

- ▶ **Emergent Literacy Skills of Preschoolers with Language Disorders: Monolingual English versus Dual Language Learners**
- ▶ **Habiletés de littératie émergente chez les enfants d'âge préscolaire avec un trouble du langage : apprenants unilingues anglais et bilingues**

**KEY WORDS**

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**Abstract**

This exploratory study investigated parental report and direct measures of children's emergent literacy skills. The participants were 16 families of children with specific language impairment, of whom nine were dual language learners. All children were, on average, 51 months of age and had normal sensory, socio-emotional, and nonverbal cognitive skills. The dual language learners were English dominant and had been exposed to English for an average of two years. The children participated in three standardized tests of emergent literacy skills, which included print knowledge, phonological awareness, and narrative production. Parents completed an early literacy questionnaire asking for information about their children's literacy skills and their own facilitative practices. There were no significant differences between the monolingual and dual language learning groups on any formal or informal measures of emergent literacy. Parents' ratings on five categories of the early literacy questionnaire were significantly and positively correlated with the standardized measures of emergent literacy. The results provide preliminary indications for the usefulness of an early literacy parent questionnaire in assessment protocols for preschoolers with language impairment.

**Abrégé**

Cette étude exploratoire a utilisé des rapports de parents et des mesures directes pour examiner les habiletés de littératie émergente d'enfants. Les participants étaient 16 familles d'enfants avec un trouble du langage, dont neuf apprenaient deux langues. Les enfants avaient en moyenne 51 mois et des capacités sensorielles, socio-émotionnelles et cognitives non-verbales normales. Les enfants bilingues étaient dominants en anglais et avaient été exposés à l'anglais depuis en moyenne deux ans. Les enfants ont participé à trois tests standardisés de leurs habiletés de littératie émergente, y compris la connaissance des lettres écrites, la conscience phonologique et la production narrative. Les parents ont rempli un questionnaire sur la littératie précoce, dont les questions portaient sur les habiletés de leurs enfants et leurs propres pratiques de facilitation. Nous n'avons trouvé aucune différence significative entre les groupes d'enfants unilingues et bilingues lors des mesures formelles ou informelles de la littératie émergente. Les évaluations des parents dans cinq catégories du questionnaire sur la littératie précoce avaient une corrélation significative et positive avec les mesures standardisées de la littératie émergente. Ces résultats fournissent des renseignements préliminaires sur l'utilité d'un questionnaire pour les parents au sujet de la littératie émergente dans le cadre des protocoles d'évaluation des enfants d'âge préscolaire avec un trouble du langage.

## INTRODUCTION

A solid foundation in reading and writing is critical for children's future academic, social and vocational success. The acquisition of literacy skills develops along a continuum that begins in the preschool years, prior to formal schooling (Whitehurst & Lonigan, 1998). Emergent literacy skills include oral language, print concepts, alphabet knowledge, and phonological awareness and are normally acquired during responsive interactions with adults, such as in shared book reading or incidental conversations about print in the environment (Lonigan, Burgess, & Anthony, 2000; Paul, 2007). Two common risk factors for delays in the development of emergent literacy skills include language impairment and exposure to English as a second language (e.g., McGinty & Justice, 2009; Skibbe, Justice, Zucker, & McGinty, 2008). Consequently, speech-language pathologists require information about the literacy skills in children with language impairment who also come from homes where another language is spoken. The primary purpose of the present study was to examine emergent literacy skills in children with specific language impairment (SLI) using parent report and standardized literacy tests. A secondary purpose of this study was to examine the correlations between indirect and direct measures of emergent literacy skills. The participating children with language impairment included a group of monolingual English-speaking children and a group of dual language learners. For the purposes of this study, the term dual language learners refers to children who are learning English subsequent to learning another language in the home and may refer to simultaneous or sequential learners of English (Genesee, Paradis, & Crago, 2004). In the current study, the dual language learners were judged by their parents to be English dominant and had been exposed to English for an average of two years.

### CHILDREN WITH SPECIFIC LANGUAGE IMPAIRMENT

It is estimated that 7.4% of children have SLI (Tomblin et al., 1997). These children have difficulty developing expressive and/or receptive language in the absence of a delay in other areas of development and without any known underlying cause such as a syndrome, hearing impairment, or brain injury (Pennington & Bishop, 2009). Typically, children with SLI have persistent difficulties in acquiring morphosyntax, particularly verb morphology (Charest & Leonard, 2004; Leonard, Eyer, Bedore, & Grela, 1997; Rice & Wexler, 1996; Rice, Wexler, & Hershberger, 1998). Children with SLI may also experience delays in the

development of phonological awareness skills, knowledge of letter names, and print concepts in comparison to typically developing peers (Skibbe et al., 2008). As children with SLI enter elementary school, it is estimated that 52 to 75% of these children exhibit problems learning to read and write (Nithart et al., 2009).

