers when the child gets stuck. The practitioner will provide less and less support as the child develops the skills and confidence to count by herself. Many practitioners already use a number of strategies, including scaffolding, in a purposeful way but may benefit from learning about research that reinforces these strategies and provides new ideas for supporting language and literacy development in everyday practice.

Print awareness

One of the activities most commonly associated with language and literacy development is shared reading. Shared reading is the interactive reading of a book, magazine, or other text between an adult and a child or a small group of children. ELCC practitioners often read storybooks, information books and other texts with the children in their care, and in doing this are fostering print awareness (Justice & Pullen, 2003). When adults and children read together, children learn about the letters, words and other characteristics of print. However, young children do not naturally focus on the print during shared reading. In fact, during shared storybook reading they spend most of their time looking at the illustrations (Evans & Saint-Aubin, 2005). Drawing children's attention to print by pointing to the words when you say them or by asking questions about print features (e.g., "Where is the title?" or "We know this letter – it's an A!") can help improve word awareness and alphabet knowledge (Justice & Ezell, 2002). Focusing on print is most successful when shared reading takes place in smaller groups (i.e., less than four) and using Big Books (e.g., books with large pictures and print) so that everyone can see the text.

Alphabetic principle

Learning the alphabetic principle is important for long-term reading success (Stanovich, 1986). The alphabetic principle is composed of two parts: (1) letter knowledge – an awareness of letters and how they relate to sounds and (2) phonological awareness – an awareness of speech sounds and the ability to manipulate sounds in words (Moats, 1999). The child who acquires the alphabetic principle has the ability to associate sounds with letters and use these sounds to form words (http://reading.uoregon.edu/au/).

Letter knowledge

Knowing the alphabet doesn't necessarily make a child a successful reader. Nevertheless, there is a strong correlation between knowledge of the alphabet in preschool and kindergarten and future reading ability, which makes letter knowledge a powerful preschool predictor of learning to read (Foulin, 2005). Children do not learn the alphabet and the relationship between letters and sounds on their own; they benefit from being explicitly taught (Aram & Biron, 2004). ELCC practitioners teaching children about letters and their relationship to sounds may instruct children by choosing a letter (e.g., "M") and planning several activities to increase children's awareness of that letter, such as asking the children to make an "M" recipe by naming "M" words and putting them in an imaginary mixing bowl. In addition, children can practice writing the letter "M" or draw pictures of things that start with "M." Practitioners may also facilitate children's letter knowledge by reading an alphabet book and pointing and naming letters in environment (e.g., "The stop sign has four letters S-T-O-P" or "Your name starts with the letter B and the sound /b/). Children who engage in a spectrum of structured activities that foster letter knowledge learn more letters by the end of kindergarten than those that do not (Brodeur et al., 2006).

Phonological awareness

Phonological awareness refers to the ability to recognize and manipulate the individual sounds in speech. It includes the developing understanding that speech is made up of sounds (e.g., understanding that the spoken word "sun" has three sounds /s/, /^/, /n/). In practical terms, phonological awareness involves understanding that words break down into the parts. Linguists refer to these parts as phonemes, onsets, rimes and syllables (See Glossary for more details). Children learn about the largest sounds first and become aware of smaller and smaller parts over time. First they may demonstrate their knowledge of sounds by clapping for each syllable in a song (e.g., Ma-ry had a lit-tle lamb). Next they may identify words that rhyme (e.g., map-tap) and eventually they will be able to choose which word does not belong (e.g., hat, house, or dog).

When measured in kindergarten, this awareness of the speech-sound relationship predicts reading ability in the primary school years (Catts, Fey, Zhang, & Tomblin, 1999; NICHHD, 2000; Whitehurst & Lonigan, 1998). Children with advanced phonological awareness skills perform better than peers who have similar intelligence, receptive vocabulary, and socioeconomic status (Whitehurst & Lonigan, 1998). Although some children have better phonological awareness skills than others, regularly exposing children to this skill enhances reading development for everyone (Blachman, 2000). More importantly, providing support from a young age is particularly critical, because early phonological training remains influential well into the elementary school years (NICHHD, 2000).

Many ELCC practitioners help promote children's phonological awareness through daily activities that focus on the sounds of speech (NICHHD, 2000; Rvachew, Nowak, & Cloutier, 2004), such as singing songs, chanting and reading poems with sound repetition and rhyming. Practitioners also capitalize on teachable moments to raise children's phonological awareness. For example, during attendance a

practitioner may say "Did you notice that Ben-ja-min and Mo-ha-med both have three sounds groups in their name? How many sounds groups are in my name? Lu-cy." Or she may say "Callie and Karen both start with the sound /k/. What sound does my name start with?" Older children may be able to recognize the individual phonemes in a word. Practitioners may encourage them to break words down into parts and blend them back together. For example, the word spill has four phonemes, /s/-/p/-/I/-/l/, and saying those sounds together quickly (i.e., blending) produces the word spill. This task, in particular, is an example of the relationship between letter knowledge and phonological awareness. In breaking down words children name the letters, which may foster letter awareness. Children with greater knowledge of the alphabet, tend to have better phonological awareness skills (Johnston, Anderson & Holligan, 1996).

Phonological awareness can also be enhanced using computer programmes and talking books. Children experience growth in the skills targeted by computer programmes (Lonigan, Driscoll, Phillips, Cantor, Anthony & Goldstein, 2003). Playing computer games that offer practice in rhyming, matching words with the same onsets or rimes (e.g., cat-coat or cape-scrape), and counting the number of syllables or sounds help foster those skills. Practitioners can be flexible with the frequency and nature of their phonological awareness activities; focus on one or two types of activities at a time; work with small groups of children; and be aware of individual variation in developmental level and interest (NICHHD, 2000).

Vocabulary

There is an immense range from child to child in the amount of language they may be exposed to on a daily basis. On average, children hear between 250 and 3,600 words per hour (Hart & Risley, 1992; 1995). By age three, a child could have heard between 10 million and 40 million new and repeated words (Hart & Risley, 1995). Therefore, a child exposed to large amounts of vocabulary may hear as many as 30 million more words than a child with minimal exposure. This gap may influence vocabulary development and future school achievement (Weizman & Snow, 2001).

Despite the differences in early language exposure, the vocabulary development of all children can be promoted and supported in ELCC settings. Practitioners can use new or complex words during playtime and mealtime. They can scaffold children's understanding of new words by providing definitions, examples or other support that gets the meaning of new words across (Weizman & Snow, 2001). For example, a practitioner may introduce the word "vehicle" by saying, "Sarah, you are playing with many different vehicles. Trucks, cars, and ambulances are three types of vehicles."

Practitioners also promote vocabulary growth through shared reading. When practitioners and children read together, children are exposed to a variety of new words and phrases and their vocabulary learning is enhanced when they point and label pictures and words (Ard & Beverly, 2004; Sénéchal, Thomas, & Monker, 1995). This learning can be further enhanced through repeated reading activities, i.e., reading a text several times (Justice, Meier, & Walpole, 2005). For example, preschool and kindergarten children learn more new words when they listen to a storybook three or four times than if they hear the story only once (Justice et al., 2005; Robbins & Ehri, 1994; Sénéchal, 1997). Children often initiate this practice by asking practitioners to read the same story again and again. They may also play games and sing songs related to the story, or act out certain scenes. Repeated readings may be beneficial because new words are heard in a context in which the meaning is illustrated by the story. For example, children may learn the word "fangs" because they hear it several times in the story that says "The snake used his fangs to bite and catch the mouse," and that has a picture showing a snake with big teeth. Hearing the meaning of new words (e.g., "Fangs are very long sharp teeth.") or answering questions about them (e.g., "Why does the snake

have fangs?") further enhances word learning experiences during repeated reading (Justice et al., 2005; Senechal, 1997).

Writing and written language

Children's concepts of print and their ability to write change dramatically from age two through primary school. Three- and four-year old children generally assume that all pictures and scribbles are readable. As they grow, around the age of five they learn that English writing is made up of specific shapes oriented horizontally on the page (Bialystock, 1995). Eventually children learn that writing is made up of words and that words are made up of letters. During this developmental process children will write scribbles and pretend words, which are an important part of emergent literacy learning. Generally, they begin by scribbling, then they may use shapes and eventually letters to create pretend words (e.g., "daxy") or real words with invented spelling (e.g., "kr" for the word "car"). With continued experience children eventually learn to write using the grammatical and spelling conventions of the language (Levy et al., 2006).

Learning to recognize and write their name is a critical skill for young children. Four-year-old children tend to know the name and sound of the first letter of their name better than other letters of the alphabet (Treiman & Broderick, 1998). Children learning English, Dutch, Hebrew and possibly other languages all learn to recognize the initial letter in their name by practicing to write their name (Levin, Both-De Vries, Aram & Bus, 2005; Treiman & Broderick, 1998).

Practitioners often initiate joint writing activities which help children not only develop their writing skills (e.g., holding a writing utensil, fine motor ability, etc.), but also build phonological awareness, alphabet knowledge, and listening comprehension (Aram & Biron, 2004). For example, practitioners can help two-year-olds learn to hold and use a crayon. They can help preschool children to print their name, make a birthday card together, or check items on a list.

As young children learn to form and write letters and words, they learn about the characteristics of written language and how it differs from spoken language. Written language uses words not commonly found in speech. For example, the word "happy" would be used in speech, while "thrilled" or "gleeful" may be used in written text. Written language also contains more complex grammar, such as passive phrases (e.g., "the monster was defeated by the magician"), and decontexualized language (referring to people, places, and things that are not visible to the listener). For example, in spoken language a person may say "He spoke to her over there," but in writing, without environmental or physical cues (such as pointing), the phrase might be: "David spoke to his sister in the backyard." The written sentence includes names and descriptions of context that provide the reader with enough information to picture the scene. Children learn about these and other unique characteristics of written language through shared reading and exposure to text (Purcell-Gates, 2001).

Environmental print

Children are sensitive to print in the day-to-day environment, such as logos (e.g., Lego), signs (e.g., stop signs), and labels (e.g., kitchen centre) (Kuby, Goodstadt-Killoran, Aldridge, & Kirkland, 1999). Children as young as three can recognize logos and associate them with the products they represent (Masonheimer, Drum, & Ehri, 1984). Familiarity with logos and other forms of environmental print is a sign of emerging print awareness (Cronin, Farrell, & Delaney, 1999; Masonheimer et al.; 1984, Whitehurst & Lonigan 1998).

Children with less access to print materials (e.g., books, magazines, labels, posters) at home or in their ELCC environments have fewer opportunities to interact with literacy materials (McGill-Franzen,

Lanford, & Adams, 2002). Providing large amounts of print materials, and displaying them in eye catching and easily accessible ways throughout the centre (e.g., book displays) helps to develop children's concepts of print, writing, and narrative (Dunn, Beach, Kontos, 1994; Neuman, 1999). Table 5 lists a number of ways to create print-rich classrooms.

Exposing children to print-rich environments is important, but exposure alone does not necessarily improve literacy outcomes. Children learn from adult explanations about the use and value of the print in the environment. ELCC practitioners who have benefited from training on how to use classroom libraries can optimize literacy learning; they tend to use the materials frequently and benefit from learning new ways to highlight the connections between books, words, letters and sounds (McGill-Franzen, Allington, Yokoi & Brooks, 1999).

TABLE 5

Print-Rich ELCC Centres

- Include a variety of print in the classroom library (e.g., fiction, non-fiction, poetry, humour and magazines), and make those resources accessible.
- Choose a theme for the month, and display books related to the theme.
- Hang printed materials (e.g., posters, pictures, word walls, stories, calendars, labels) at the child's eye level.
- Create a book nook with comfy rugs, chairs or pillows.
- Have writing and listening centres (e.g., paper, markers, and music or books on tape).
- Have literacy-related props for children to act out stories and narratives (e.g., puppets, dress-up clothes, book sacks).
- Incorporate print into other ELCC areas (e.g., daily "to do" list, recipes, mailboxes for each child, etc.).

(Dowhower & Beagle, 1998; Neuman, 1999)

Gender

A number of studies of elementary school children suggest that boys and girls differ in their reading behaviour and preferences. School-age girls tend to prefer realistic fiction, while boys prefer more fantasy fiction (Boraks, Hoffman, & Bauer, 1997). On average, boys report being less confident about their reading ability, less motivated to read, and generally read less frequently than girls (Baker & Wigfield, 1999; McKenna, Kear, & Ellsworth, 1995). This is a pressing issue in the field of education, because several studies have demonstrated stability in reading achievement overtime (Juel, 1988). From as early as kindergarten, boys, on average, achieve lower scores than girls on reading tests (Chatterji, 2006). There are concerns that these differences in achievement in the elementary years could persist through their lifetime (Phillips, Norris, Osmund, & Maynard, 2002). One possible method of fostering literacy in both boys and girls is to encourage them to pursue their literary interests, whether it is information books, comics or fairy tales.

There is still much research needed on the relationship between gender and language and literacy however. Along with the generalizations about gender, it is important to respect and accommodate the individuality of each child while still providing a full range of literacy materials in the ELCC centre. Further, before they reach school-age, boys and girls generally show similar book preferences (Mohr, 2006; Robinson, Larsen, Haupt, & Mohlman, 1997). Both groups appear to enjoy fantasy and information books with strong narratives (Robinson et al., 1997). Familiarity with books also appears to play a role in reading preferences at young ages (Robinson et al., 1997). Both boys and girls tend to repeatedly select books that they have read or seen before.

Extended interactions

ELCC practitioners foster receptive and expressive language development by encouraging talking during shared reading, conversations and play. Practitioners can promote these skills by using elaborative techniques (Hargrave & Sénéchal, 2000; Whitehurst et al.,, 1988, 1994; Whitehurst & Lonigan, 1998), which encourage children to explain and discuss their ideas and feelings about a book or activity. One way to do this is to engage children in discussions before, during and after shared reading (Dickenson & Smith, 1994). Practitioners can use questions and prompts (e.g., "What kind of fruit did the very hungry caterpillar eat?") because children respond more frequently to them than to comments (e.g., "The very hungry caterpillar ate many different fruits") (Justice, Weber, Ezell, & Bakeman, 2002). A list of elaborative reading behaviours is available in Table 6. This list draws on several types of shared-reading strategies, because to date the different strategies have not been combined into a single, empirically-validated approach. In general, all of the techniques encourage active child participation.

In addition to shared reading, practitioners can encourage language development and extended speech by responding to children warmly and sensitively, and engaging in conversations and interactions that focus on the child's interests (Girolametto & Weitzman, 2002). Children use more words and speak for longer periods of time when playing with an adult, than when playing near, but not with them (Bornstein, Painter, & Park, 2002). For example, if a child is packing a play picnic basket, the practitioner may join in and encourage the child to talk by following up on and extending her actions and verbalizations (e.g., "It looks like you are making a picnic. Where will you be having the picnic?"), and by asking questions and prompting (e.g., "What type of food are you taking?" or "Why is that your favourite food?"). Practitioners are guided by the child's interests but also by his developmental level. They ask more complex questions to older children (e.g., "What will you do, and who will you invite to your picnic?") and simpler questions to younger children (e.g., "What songs will you sing at your picnic?"). Fostering spoken language development through responsive behaviour has a long-term impact on literacy, because spoken language skills in kindergarten can predict early reading achievement (Catts et al., 1999).

TABLE 6

Shared Reading

Encourage the children to participate.
• Ask open-ended questions (e.g., who, what, where, when, why, and how). • Ask open-ended questions of more advanced preschoolers (e.g., questions requiring more than one-word answers). • Read to children individually, in pairs, or in groups (optimal number for shared group reading is 3-4). • Engage in immediate talk (i.e., Talk about the book, the content or the story). • Engage in decontextualized talk (i.e., Talk about ideas or topics that are not available in the surrounding environment or have happened in the past). • Point to the words when you read them. • Use repeated readings of a favourite book, and incorporate the book into a number of settings and activities (e.g., dress-up, puppet-show, the listening centre by recording it on tape/CD, etc.). • Use lift-the-flap books, slot-books, and predictable books to encourage active involvement in the story.
Provide feedback.
• Follow up on children's answers/comments with questions. • Expand on the answers/comments of more advanced preschoolers. • Repeat what the children say, if it may help others in the group. • Praise and encourage the children frequently.
Adapt your reading style to the children's linguistic ability.
• Follow the children's interests. • Help the children as needed (e.g., modelling, or scaffolding). • Discuss the story before, during and after shared reading. (Why did you choose that book or how is it related to the children's lives? Recall what happened in the story. Who were the favourite characters? What was the favourite part? • Draw attention to print (title, author, letters, words).
(Arnold et al., 1994; Kaderavek & Justice, 2002; Justice & Pullen, 2003; Massey 2004)

Modelling

Modelling literacy is an important way to encourage children to experiment with literacy themselves. ELCC practitioners act as models of both language and literacy throughout their daily interactions with children. They model a variety of different types of speech, because they use language differently in different situations throughout the day (Kontos, 1999; O'Brien & Bi, 1995). For example, during craft play, language may be used to keep children focused on and progressing through the activity (e.g., "What colour are you going to use next?") (Kontos, 1999). During dramatic play, practitioners ask questions and comment on the activities and objects in the environment (O'Brien & Bi, 1995). For example, if the children are setting up a pretend restaurant, the practitioner may ask, "What is on the menu today?" or "How do you make these delicious eggs?" While in the truck and block centres, practitioners may model non-word sounds (e.g., "vrrrooomm"), and attention-seeking statements (e.g., "Look how tall your tower is!") (O'Brien & Bi, 1995).

ELCC practitioners model reading and writing literacy behaviours by engaging children in literacy activities throughout the day. For example, demonstrating how to hold a book properly and carefully turning the pages provides a model of appropriate book handling behaviour that children can follow. Also, when practitioners use the writing centre and the various writing materials available there, children are able to see how these tools can be used.

Literacy through play

The study of literacy-related play has its roots in the theories of Piaget (1952) and Vygotsky (1978) who both suggest that children learn through play. One critical assumption of the research focused on learning literacy through play is that play contributes to literacy development and vice versa (Roskos & Christie, 2001). Literacy and play are inter-related in three ways. First, children enhance their play by drawing on topics and stories they have learned about through books and conversations. For example, after reading a story about a race, children may create a track with blocks and race toys. Or, children may act out their favourite parts of a story, by pretending to be the Very Hungry Caterpillar (Carle, 1979) and eating all the food in the kitchen centre. Second, literacy-related activities can be included in play using literacy materials in play centres. For example, a kitchen corner might include cookbooks, labels, coupons, money, measuring cups and paper to make grocery lists and write recipes. Third, play is an opportunity to learn about literacy from adults and peers who model literacy activities (e.g., observing a peer writing in a notebook in the science centre). Children also learn when they act as models for their peers (e.g., "reading" labels to a friend in the dramatic play centre).

Part of an ELCC practitioner's role during free play activities is to encourage the use of literacy materials. Children playing in environments filled with literacy materials use those materials more than their peers with fewer literacy resources (Christie & Enz, 1992; Vukelich, 1994). However, providing the materials is not enough. Children benefit most when they observe adults modelling the use of literacy tools, and when they are encouraged to engage in literacy-related play. In order to hold the children's interest, the literacy play materials should be replaced frequently (e.g., the theme of the dramatic play centre may change monthly from restaurant, to post office, to barber shop). Increasing the frequency and quality of children's play with literacy materials improves their literacy skills. Playing in literacy-enriched settings improves children's ability to read words found in that centre (Neuman & Roskos, 1993a; 1993b; Vukelich, 1994). For example, children are able to read the words "exit" and "office" after playing in an enriched office-play centre. Reading improvements are greatest for children who are guided by adult participation in the play centre.

TABLE 7

Literacy Play Materials	
Kitchen centre	• shopping lists and coupons • recipes and recipe cards • birthday cards • newspapers, magazines, and books • food cartons (e.g., cereal box, soup can) • labels
Science centre	• picture and information books • paper and pencils • rulers and measuring cups • tracing materials • child-size chalk board and chalk
Block centre	• maps • road or building plans • picture books • design materials (e.g., paper and pencils) • labels • figures of people and animals

Literacy through multimedia

Literacy is not simply books and reading. There are many different forms of information media available, and children learn about listening, speaking, reading and writing from numerous sources. Computers are one source of multimedia text experience. Parents report that children first start to use computers, with parental assistance, at around 2½ years of age, and children begin to use computers independently at 3½ years of age (Calvert, Rideout, Woodlard, Barr, & Strouse, 2005). Therefore, from a very young age children are becoming familiar with technology and can benefit from these experiences. Playing computer games that focus on sound matching, rhyming games and breaking words into parts helps to build the phonological awareness skills of children ages 3½ to 5 (Lonigan et al., 2003). Electronic stories provide children with an opportunity to independently interact with stories before they are able to read conventional print on their own (De Jong & Bus, 2004). The animated pictures that accompany the narrative, help promote children's understanding of story elements that are not explicitly stated (i.e., the information "between-the-lines") (Verhallen, Bus, & de Jong, 2006).

Educational television programmes (e.g., *Between the Lions* [Stoia & Sullivan, 2005], *Blues Clues* [Wilder & Santomero, 2004], *Dora the Explorer* [Gifford, 2004]) can foster emergent literacy skills (Linebarger, Kosanic, Greenwood, & Doku, 2004; Linebarger & Walker, 2005). Programmes that promote expressive language and vocabulary development are characterized by encouraging interaction with on-screen characters, labelling objects and strong narratives (Linbarger & Walker, 2005). The skills fostered through television viewing are specifically targeted by the programmes (Linebarger et al., 2004). Frequent labelling and repeating new words help promote vocabulary growth, and naming letters, and showing examples of words help promote letter knowledge. However, children benefit from educational programmes differently based on their initial level of skill. Children who have less developed phonological awareness and letter knowledge may benefit from repeated viewings and follow-up support from caregivers (Linebarger et al., 2004). Children may extend their interactions with these television programmes through related computer games, websites and books.

How is the Puzzle Coming Together? Reflection, Observation and Recording

ELCC practitioners regularly assess and evaluate the progress of the children in their care, the success of a particular program or technique, and even their own work. They may use one or several evaluation tools to inform their work, whether an informal reflection in a journal, a running record of an individual child or a simple checklist to assess the child care setting.

Observation and recording

Used regularly, the observation and recording cycle is a powerful tool for practitioners, because it links their knowledge of developmental milestones with techniques for building new skills and abilities. Observation and recording can be used to evaluate children's behaviour and development. It can also be used to evaluate programmes, specific coaching techniques, or to identify staff development needs (Epstein, Schweinhart, Debruin-Parecki, & Robin, 2004; Cohen & Spenciner, 2007). Many different observation and recording techniques are available, such as anecdotal records, running records, checklists and portfolios.

There are some general issues to consider when choosing an observation and recording technique. The first is reliability, or the consistency of a measurement. A reliable technique will give similar results when used by different evaluators if the child is assessed repeatedly within a very short period of time (Epstein et al., 2004). Using more reliable measures helps ensure that children are evaluated based on the same criteria each time. The second key characteristic of an observation and recording tool is validity, which is whether the tool measures the concept being assessed (Epstein et al., 2004; Mindes, 2007). For example, recording everything a child says during outdoor play is not a valid tool for evaluating motor development. Taking note of certain behaviours – jumping, skipping, and balancing – would be a more valid assessment of the child's physical abilities. Using highly valid measures ensures that children are evaluated using the most appropriate criteria for each skill. It is important to note that each observation and recording technique varies in the degree of reliability and validity depending on the way it is used.

Regular and repeated observation and recording in varied settings helps provide a well-rounded picture of a child's growth (Epstein et al., 2004). For example, in order to learn about a child's level of interest in shared reading, a single observation may not be sufficient. A better indicator is the child's interest in books, storytelling, and literacy-related play, observed over a month-long period. Observers should be fairly familiar with age-appropriate development and sensitive to cultural and linguistic diversity (Scott-Little & Niemeyer, 2001). If they are informed about the developmental progression, they will watch for behaviours at the appropriate time (e.g., cooing at one month and babbling at three

months). Individual observers capture a unique snapshot of behaviour, and each observational technique provides different types of information (Epstein et al., 2004). Therefore, having multiple observers using different tools helps create a more complete picture of the child.

One advantage to observation and recording tools is that they are highly flexible and non-intrusive. Children can be observed during activities, transitions or mealtimes without interference from the observer. A second advantage is that observation and recording is open-ended. You can choose to focus on a small set of behaviours or you can look at the larger picture and take note of all observed behaviours. Each type of observation contributes to a better understanding of the child.

There are some limitations to observation and recording techniques. Personal beliefs and individual biases can influence the behaviours observed, the style of observation, the information recorded and the interpretation. Practitioners must ensure that beliefs or biases about different cultures (e.g., child rearing techniques, language, religion) or about individual characteristics (e.g., relationship with the child or the parent) do not influence their observations or their records (Mindes, 2007). Another limitation of observation and recording techniques is that children's behaviour can be changed by the presence of an observer. For example, a child may talk coherently with peers, but may be too shy to speak in the presence of an adult. These factors should be kept in mind when reviewing and interpreting the recordings from observations.

Anecdotal record

Anecdotal recording involves taking detailed notes about a child's behaviour during a specific event or activity. The information of interest includes when and where the observation took place, and what was said and done by the target child and anyone else involved in the activity. Anecdotal notes are usually written down after the event has been observed, and the observer includes all the details they remember (Beaty, 2002; Mindes, 2007). An ELCC practitioner might be given time during the day to record anecdotal notes about child's writing in the activity centre (e.g., "Omer 'wrote' a letter; four separate lines of scribbles; and traced his name at the bottom.")

Anecdotal records are open-ended; therefore, they allow the observer to record everything they saw, not just one type of behaviour (Beaty, 2002). Alternatively, the observer may be interested in specific behaviours and can target their observations and records to those behaviours. For example, an ELCC practitioner may be interested in a child's print knowledge and will record information about her work in the writing centre, but will not include descriptions of her narrative ability. One critical drawback of anecdotal records is the delay between observing an event and writing a record. The delay can result in records that are not always accurate. The observer may forget some of the contextual details or the sequence of events. Another drawback is that information kept in the records can be influenced by personal biases and differences in interpretations (Beaty, 2002). For example, a practitioner's belief that twins develop and behave similarly, may influence how they observe twins and which behaviours they record. It is important to record observations objectively, without opinions or other comments.

Running record

The running record technique requires advanced planning and effort, but provides a more comprehensive, detailed and accurate account of children's behaviour (Cohen & Spenciner, 2007). A running record is a set of continuous notes in which the observer records everything a child or group of children says and does over a certain period of time (e.g., 10 minutes). In effect, a running record is a detailed transcript of an event. Minute by minute time notations are noted throughout the observation and childrens' actions, facial expressions and speech are all recorded (Mindes, 2007). A running record begins with the date, time, location and a brief de-

scription of the context (e.g., "Sarah and Tom are in the science centre and are weighing different objects on the scale"). Running records include observable facts (e.g., "Sarah puts her doll on the scale and smiles"), not descriptions that rely on inferences (e.g., "Sarah is really enjoying herself") (Beaty, 2002).

One advantage of running records is that they are in real-time. They are taken during the event, making them more comprehensive and less susceptible to distortion from memory loss. However, this method requires a larger time commitment from staff, because one practitioner may be devoted to recording the actions of a small group of children for an extended period of time. Furthermore, observers must split their time between observing and recording, which makes keeping accurate running records difficult during fast-paced activities or for larger groups.

Play-based assessment

For young children, ages two to four, it is particularly useful to focus on observing play. Children spend much of their time naturally engaged in play; therefore play-based assessment can be used to observe social, cognitive, emotional, motor and language skills (Bordignon & Lam, 2004; Mindes, 2007). During individual and group play, there are opportunities to record children's use of eye contact, gestures, language and grammar (Mindes, 2007). As with other forms of observational assessment, it is critical that ELCC practitioners are familiar with developmental milestones in order to watch for age-appropriate behaviours.

Checklists, rating scales and frequency lists

Checklists and rating scales are not only used to record information, but they act as guides for observations. A checklist consists of a list of characteristics or behaviours, and the observer watches and writes down the presence or absence of these items (Cohen & Spenciner, 2007). Practitioners can use checklists during regular activities or they may directly ask the child to demonstrate a skill (Scott-Little & Niemeyer, 2001). A checklist can be used to identify areas in need of further attention or more detailed observation. They may also be used to track behaviours over time to monitor developmental changes (Beaty, 2002).

Many commercially-produced checklists are available, but practitioners may have to adapt them to ensure that they are developmentally appropriate and focus on skills that are important to monitor. Alternatively, practitioners may choose to create a checklist on their own that centres on a specific topic of interest (e.g., phonological awareness skills). When creating a checklist it is important to make the items short, descriptive and worded in objective terms (Beaty, 2002). Some possible examples of items to include on an emergent literacy checklist are: Pretend writes with scribbles and pictures; looks at books independently; and points to the title of a book when asked "Where is the title?"

Checklists and rating scales are generally user-friendly for ELCC practitioners, teachers or parents (Beaty, 2002). They are useful for organizing and recording developmental milestones (Epstein et al., 2004), as well as for checking reliability of the observations. Practitioners can use these tools simultaneously to observe an activity. Afterwards they can check each other's lists to see how well their observations match (Beaty, 2002).

Checklists can produce an incomplete picture of a child's ability, because they only focus on the presence or absence of a behaviour. Additional pieces of information that could complete the picture include the frequency of the behaviour, whether it was used appropriately, and the child's mastery level. ELCC practitioners could use anecdotal or running records to obtain this information. They could also use rating scales and frequency lists. Rating scales differ from checklists because they record a range of behaviour

such as frequency (e.g., frequently, moderately or rarely) or developmental progress (e.g., no evidence, beginning, developing, skilled), rather than just present or absent. Frequency lists are used to track the exact number of times a behaviour occurs, such as the number of times a child uses a question word (who, what, where, etc.) when asking a question (Mindes, 2007).

Checklists, rating scales and frequency lists may not be sensitive to individual differences (e.g., culture, special needs, etc.) because they are usually designed with one group in mind (e.g., Caucasian middle income). For example, one item on a checklist assessing communication skills may be "Makes eye contact when speaking." However, for children of Aboriginal background a lack of eye contact may be a sign of politeness and respect, not of poor communication skills (Ball, Bernhardt, & Deby, 2006).

Portfolio

A portfolio is a collection of a child's work put together by the ELCC practitioner and the child. Portfolios are sometimes called pockets of progress, memory boxes, or literacy folders (Barclay & Breheny, 1994). Portfolios should include samples, but not all, of a child's work. Prior to creating the portfolio, the selection criteria are clearly laid out, and are used to decide which pieces of work to keep (Epstein et al., 2004; Scott-Little & Niemeyer, 2001). Portfolios can include observational notes or checklists from the practitioner, collections of artwork, samples of writing (both independent and with assistance), and stories dictated by the child. They can also include lists of books read and favourite activities, and transcripts or running records of the child's activities and conversations (Mindes, 2007). Portfolios may be used to track developmental progress. For example, every child in the class could be asked to write their name and draw a picture of themselves at four points throughout the year. The pictures and writing sample would be included in the portfolio, and parents and practitioners can look back to see the changes occurring in each child's development.

Portfolio assessments encourage the participation of parents, the child, and the ELCC practitioner (Epstein et al., 2004; Mindes, 2007). Each portfolio differs, because it is a reflection of the individual child. As a result, children from all backgrounds (e.g., cultural, language, and socio-economic status) are able to participate fully without discrimination. Portfolio assessments also have their limitations because the practitioner and the child choose the items included in the portfolio. The child may only want to include the best work, or the ELCC practitioner may not have the time necessary to sort through and choose the most appropriate items, thereby creating an incomplete picture of the child's progress. Portfolios may be useful tools for starting dialogue with parents, but their reliability as an assessment tool is still being debated (Browder, Spooner, Algozzine, Ahlgrim-Delzell, Flowers, & Karvonen , 2003).

Using observation and recording

ELCC practitioners can use observation and recording tools to facilitate conversations with parents. For example, they can use anecdotal or running records to describe events from the child's day to the parents during pick-up time. They may also use anecdotal records, checklists, and rating scales to track growth and inform parents about the child's strengths and needs. Frequent monitoring is particularly important for children at risk of developmental disorders. Through observation and recording, an ELCC practitioner may notice that one child is reaching the typical developmental milestones slower than expected. If so, they may discuss with parents the need to contact other professionals. For example, if a practitioner is concerned that a child has physical difficulties that are affecting their language or literacy abilities they can suggest that parents consult with the local paediatrician or nurse. They may also refer parents to the local audiologist, speech-language pathologist or psychologist for formal assessment if they are concerned about a child's physical or cognitive development. Local family service centres (e.g.,

early years centres, public health) and specialists (e.g., early intervention, literacy or developmental specialists) are good sources of information and can direct practitioners to the appropriate professional or programme to address a child's needs. Practitioners can also access websites (e.g., www.caslpa.ca) for information or to find local professionals and programmes. Early identification is critical for effective early intervention and remediation. By working closely with parents and other professionals, ELCC practitioners help support the development of all children.

Self-reflection

Many ELCC practitioners use self-reflection to help them think about their practice and whether there are things that they would like to change. Reflection is an evolving concept, and researchers, theorists and practitioners continue to explore how it is defined and used (Jay & Johnson, 2002). In his book, *How We Think*, John Dewey (1933) described reflection as, "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends" (p.9). In other words, reflection involves systematically thinking about the origins and consequences of one's own actions and beliefs. Fifty years later, Donald Schön (1983; 1987) coined the term reflective practice and helped renew interest in reflection as an important characteristic of professional practice. Typically self-evaluation includes describing an event or belief for reflection, evaluating this critically and thinking about which personal beliefs and practices contributed to the event and how others may have approached the situation differently, and integrating new knowledge or techniques into future practice (Jay & Johnson, 2002; Malkani & Allen, 2005).

The reflective practice cycle – description, critical evaluation, and action – may be used as a problem-solving technique (Jay, 1999). After identifying a puzzling event or phenomenon, a practitioner may engage in reflection to identify possible causes and solutions. ELCC practitioners may also use reflection to critically evaluate their own beliefs. Practitioners' beliefs and goals influence the ELCC centre setting and practitioner-child interactions (Burchinal, Cryer, Clifford, & Howes, 2002). Explicitly stating and critically examining the beliefs that guide behaviour may help reinforce evidence-based practices or discredit unfounded biases. Finally, reflection may be used to connect theory and practice. Learning about new theories may introduce alternative perspectives. Or, specific examples from practice may or may not support research theories.

ELCC practitioners may incorporate reflection into their practice in a number of ways. They may initiate or participate in action research. This is a critical and thorough inquiry into some aspect of one's own practice (Ferraro, 2000), which emphasizes actions and focuses on changing behaviours (Valli, 1997). Practitioners may also use knowledge, theories and evidence to initiate and identify the method for change, then examine the results of the change (Valli, 1997). Practitioners use journal writing to track their behaviour and learning over time, to help them reflect on what they know, how they feel, what they have done in the centre, and why they did it (Valli, 1997). They may also use case studies of a real or fictional event that presents a specific problem as a tool for reflecting and discussing possible courses of action they would take and the reasons why (Valli, 1997). Pre-service practitioners who use and practice reflective techniques during training, are more likely to engage in reflection as part of their practice (Malkani & Allen, 2005).

Table 8 presents a sample self-reflective tool focusing on language and literacy development.

TABLE 8

Sample List of Self-Reflective Questions

In order to support and protect each child's communication skills:
I communicate with children verbally and non-verbally in a style, manner and speed that is appropriate for their developmental level, culture, abilities and personality.
I provide opportunities and activities that encourage children to develop their listening and understanding skills.
I pay attention to and support children's attempts to communicate.
I have frequent conversations with children.
I ask children open-ended questions and seek their opinions.
I encourage children to use their home language, both in the care situation and at home.
I encourage children and families whose home language is different from my own to teach me words, phrases and songs in tier language and incorporate these into my program.
I provide opportunities and activities where children can express themselves through non-verbal means such as painting and music.

Excerpt from Guide to Self-Reflection, *Partners in Quality: Tools for Practitioners in Child Care Settings*, CCCF, 2000.

Connecting with Families and the Community

In Canada's multicultural mosaic the exact nature of a child's home literacy experiences varies depending on their economic, cultural, and linguistic background. As a result, each child enters the child care or school setting with a unique framework. To successfully foster the language and literacy development of all children, practitioners need to understand and embrace the cultures and characteristics of their community. By partnering with parents and the community, practitioners can draw on the myriad of daily learning experiences that can foster language and literacy development, such as such as talking with parents, reading street signs, playing family games, singing songs and watching siblings do homework. These experiences contribute to many aspects of language and literacy development, including learning the relationship between letters and sounds, the orientation of words on a page, and the structure of oral narratives (Nutbrown, Hannon, & Morgan, 2005). The previous sections have primarily focused on the roles of ELCC centres and practitioners. The following section focuses on how individual family and community factors impact language and literacy development and how ELCC practitioners can help families engage in personally meaningful language and literacy practices.

Family

Some parents or caregivers may find it challenging to support emerging literacy at home. They may not be familiar with the Anglo-European literacy practices that reflect the cultural background underlying the majority of early literacy research and that are generally the norm in ELCC settings. Other parents may have limited literacy skills because they left school early, or due to a learning disability. Finally, some parents may simply not have the resources (e.g., financial, knowledge, etc.) to devote to fostering literacy in the home. Children whose parents have limited education or economic resources are generally exposed to less vocabulary on a day-to-day basis than their more affluent peers (Hart & Risley, 1992). Children affected by poverty may also take part in fewer joint activities with their parents and may be exposed to simpler texts than their peers (Baker & Scher, 2002; Hart & Risely, 1992). However, economic and social circumstances do not determine children's language and literacy outcomes. Practitioners can reassure parents that they can support their children's language and literacy development, regardless of the parent's reading ability or access to resources.

Parents' attitudes towards reading and writing and their views about education play a role in children's literacy development (Purcell-Gates, 2000; Senechal & LeFevre, 2002). Children whose parents who are motivated and interested in literacy activities are more enthusiastic about literacy and generally achieve higher reading scores (Cook, 1980; Baker & Scher, 2002; Weigel, Martin, & Bennett 2006). Some ways that parents demonstrate an interest in literacy includes telling stories, going for family trips to the library or sharing books with other families, sending and receiving emails, reading for work or pleasure, and offer bought or homemade books as gifts.

ELCC practitioners can support families by recognizing and highlighting family literacy practices. The term family literacy has two meanings: (a) literacy practices within families and (b) literacy programmes involving families (Nutbrown et al, 2005). Children's literacy practices within the home can include watching siblings do homework, playing with letter magnets, singing songs, helping send cards or emails, watching educational television and shared reading. Family literacy practices may draw on home languages (e.g., Urdu, Spanish or Mandarin) or on cultural practices (e.g., drumming circles for Aboriginal children). Each activity influences children's language and literacy development, and fosters a unique set of language skills. For example, children learn about the alphabet and print from reading alphabet books, parental coaching in writing letters, and other formal print activities; whereas vocabulary knowledge and oral comprehension can be fostered through shared storybook reading and other informal print activities (Sénéchal & LeFevre, 2002).

Siblings may act as important language models for each other (Brody, 1998; Gregory, 2001; Volk, 1999). Older siblings can act as a bridge between the school and home literacy practice (Williams & Gregory, 2001). During pretend play, older siblings may model school-related behaviours and activities, thereby providing younger siblings with a glimpse of what to expect in school (Gregory, 2001). They may also scaffold their younger siblings counting, writing, reading and oral language ability through games and pretend play. In turn, younger siblings provide their older siblings with opportunities to practice school-related behaviours and expressive language skills in a relaxed setting (Gregory, 2001).

The second definition of family literacy refers to programmes involving families that support parents, caregivers and children in achieving literacy goals. Family literacy programmes take many forms, from structured classes provided over weeks or years to informal community resource centres.[3] They often have the following features: (1) they highlight the ways literacy is used at home, at ELCC centres, and in the wider world; (2) they enhance the language and literacy knowledge of family members; and (3) they highlight the relationship between activities in the home and in other settings (Phillips and Sample, 2005). These programmes may differ dramatically from location to location and can focus on improving parent's literacy, children's literacy, or both. They can take place in homes, community centres, ELCC centres or schools, and the workers may be early childhood educators, adult educators, nurses, librarians, teachers or volunteers. Parents may attend alone, they may attend with their children and other family members, or they may bring their children but take part in separate activities. In general, the programmes positively impact emergent literacy skills, however, it remains unclear how large an impact the programmes make, and which programme characteristics are crucial for making that impact (Nutbrown et al., 2005). There are also concerns that some family literacy programmes are not designed

[3] There are many different family literacy programmes available across the county, including Books for Babies programs (which are available in some provinces and can be found at the following websites: http://www.nald.ca/booksforbabies, www.familylit.ca, http://www.bcpl.gov.bc.ca/books4babies), and Parents as Literacy Supports (PALS; www.palsfamilylit.ca).

to incorporate or acknowledge literacy practices that occur in the home and community (Auerbach, 1989; Cairney, 2002), choosing instead to focus on school literacy. These programmes may even view the parenting techniques of people from non-dominant cultures or classes as incorrect, inferior and in need of fixing (Auerbach, 1989).

Multilingualism

Many children in Canada grow up in multilingual home and community environments, which influence their language and literacy development. Multilingualism refers to children who speak, understand, or read in two or more languages. Some bilingual children have a well developed home language and become bilingual as they learn a second language (e.g., English or French). For example, a Chinese-Canadian child in Calgary may be exposed to one language in their home and community (e.g., Cantonese), and a new language in school (e.g., English). Other children live in homes and communities that are bilingual and they develop both languages simultaneously. For example, a child in Montreal may have similar language and literacy experiences in English and French in their home, school and community.

Children learning more than one language have a similar rate of language development as children learning only one language (Pearson & Fernández, 1994). They begin by cooing as infants and over time they learn to use words, phrases and sentences. Children learn more words in the language they hear most often and fewer words in the language they hear less often (Pearson, Fernández, Lewedeg, & Oller, 1997). With more exposure they will learn more and more vocabulary and grammar in the new language. Throughout the preschool years, multilingual children may use the vocabulary and grammar from both their languages during a single conversation. This behaviour is called code-mixing (Nicoladis & Genesee, 1997). For example, a child may combine English and French words in single sentence, such as "doggy parti" rather than "doggy gone" or "chien parti." Or, the child may respond in English when the rest of the conversation was in French. Code-mixing is a very typical behaviour for bilinguals, and there are large differences in the amount of code-mixing individual children use (Nicoladis & Genesee, 1997). As children grow older and develop a more conscious awareness of language they may begin code-switching. Code-switching also involves using two or more languages in conversation, but it is done intentionally (Nicoladis & Genesee, 1997).

As with monolinguals, the language knowledge of multilinguals is influenced by language experience. A child who speaks English primarily in school and Cantonese at home will learn more school-related vocabulary in English (e.g., recess, classmate, assignment), and more home-related vocabulary in Cantonese (e.g., gaa mou [chores], zam tau [pillow], juk gong[bathtub]) (Pearson & Fernández, 1994). For children who speak a minority language (i.e., not English or French) the social context may negatively influence their minority language development. There is a phenomenon called "subtractive bilingualism" which occurs when children lose or have diminished ability in their first language after they begin acquiring the majority language (Fillmore, 1991). Subtractive bilingualism may result from a combination of reduction in language experience (e.g., the child stops speaking the home language with family and friends), lack of community support or opportunity to practice, as well as negative perceptions of home culture and language (Fillmore, 1991). Subtractive bilingualism is a developmental concern because maintaining home language skills has a positive impact on social, emotional and education outcomes later in the child's life (Kohnert, Yim, Nett, Kan, & Duran, 2005). Given the plethora of languages spoken across Canada it is unrealistic to expect that ELCC practitioners will be able to support the development of the home language of all the children in their care. However, practitioners can inform parents about the importance of maintaining the home language, and underscore the potential value of providing home language enrichment (Kohnert et al., 2005).

There are also some Canadian children who speak and hear non-standard English dialects in their homes and communities. Two examples of non-standard English dialects found in Canada are Aboriginal English and Newfoundland English (Ball et al., 2006). The term non-standard is important because it implies that dialects may differ, but that they are all equally valid languages. The standard English dialect familiar to most Canadians from the national media is just one of many forms of the English language. However, the public perception in Canada is that the standard Canadian English dialect (i.e., CBC English) is better in some way than other dialects as it has been given prestige through support from the government, media and schools. Children who speak Standard English as a second dialect are learning a new form of their language. This is not always acknowledged, which can be harmful to children. Sometimes children who speak Standard English as a second dialect develop spoken and written language fluency problems (Ball et al., 2006). They are also at risk of being misdiagnosed with language or learning disabilities (Ball et al., 2006). When children acquire a second or third language, often the objective is that of becoming fluent in a standard dialect. Difficulties arise when children are confronted with non standard dialects. For instance, English native speaking children in French immersion may learn France's French but be at a loss with French Canadian dialect. A Chinese child raised in Newfoundland may find it difficult to speak to his or her classmates when his or her family moves to Toronto.

ELCC practitioners and parents can support both standard and non-standard English language learning. For example, in Australia, where members of the Aboriginal community speak a non-Standard English dialect, some school systems use bidialectical (e.g., two dialects) teaching strategies in the primary and elementary years. Bidialectical education differs from English as a Second Language education, because it focuses on the similarities and differences between standard and non-standard English, rather than on vocabulary. In bidialectical education children are encouraged to think about when and how to switch between the two dialects (Berry & Hudson, 1997). The effectiveness of these programmes has not been clearly established. However, ELCC practitioners may consider drawing on home language skills as part of building a foundation for language and literacy.

Aboriginal children

Aboriginal[4] children grow up with a unique language and literacy experience, and understanding the social and historical context in which they grow up is a foundation for supporting learning. Canada's Anglo-European majority has repeatedly tried to assimilate Aboriginal people into the majority culture. Assimilation often occurred through the education system, most notably, through the residential school programme. In addition, many Aboriginal communities are struggling to maintain their language and their cultural histories. It is estimated that that there are fifty Aboriginal languages spoken in Canada (Norris, 1998). Nearly ten other Aboriginal languages have been lost over the past century and, only three languages — Algonquian, Inuktitut, – and Athapaskan – are currently spoken by enough people to be considered completely safe from extinction (Norris, 1998). Therefore, fostering home language development is critical for the survival of the languages and the cultures.

Oral language plays a key role in Aboriginal culture. Storytelling and ceremonies are traditional methods for communicating knowledge and history (Greenwood, 2005). Oral language continues to be a major characteristic of communication in day-to-day life (e.g., personal visits, word-of-mouth, talking on the phone) (Dunn, 2001). These strong oral traditions support language development, and tight-knit

[4] In this document the term Aboriginal is used to describe individuals who self-identify as First Nations, Métis or Inuit.

communities can join together to support children's growth (Dunn, 2001). However, many Aboriginal children are also impacted by poverty, health issues, and restricted access to services, which weakens language and literacy development (Dunn, 2001). If practitioners become aware of the factors that jointly influence Aboriginal children's language growth and draw on the strengths of the community, they can successfully foster language and literacy skills.

Another unique characteristic of Aboriginal cultures and languages is they use different methods of discourse (or way of communicating), which can influence language and literacy development (Ball et al., 2006; Dunn, 2001). There is an oral tradition and stories passed down from generation-to-generation may be used to indirectly convey information, rather than explicitly state answers. For example, an Elder who is asked, "What do you think Aboriginal students and educators ought to know about Aboriginal education?" may not respond with a straight answer (Hare, 2005). Instead he may tell a series of stories that demonstrate the principles of Aboriginal education and the way Aboriginal children should learn, such as through "good talking" and "good walking" (Hare, 2005).

At home, Aboriginal children may be encouraged to be good listeners. This differs from ELCC and school settings where children are often encouraged to talk and respond to questions. Answering questions directly, particularly in larger groups, may be difficult for Aboriginal children because they may not use that form of discourse at home (Ball et al., 2006; Epstein & Xu, 2003). Due to cultural misunderstandings, Aboriginal children are sometimes inappropriately referred for formal diagnostic assessments (Ball et al., 2006).

ELCC practitioners can engage in dialogue with parents, community members and elders to learn more about Aboriginal culture and their community practices. Visiting with parents and inviting community members into the ELCC program can help build trust (Timmons, 2006). The parents and grandparents of today's preschoolers and school-age children may have been impacted by the residential school programmes. As a result, they may have a reasonable distrust of ELCC centres and schools. Elders' knowledge about Aboriginal culture, language and history is a resource in developing ELCC centre material and in programme planning (Battiste, 2002). In return, ELCC practitioners can share information about the relationship between language and literacy, or about observations of the child in the ELCC centre. By exchanging this information, parents, caregivers, and ELCC practitioners can work proactively together to support language and literacy growth and development.

Conclusion

This research summary was developed to expand ELCC practitioners' knowledge of early language and literacy development, highlight the activities that they are already using in support of language and literacy, and suggest ways to further enhance their professional practice. According to the emergent literacy perspective, infants and young children are continuously learning skills related to reading, writing, speaking, and listening. Children develop through a series of milestones, and each child's development is influenced by individual, family and community factors.

ELCC practitioners can use a variety of fun activities and games to support specific emergent literacy skills, such as vocabulary, phonological awareness, decontextualized language, and print awareness. Reflective ELCC practitioners observe and record day-to-day activities in order to monitor children's growth and support them in developmentally appropriate ways. Individual, cultural, and linguistic diversity create challenges and opportunities in the ELCC centre. Overall, knowledgeable ELCC practitioners are an important piece of the puzzle that joins together in support of children's language and literacy learning.

References

Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA.: MIT Press.

Anglin, J. M. (1993). Vocabulary development: A morphological analysis. *Monographs of the Society for Research in Child Development*, 58(10)[238], v-165.

Aram, D., & Biron, S. (2004). Joint storybook reading and joint writing interventions among low SES preschoolers: Differential contributions to early literacy. *Early Childhood Research Quarterly*, 19(4), 588-610.

Ard, L. M., & Beverly, B. L. (2004). Preschool word learning during joint book reading: Effect of adult questions and comments. *Communication Disorders Quarterly*, 26(1), 17-28.

Arnold, D. H., Lonigan, C. J., Whitehurst, G. J., & Epstein, J. N. (1994). Accelerating language development through picture book reading: Replication and extension to a videotape training format. *Journal of Educational Psychology*, 86(2), 235-243.

Auerbach, E. R. (1989). Toward a social-contextual approach to family literacy. *Harvard Educational Review*, 59(2), 165-181.

Baker, L., & Scher, D. (2002). Beginning readers' motivation for reading in relation to parental beliefs and home reading experiences. *Reading Psychology*, 23(4), 239-269.

Baker, L., & Wigfield, A. (1999). Dimensions of children's motivation for reading and their relations to reading activity and reading achievement. *Reading Research Quarterly*, 34(4), 452-477.

Ball, J., Bernhardt, B., & Deby, J. (2006). *First Nations English dialects: Forum proceedings*. University of Victoria, School of Child and Youth Care, & University of British Columbia, School of Audiology and Speech Sciences.

Barclay, K., & Brehany, C. (1994). Hey, look me over! Assess, evaluate and conference with confidence. *Childhood Education*, 70(4), 215-220.

Barrett, M. (1982). The holophrastic hypothesis: Conceptual and empirical issues. *Cognition*, 11, 47-76.

Battiste, M. (2002). *Indigenous knowledge and pedagogy in First Nations education - A literature review with recommendations*. In National Working Group on Education, Our Children: Keepers of the Sacred Knowledge. Ottawa, ON: Indian and Northern Affairs Canada, February.

Beaty, J. J. (2002). *Observing development of the young child* (5th ed.). Upper Saddle River, NJ: Merrill.

Behne, T., Carpenter, M., & Tomasello, M. (2005). One-year-olds comprehend the communicative intentions behind gestures in a hiding game. *Developmental Science*, 8(6), 492-499.

Bélanger, J., & Hall, D. G. (2006). Learning proper names and count nouns: Evidence from 16- and 20-month-olds. *Journal of Cognition and Development*, 7(1), 45-72.

Berry, R., & Hudson, J. (1997). *The story of feliks – bidialectical education* (Report No. FL 025 700). Toowoomba, Australia: Applied Linguistics Association of Australia. (ERIC Document Reproduction Service No. ED426629).

Bialystok, E. (1995). Making concepts of print symbolic: Understanding how writing represents language. *First Language*, 15, 317–338.

Biemiller, A. (2005). Size and sequence in vocabulary development: Implications for choosing words for primary grade vocabulary instruction. In E. H. Hiebert, & M. L. Kamil (Eds.), *Teaching and learning vocabulary: Bringing research to practice*. (pp. 223-242). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Biemiller, A., & Slonim, N. (2001). Estimating root word vocabulary growth in normative and advantaged populations: Evidence for a common sequence of vocabulary acquisition. *Journal of Educational Psychology*, 93, 498-520.

Blachman, B. A. (2000). Phonological awareness. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of reading research, vol. III*. (pp. 483-502). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Bloom, L.P., Lightbrown, L., Hood, M. (1975). Structure and Variation in Child Language. *Monographs of the Society for Research in Child Development*, 40 1-97.

Boraks, N., Hoffman, A., & Bauer, D. (1997). Children's book preferences: Patterns, particulars, and possible implications. *Reading Psychology*, 18(4), 309-341.

Bordignon, C., & Lam, T. (2004). The early assessment conundrum: Lessons from the past, implications for the future. *Psychology in the Schools*, 41(7), 737-749.

Bornstein, M. H., Painter, K. M., & Park, J. (2002). Naturalistic language sampling in typically developing children. *Journal of Child Language*, 29(3), 687-699.

Brodeur, M., Gosselin, C., Mercier, J., Legault, F. et Vanier, N. (2006). Prévention des difficultés d'apprentissage en lecture : l'effet différencié d'un programme implanté par des enseignantes de maternelle chez leurs élèves/[Prevention of reading difficulties: Differential effects of a program implemented by kindergarten teachers for their students]. *Éducation et francophonie, numéro thématique sur la littératie*, 34 (2), 56-83. http://www.acelf.ca/c/revue/pdf/XXXIV_2_056.pdf

Brody, G.H. (1998). Sibling relationship quality: Its causes and consequences. *Annual Review of Psychology*, 49, 1–24.

Browder, D. M., Spooner, F., Algozzine, R., Ahlgrim-Delzell, L., Flowers, C., & Karvonen , M. (2003). What we know and need to know about alternate assessment. *Exceptional Children*, 70(1), 45-61.

Burchinal, M.R., Cryer, D., Clifford, R.M., & Howes, C. (2002). Caregiver training and classroom quality in child care centres. *Applied Developmental Science*, 6, 2-11.

Burchinal, M. R., Peisner-Feinberg, E., Pianta, R., & Howes, C. (2002). Development of academic skills from preschool through second grade: Family and classroom predictors of developmental trajectories. *Journal of School Psychology*, 40(5), 415-436.

Bushnik, T. (2006). Children and youth research paper series (Research Paper No. 89-599-MIE2006003). Ottawa, Ontario: Statistics Canada.

Cairney, T. H. (2002). Bridging home and school literacy: In search of transformative approaches to curriculum. *Early Child Development and Care*, 172(2), 153-172.

Calvert, S. L., Rideout, V. J., Woolard, J. L., Barr, R. F., & Strouse, G. (2005). Age, ethnicity, and socioeconomic patterns in early computer use: A national survey. *American Behavioral Scientist*, 48(5), 590-607.

Campbell, A. L., & Namy, L. L. (2003). The role of social-referential context in verbal and nonverbal symbol learning. *Child Developmen*t, 74(2), 549-563.

Canadian Association of Speech-Language Pathologists and Audiologists. (2006). *Speech, language and hearing milestones: Prevent, protect and act*. [Brochure]. Ottawa, Canada.

Canadian Child Care Federation. (2000). Guide to Self-Reflection. *Partners in Quality: Tools for Practitioners in Child Care Settings*. Ottawa, Canada.

Carle, E. (1979). *The Very Hungry Caterpillar*. New York : Philomel Books.

Catts, H. W., Fey, M. E., Zhang, X., & Tomblin, J. B. (1999). Language basis of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3(4), 331-361.

Chatterji, M. (2006). Reading achievement gaps, correlates, and moderators of early reading achievement: Evidence from the early childhood longitudinal study (ECLS) kindergarten to first grade sample. *Journal of Educational Psychology*, 98(3), 489-507.

Child Development Institute. (2005). Language development in children. Retrieved May/16, 2006 from http://childdevelopmentinfo.com/development/language_development.shtml.

Christie, J. F., & Enz, B. (1992). The effects of literacy play interventions on preschoolers' play patterns and literacy development. *Early Education and Development*, 3(3), 205-220.

Cohen, L. G., & Spenciner, L. J. (2007). *Assessment of children and youth with special needs* (3rd ed.). Boston: Pearson/Allyn and Bacon.

Cook, V. J. (1980). The influences of home and family on the development of literacy in children. *School Psychology Review*, 9(4), 369-373.

Cronin, V., Farrell, D., & Delaney, M. (1999). Environmental print and word reading. *Journal of Research in Reading*, 22(3), 271-282.

de Boysson-Bardies, B. (1999). *How language comes to children: From birth to two years*. Cambridge, MA: MIT Press.

de Jong, M. T., & Bus, A. G. (2004). The efficacy of electronic books in fostering kindergarten children's emergent story understanding. *Reading Research Quarterly*, 39(4), 378-393.

Dewey, J. (1933). *How We Think. (rev. ed.)*. Oxford, England: Heath.

Dickinson, D. K., & Smith, M. W. (1994). Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly*, 29(2), 104-122.

Dowhower, S. L., & Beagle, K. G. (1998). The print environment in kindergartens: A study of conventional and holistic teachers and their classrooms in three settings. *Reading Research & Instruction*, 37(3), 161-190.

Dunn, M. (2001). Aboriginal literacy: Reading the tracks. *The Reading Teacher*, 54(7), 678-688.

Dunn, L., Beach, S. A., & Kontos, S. (1994). Quality of the literacy environment in day care and children's development. *Journal of Research in Childhood Education*, 9(1), 24-34.

Epstein, A., Schweinhart, L., & Debruin-Parecki, A. & Robin, K. (2004). *Preschool assessment: A guide to developing a balanced approach*. New Brunswick, NJ: National Institute for Early Education Reseach and High/Scope Educational Research Foundation.

Epstein, R. I., & Xu, L. X. J. (2003). *Roots and wings: Teaching English as a second dialect to Aboriginal students, A review of the literature*. Unpublished manuscript, University of Saskatchewan.

Evans, M. A., & Saint-Aubin, J. (2005). What children are looking at during shared storybook reading: Evidence from eye movement monitoring. *Psychological Science*, 16(11), 913-920.

Fenson, L., Dale, P. S., Reznick, J. S., Bates, E., Thal, D.J., Pethick, S.J., Tomasello, M., Mervis, C.B., & Stiles, J. (1994). Variability in early communicative development. *Monographs of the Society for Research in Child Development*, 59(5), v-173.

Ferraro, J.M. (2000). *Reflective practice and professional development*. Washington, DC: ERIC Digest. (ERIC Document Reproduction Service No. ED449120).

Fillmore, L.W. (1991). When learning a second language means losing the first. *Early Childhood Research Quarterly*, 6, 323-346.

Foulin, J. N. (2005). Why is letter-name knowledge such a good predictor of learning to read? *Reading and Writing*, 18(2), 129-155.

Gifford, C. (Producer). (2004) *Dora the Explorer* [Television series]. United States: Nickelodeon.

Girolametto, L., & Weitzman, E. (2002). Responsiveness of child care providers in interactions with toddlers and preschoolers *Language, Speech, and Hearing Services in Schools*, 33, 268-281.

Goldfield, B. A., & Reznick, J. S. (1990). Early lexical acquisition: Rate, content, and the vocabulary spurt. *Journal of Child Language*, 17(1), 171-183.

Greenwood, M. (2005). Children as citizens of First Nations: Linking Indigenous health to early childhood development. *Paediatrics and Child Health*, 10, 553-555.

Gregory, E. (2001). Sisters and brothers as language and literacy teachers: Synergy between siblings playing and working together. *Journal of Early Childhood Literacy*, 1(3), 301-322.

Hare, J. (2005). To "know papers": Aboriginal perspectives on literacy. In J. Anderson, M. Kendrick, T. Rogers & S. Smythe (Eds.), *Portraits of literacy: Critical issues in family/community school literacies, University of British Columbia, Vancouver Canada; this volume had its genesis in the aforementioned conference*. (pp. 243-263). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Hargrave, A. C., & Sénéchal, M. (2000). A book reading intervention with preschool children who have limited vocabularies: The benefits of regular reading and dialogic reading. *Early Childhood Research Quarterly.Special Issue: Evaluating, Interpreting, and Debating Early Interventions: The Case of the Comprehensive Child Development Program*, 15(1), 75-90.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young american children*. Baltimore, MD: Paul H. Brookes Publishing.

Hart, B., & Risley, T. R. (1992). American parenting of language-learning children: Persisting differences in family child interactions observed in natural home environments. *Developmental Psychology*, 28(6), 1096-1105.

Hoff, E., & Naigles, L. (2002). How children use input to acquire a lexicon. *Child Development*, 73(2), 418-433.

Jalongo, M. R., Dragich, D., Conrad, N. K., & Zhang, A. (2002). Using wordless picture books to support emergent literacy. *Early Childhood Education Journal*, 29(3), 167-177.

Jay, J.K., & Johnson, K.L. (2002). Capturing complexity: A typology of reflective practice for teacher education. *Teaching and Teacher Education*, 18, 73-85.

Jay, J.K. (1999). *Untying the knots: Examining the complexities of reflective practice* (Report No. SP 038 593). Washington, DC: American Association of Colleges for Teacher Education. (ERIC Document Reproduction Service No. ED431732).

Johnston, R. S., Anderson, M., & Holligan, C. (1996). Knowledge of the alphabet and explicit awareness of phonemes in pre-readers: The nature of the relationship. *Reading and Writing*, 8(3), 217-234.

Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80(4), 437-447.

Jusczyk, P. W. (2002). How infants adapt speech-processing capacities to native language structure. *Current Directions in Psychological Science*, 11(1), 15-18.

Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-Language Pathology*, 11(1), 17-29.

Justice, L. M., Meier, J., & Walpole, S. (2005). Learning new words from storybooks: An efficacy study with at-risk kindergartners. *Language, Speech, and Hearing Services in Schools*, 36(1), 17-32.

Justice, L. M., & Pullen, P. C. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. *Topics in Early Childhood Special Education*, 23(3), 99-113.

Justice, L. M., Weber, S. E., Ezell, H. K., & Bakeman, R. (2002). A sequential analysis of children's responsiveness to parental print references during shared book-reading interactions. *American Journal of Speech-Language Pathology*, 11(1), 30-40.

Kaderavek, J., & Justice, L.M. (2002). Shared storybook reading as an intervention context. *American Journal of Speech-Language Pathology*, 11, 395-406.

Kohnert, K., Yim, D., Nett, K., Kan, P. F., & Duran, L. (2005). Clinical forum: Intervention with linguistically diverse preschool children: A focus on developing home language(s). *Language, Speech, and Hearing Services in Schools*, 36(3), 251-263.

Kontos, S. (1999). Preschool teachers' talk, roles, and activity settings during free play. *Early Childhood Research Quarterly.Special Issue: Pathways to Child Care Quality*, 14(3), 363-382.

Kuby, P., Goodstadt-Killoran, I., Aldridge, J., & Kirkland, L. (1999). A review of research on environmental print. *Journal of Instructional Psychology*, 26(3), 173-182.

Levin, I., Both-De Vries, A., Aram, D., & Bus, A. (2005). Writing starts with own name writing: From scribbling to conventional spelling in Israeli and Dutch children. *Applied Psycholinguistics*, 26(3), 463-477.

Levy, B. A., Gong, Z., Hessels, S., Evans, M. A., & Jared, D. (2006). Understanding print: Early reading development and the contributions of home literacy experiences. *Journal of Experimental Child Psychology*, 93(1), 63-93.

Linebarger, D. L., Kosanic, A. Z., Greenwood, C. R., & Doku, N. S. (2004). Effects of viewing the television program between the lions on the emergent literacy skills of young children. *Journal of Educational Psychology*, 96(2), 297-308.

Linebarger, D. L., & Walker, D. (2005). Infants' and toddlers' television viewing and language outcomes. *American Behavioral Scientist*, 48(5), 624-645.

Lonigan, C. J., Driscoll, K., Phillips, B. M., Cantor, B. G., Anthony, J. L., & Goldstein, H. (2003). A computer-assisted instruction phonological sensitivity program for preschool children at-risk for reading problems. *Journal of Early Intervention*, 25(4), 248-262.

Malkani, J.M., & Allen, J.D. (2005). *Cases in teacher education: Beyond reflection into practice*. Paper presented at the annual meeting of the American Educational Research Association, Montréal, Quebec.

Marcus, G. F., Pinker, S., Ullman, M., & Hollander, M. (1992). Overregularization in language acquisition. *Monographs of the Society for Research in Child Development*, 57(4) [Serial No 228].

Masonheimer, P. E., Drum, P. A., & Ehri, L. C. (1984). Does environmental print identification lead children into word reading? *Journal of Reading Behavior*, 16(4), 257-271.

Massey, S. L. (2004). Teacher-child conversation in the preschool classroom. *Early Childhood Education Journal*, 31(4), 227-231.

McGill-Franzen, A., Allington, R. L., Yokoi, L., & Brooks, G. (1999). Putting books in the classroom seems necessary but not sufficient. *Journal of Educational Research*, 93(2), 67-74.

McGill-Franzen, A., Lanford, C., & Adams, E. (2002). Learning to be literate: A comparison of five urban early childhood programs. *Journal of Educational Psychology*, 94(3), 443-464.

McKenna, M. C., Kear, D. J., & Ellsworth, R. A. (1995). Children's attitudes toward reading: A national survey. *Reading Research Quarterly*, 30(4), 934-956.

Mindes, G. (2007). *Assessing young children* (3rd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Moats, L. C. (1999). *Teaching reading is rocket science: What expert teachers of reading should know and be able to do*. Washington, D. C.: American Federation of Teachers.

Mohr, K. A. J. (2006). Children's choices for recreational reading: A three-part investigation of selection preferences, rationales, and processes. *Journal of Literacy Research*, 38(1), 81-104.

Morrow, L. M. (. (2001). Literacy development and young children: Research to practice. In S. L. Golbeck (Ed.), *Creating environments for learning in the early years: From research to practice, Nov 1998, Rutgers Graduate School of Education, New Brunswick, US; this volume is based on original papers presented by the authors at the aforementioned meeting.* (pp. 253-279). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

National Institute of Child Health and Human Development [NICHHD]. (2000). *Report of the national reading panel. teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. No. NIH Publication # 00-4754). Washington, DC: US Government Printing Office.

Neuman, S. B. (1999). Books make a difference: A study of access to literacy. *Reading Research Quarterly*, 34(3), 286-311.

Neuman, S. B., & Roskos, K. (1993)a. Access to print for children of poverty: Differential effects of adult mediation and literacy-enriched play settings on environmental and functional print tasks. *American Educational Research Journal*, 30(1), 95-122.

Neuman, S.B., & Roskos, K. (1993)b. Descriptive observations of adults' facilitation of literacy in young children's play. *Early Childhood Research Quarterly*, 8(1), 77-97.

Nicoladis, E., & Genesee, F. (1997). Language development in preschool bilingual children. J*ournal of Speech Language Pathology and Audiology*, 21, 258-270.

Norris, M.J. (1998). Canada's Aboriginal languages. *Canadian Social Trends*, 51, 8-16. Ottawa: Statistics Canada (Cat. No. 11-008).

Nutbrown, C., Hannon, P., & Morgan, A. (2005). *Early literacy work with families: Policy, practice & research*. London: Sage.

O'Brien, M., & Bi, X. (1995). Language learning in context: Teacher and toddler speech in three classroom play areas. *Topics in Early Childhood Special Education*, 15(2), 148-163.

Ollila, L.O., & Mayfield, M.I. (1992). *Emerging literacy: Preschool, kindergarten, and primary grades*. Boston: Allyn & Bacon.

Pearson, B. Z., & Fernandez, S. C. (1994). Patterns of interaction in the lexical growth in 2 languages of bilingual infants and toddlers. *Language Learning*, 44(4), 617-653.

Pearson, B. Z., Fernández, S. C., Lewedeg, V., & Oller, K. (1997). The relation of input factors to lexical learning by bilingual infants. *Applied Psycholinguistics*, 18(1), 41-58.

Phillips, L.M., Norris, S.P., Osmund, W.C., & Maynard, A.M. (2002). Relative reading achievement: A longitudinal study of 187 children from first through sixth grades. *Journal of Educational Psychology*, 94, 3-13.

Phillips, L. M., & Sample, H. L. (2005). Family literacy: Listen to what the families have to say. In J. Anderson, M. Kendrick, T. Rogers & S. Smythe (Eds.), *Portraits of literacy across families, communities and schools: Intersections and tensions*, 91-107, Mahwah, NJ: Lawrence Erlbaum Associates.

Piaget, J. (1952). The origins of intelligence in children. Oxford, England: International Universities Press.

Purcell-Gates, V. (2000). Family literacy. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of reading research, vol. III*. (pp. 853-870). Mahwah, NJ: Lawrence Erlbaum Associates.

Purcell-Gates, V. (2001). Emergent literacy is emerging knowledge of written, not oral, language. In P. R. Britto, & J. Brooks-Gunn (Eds.), *The role of family literacy environments in promoting young children's emerging literacy skills*, (pp. 7-22). San Francisco: Jossey-Bass.

Robb, M. P., Bauer, H. R., & Tyler, A. A. (1994). A quantitative analysis of the single-word stage. *First Language*, 14, 37-48.

Robbins, C., & Ehri, L. C. (1994). Reading storybooks to kindergartners helps them learn new vocabulary words. *Journal of Educational Psychology*, 86(1), 54-64.

Robinson, C. C., Larsen, J. M., Haupt, J. H., & Mohlman, J. (1997). Picture book selection behaviors of emergent readers: Influence of genre, familiarity, and book attributes. *Reading Research and Instructio*n, 36(4), 287-304.

Roskos, K., & Christie, J. (2001). Examining the play-literacy interface: A critical review and future directions. *Journal of Early Childhood Literacy*, 1(1), 59-89.

Rvachew, S., Nowak, M., & Cloutier, G. (2004). Effect of phonemic perception training on the speech production and phonological awareness skills of children with expressive phonological delay. *American Journal of Speech-Language Pathology*, 13(3), 250-263.

Schön, D. (1983). *The reflective practitioner*. New York: Basic Books.

Schön, D. (1987). E*ducating the reflective practitioner*. San Francisco: Jossey-Bass.

Scott-Little, C., & Niemeyer, J. (2001). *Assessing kindergarten children: What school systems need to know*. Tallahassee, FL: SERVE.

Sénéchal, M. (1997). The differential effect of storybook reading on preschoolers' acquisition of expressive and receptive vocabulary. *Journal of Child Language*, 24(1), 123-138.

Sénéchal, M., & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development*, 73(2), 445-460.

Sénéchal, M., Thomas, E., & Monker, J. (1995). Individual differences in 4-year-old children's acquisition of vocabulary during storybook reading. *Journal of Educational Psychology*, 87, 218-229.

Shaffer, D. R., Wood, E., & Willoughby, T. (2002). *Developmental psychology: Childhood and adolescence*. Scarborough, Ontario: Thomas Nelson.

Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-406.

Stoia, J. (Producer), & Sullivan, B. (Producer). (2005). *Between the Lions* [Television series]. Boston: WGBH.

Thomas, D., Campos, J., Shucard, D., Ramsay, D., & Shucard, J. (1981). Semantic comprehension in infancy: A signal detection analysis. *Child Development*, 52(3), 798-803.

Timmons, V. (2006). A *family literacy program: For Mi'kmaq communities in Atlantic Canada*. Manuscript submitted for publication.

Treiman, R., & Broderick, V. (1998). What's in a name: Children's knowledge about the letters in their own name. *Journal of Experimental Child Psychology*, 70(2), 97-116.

Valli, L. (1997). Listening to other voices: A description of teacher reflection in the United States. *Peabody Journal of Education*, 72, 67-88.

Verhallen, M. J. A. J., Bus, A. G., & de Jong, M. T. (2006). The promise of multimedia stories for kindergarten children at risk. *Journal of Educational Psychology*, 98(2), 410-419.

Volk, D. (1999). "The teaching and the enjoyment and being together . . .": Sibling teaching in the family of a Puerto Rican kindergartner. *Early Childhood Research Quarterly*, 14(1), 5-34.

Vukelich, C. (1994). Effects of play interventions on young children's reading of environmental print. *Early Childhood Research Quarterly*, 9(2), 153-170. Vygotsky, L.S. (1978). Mind in Society. Cambridge, MA: Harvard University Press.

Weigel, D. J., Martin, S. S., & Bennett, K. K. (2006). Contributions of the home literacy environment to preschool-aged children's emerging literacy and language skills. *Early Child Development and Care*, 176(3-4), 357-378.

Weizman, Z. O., & Snow, C. E. (2001). Lexical output as related to children's vocabulary acquisition: Effects of sophisticated exposure and support for meaning. *Developmental Psychology*, 37(2), 265-279.

Whitehurst, G. J., Falco, F. L., Lonigan, C. J., & Fischel, J. E. (1988). Accelerating language development through picture book reading. *Developmental Psychology*, 24(4), 552-559.

Whitehurst, G. J., Arnold, D. S., Epstein, J. N., & Angell, A. L. (1994). A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology*, 30(5), 679-689.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69(3), 848-872.

Wilder, A. (Producer), and Santomero, A. (Producer). (2004). *Blue's Clues* [Television Series]. United States: Nickelodeon.

Williams, A., & Gregory, E. (2001). Siblings bridging literacies in multilingual contexts. *Journal of Research in Reading.Special Issue: Literacy, Home and Community*, 24(3), 248-265.

Glossary

A

Action research: A tool of programme development consisting of continuous feedback that targets specific problems in a particular setting.

Anecdotal notes: Short notes describing important events or incidents which took place during a child's daily routine.

B

Best practices: Practices recommended by respected professionals and for which there is some level of empirical evidence regarding effectiveness of the practice.

Balanced approach: A teaching philosophy which combines direct teaching with a child-centered approach.

Bidialectical: A dialect is one form of a language, Bidialectical children are those that speak or spend time in different environments in which two different dialects are used (e.g., Standard Canadian English and Newfoundland English).

Bilingual: An individual who understands, speaks, reads, and/or writes in two languages.

C

Checklists: Lists of specific behaviours arranged in a logical order allowing the observer to check the presence or absence of the item.

Cognitive development: The growth and change of mental processes related to thinking and learning

Cognitive skills: Mental processes related to thinking and learning, such as memory, attention, and language

Common noun: A noun that names a category of things or individuals (e.g., boy, carpet, restaurant)

Conscious: Includes everything within our awareness such as aspects of self, thoughts, surroundings and sensations.

D

Decontextualized language: Refers to people, places and things that are not visible to the speaker or listener, or to events at which the listener was not present; used in both writing and conversation.

Developmental milestone: Major markers in typically progressing children's development; there is a great deal of variation at the age at which children achieve these skills (e.g., first words).

Deficit perspective: Assumption that parents lack the essential skills to promote success in their children; and that the dominant middle-class society's child rearing behaviours and approaches, which are practiced in ELCC centres, are correct and all other approaches and perspectives are incorrect, inferior, and in need of changing.

Dialect: A non-standard spoken form of English. Different dialects of English are not inferior to the Standard English dialect as they contain their own complete grammar and vocabulary.

E

Elaborative techniques (conversations): Techniques used when interacting with a child in any setting. For example, following a child's conversational lead, expanding on what they say, and using a mix of comments and questions during conversational turn taking.

Elaborative techniques (reading): Techniques used before, during and after shared reading which encourage the active participation of the child and are based on adapting reading style to a child's changing ability. For example, first discussing why a Halloween book was chosen, then talking about the characters during reading and finally, discussing how the story personally relates to the child after reading.

Emergent literacy: Natural and gradual development of children's listening, speaking, reading and writing abilities.

Empirical evidence: (a) Based on experimental observation; (b) Verifiable or provable by means of objective observation or experiment.

Environmental print: All print forms found in the daily physical environment such as logos and signs.

Expressive language: The production of words and sentences using speech.

F

Facilitation: A less structured form of teaching that capitalizes on real-life contexts; providing support and assistance or a child or a small group of children to enhance an activity in which they are taking part (e.g., dictating the letters in the words "Happy Birthday," so a child can write it on a card).

Family: The group of people that live with and care for children as they grow up, including biological parents, grandparents, siblings, adoptive parents, guardians, or others in the home.

Family literacy: see Home literacy

Fluency: Refers to the flow of speech. If there are interruptions, hesitations or pauses then a person has poor fluency.

Formal assessment: Usually conducted by a trained specialist in the particular area in question (e.g., speech). This person will use measurements which have been standardized across a large group, and measurements which have a set format for interpretation.

Formal print activities: Activities where the focus is on the print (e.g., practicing writing, or reading an alphabet book)

H

Holophrastic speech: The term used to describe the stage of language production when children use single words to represent a number of meanings (e.g., "go" means "The truck is moving" or "I'm leaving").

Home literacy (family literacy): Includes the home environment and all activities that a child engages in or observes related to literacy within the home (e.g., watching a parent read the newspaper, or being read to by a grandparent).

I

Infant directed speech: The type of speech used in some cultures when communicating with an infant, characterized by exaggerated pitch and enunciation as well as a slowed rate with increased pauses (e.g.: "Do you want to smile for Mommy? Yes you do!"). Previously termed motherese.

Informal print activities: Activities where print is present but not the central focus (e.g., storybook reading).

Instruction: A more structured form of teaching that involves prior planning to meet specific goals; often occurs in larger group settings

J

Joint attention: An adult following a child's gaze to an object of interest and vice versa.

Joint writing activity: Any writing activity which a child takes part in with an adult's help/facilitation (e.g., an adult helping a child write their name).

M

Multilingual: Refers to people who understand and speak two or more languages.

N

Nonverbal communication (non-linguistic): The use of physical actions and facial expressions to convey meaning (e.g. pointing, smiling and jointly looking at an object of interest).

Norm-referenced test: A standardized test that compares a child to a group of peers with similar characteristics such as age.

O

Observation and recording: Observations which are systematically recorded regarding children's behaviour (e.g., physical actions, speech, facial expressions) and the context (e.g. snack time) of the observations.

Onset: The initial sound in a word or syllable (e.g. /b/ in ball, /k/ in cat and /t/ in tear).

Oral language: Spoken or verbal language.

Oral tradition: The use of verbal methods of passing on information through spoken communication and such mediums as storytelling; used in Aboriginal and other cultures.

Orthography: Refers to the visual representation of spoken language by letters and diacritics (symbols denoting stress and pronunciation); spelling.

Overextension: Occurs when a child assigns a more general meaning to a word than it actually holds (e.g. calling all four legged animals dogs).

Overgeneralization: Application of a grammatical rule to broadly. For example, adding –ed to all words to indicate past tense, results in correct (walked) and incorrect (goed) past tense formation.

P

Passive sentence structure: Sentences that are structured in such a way that the object of the action is the subject of the sentence (e.g. The TRUCK was driven by the boy).

Phonemes: The basic units of speech which can distinguish a different meaning in words; the spoken word 'rope' is made up of three phonemes /r/, /o/, /p/, and differs by only one phoneme from the spoken words "soap," "road", and "rip."

Phonemic awareness: The understanding that words are made up of smaller sounds (i.e., phonemes) and that these sounds can be blended into words.

Phonetic awareness: Insight that every spoken word is a sequence of phonemes.

Phonics: Instructional practice for facilitating reading that emphasizes how letters and letter patterns are related to speech sounds.

Phonological awareness: The general ability to attend to the sounds of language without reference to meaning; ability to recognize sounds of language and talk about them. A more inclusive term than phonetic awareness. In practical terms, phonological awareness involves understanding that words break down into the following parts: phonemes, onsets, rimes, and syllables. A phoneme is the most basic sound of speech that allows you to tell two similar words apart. For example, the words "mat" (/mæt/) and "cat" (/kæt/) both have three phonemes and differ by only one phoneme. More specifically, "mat" and "cat" have different onsets, the first sound in a word, and the same rime, the sounds of the vowel and following consonants. Together, the onset and the rime form a syllable, for example /s^n/ is the first syllable in sunshine.

Phonology: The sound system of language, which includes the sounds used in speech as well as the rules used to combine them.

Physical environment: A person's surrounding space (e.g., the home, child care facility, the streets in a daily walk).

Play-based observation: Observing children naturally engaged in play activities, which can reveal information regarding all areas of development including language and literacy.

Portfolio assessment: A structured method for collecting children's work on a variety of achievement areas, usually done in conjunction with the child's input.

Prelinguistic stage: Stage of language development that occurs before an infant has begun producing speech.

Print awareness: The knowledge that print follows rules (e.g., left-to-right, specific symbols for different sounds) and conveys meaning.

Print-rich environment: A physical surrounding which contains numerous examples of print (e.g., posters, books, logos, labels, etc.).

Productive Vocabulary: The words that the child uses when speaking.

Proper noun: A noun that names a specific thing or individual. In English proper nouns are usually capitalized (e.g., TD Bank, Sophie).

Protowords: A combination of sounds spoken by a child with a specific meaning that is not an actual word in their language (e.g., 'baba' to refer to a pacifier).

Pronoun: A word that substitutes for a noun (e.g. he, she, they, you).

R

Reading readiness: Is the point a which a child is ready to read, they have acquired all the skills necessary to progress to the next stage and begin formal reading instruction.

Receptive vocabulary: The words a child understands.

Reflective practice: Critically evaluating behaviour or beliefs in light of research, knowledge or experience, and modifying future actions based on the new information.

Relational contrasts: The comparison of two or more objects which in relation to each other contrast (e.g., big-little, heavy-light).

Reliability: The consistency of test results (e.g., same results when measure is given repeatedly). For example, a ruler is a very reliable tool because every time you measure the length of this page it will be 28 centimetres long.

Responsiveness (behavioural and verbal): A way of interacting with an infant or child which allows the child to choose the topic, style and pace (e.g., pointing and eye-gazing or babbling back and forth).

Rime: A term used in word segmentation and refers to all of the word or syllable except the first sound (e.g. g-et, p-art, t-ake).

Running records: Detailed notes made of a child's or small group's every behaviour during a certain period of time.

S

Scaffolding: Term used to describe when a more knowledgeable partner provides support and guidance to a younger child while they learn a new skill. Involves monitoring a child's progress, and removing the supports as they are no longer needed.

Shared reading: A term used to refer to the interactive reading of a book between an adult and a child or small group of children.

Social environment: Includes all the individuals and groups that a child interacts with in their daily surroundings.

Socioeconomic status (SES): A way of categorizing groups of people or families using factors such as parent income, education, cultural background and family composition.

Syllable: A unit of pronunciation in language. In English, a syllable may consist of a vowel sound alone or a vowel sound with one or more consonants sounds preceding and following it (e.g., the first syllable of "above" is a single vowel sound /a/, the second syllable is made up of three sounds /b/, /□/, /v/).

T

Teaching: The variety of ways that someone can help others learn a set of practices; Those engaged in language and literacy practices (i.e., ELCC practitioners, parents, children) can help others become proficient in those practices; teaching occurs on a spectrum between instruction and facilitation.

Telegraphic speech: Children's verbalizations which are typically composed of content words only (e.g., "Mommy go").

U

Under-extension: A word that a child uses with a meaning that is more limited than the adult meaning (e.g., assuming that the word dog only refers to their family's pet).

V

Validity: The degree to which a test measures what it is meant to measure.

Vocabulary burst: A period in language development in which the rate of learning new words increases dramatically.