One important context in which children learn emergent literacy skills is the home environment (Boudreau, 2005). During these early experiences, many children receive their first exposure to concepts of print, letters, and sounds. In addition, through shared book reading with adults, children are exposed to narratives and how they are formed. Skibbe et al. (2008) reported that these factors, including prior exposure to print and shared book reading, greatly influence the development of children's emergent literacy skills. The importance of home literacy experiences is underscored by the finding that early experiences with reading and writing strongly predict later reading ability (e.g., Colligan, 1976; Senechal, 2006). Unfortunately, children with SLI have been reported to display limited orientation to literacy during book reading, including significantly less compliance (i.e., willingness to follow mother's directions during shared book reading), participation in fewer literacy-related activities, and a trend toward being less persistent (i.e., focusing their attention to a book) in comparison to typically developing peers (Boudreau, 2005; Skibbe et al., 2008). In turn, their parents may engage in fewer literacy practices due to their children's perceived disinterest (Boudreau, 2005). Consequently, many children with SLI may receive less than optimal exposure to literacy, contributing further to their delays in emergent literacy development.

### DUAL LANGUAGE LEARNING AND EMERGENT LITERACY SKILLS

Studies focusing on dual language learners provide contradictory findings concerning the relationship between dual language learning and the acquisition of emergent literacy skills, such as letter and sound knowledge. Some studies suggest that children learning two languages may be at an initial disadvantage in acquiring emergent literacy skills. For example, dual language learning children have performed below the norm on standardized early literacy measures (Bialystok & Herman, 1999; Hammer, Miccio, & Wagstaff, 2003; Paez, Tabors, & Lopez, 2007). Other studies suggest that speaking more than one language may support the development of literacy skills (Bialystok & Herman, 1999; Hammer & Miccio, 2006). Paez et al. (2007) found that children learning Spanish and English outperformed monolingual Spanish children on phonological awareness

tasks. In a study by Kovelman and colleagues (2008), monolingual English children attending a bilingual school program performed better on a phonological awareness task than their English-speaking peers attending an English-only school program. Narrative ability is another emergent literacy skill in which contradictory findings have been reported. No differences have been found between the narrative content of stories told by monolingual children and dual language learners (Cleave, Girolametto, Chen, & Johnson, 2010; Minami, 2008; Serratrice, 2007). Where differences have been reported, the differences may be due to the influence of language and culture on narrative discourse (Fiestas & Peña, 2004). For example, bilingual English and Spanish-speaking children aged 4 to 6; 11 included more initiating event and attempt elements in their Spanish versions of a narrative based on a wordless picture book and more consequence events when telling the same story in English (Fiestas & Peña, 2004). Japanese narratives placed more emphasis on temporal action sequencing whereas English narratives emphasized evaluative comments and emotional information (Minami, 2008). Taken together, these studies indicate that dual language learners may perform similarly to monolingual children in terms of narrative skills, letter names, and phonological awareness. However, the evidence base is limited to a small number of studies and replication is needed. Moreover, while these results are suggestive of positive impact of two languages on emergent literacy skills in school age children, it is not clear whether they apply to dual language learners who are preschool age.

The current study employs an early literacy questionnaire completed by parent report to supplement information obtained from direct language testing of children's emergent literacy skills. Parent report measures are useful for gathering information that would otherwise take additional time and resources during a diagnostic language assessment. They are relatively easy to use, time and cost effective, and less sensitive than formal testing to contextual or task effects because they reflect the child's ability in a broad range of naturalistic contexts (Boudreau, 2005; Marchman & Martínez-Sussmann, 2002; Sachse & Von Suchodoletz, 2008). Parent report instruments have been used extensively to examine children's oral language skills, such as the MacArthur-Bates Communicative Development Inventory (M-BCDI), a normed questionnaire that is completed by parents to gather information about their children's vocabulary, gestures, and early language development (Fenson et al., 1993). The results of the M-BCDI have been found to be moderately correlated with objective language measures (Thal, O'Hanlon, Clemmons, & Fralin, 1999). A study examining the use of the German version of the

M-BCDI concluded that parents were able to judge their toddler's expressive language development as accurately as objective tests (Sachse & Von Suchodoletz, 2008).

Parent report has also been used to collect information about the frequency of literacy-related practices in the home. Bus, van Ijzendoorn, and Pellegrini (1995) found that regardless of socioeconomic status, the reported frequency of book reading had a small but significant correlation with children's emergent literacy skills and reading achievement. Several studies found that the reported frequency of letter-based home activities predicted performance on measures of phonological awareness and letter knowledge in Kindergarten (Evans, Shaw, & Bell, 2000) and written language development in Kindergarten and Grade 1 (Senechal, LeFevre, Thomas, & Daley, 1998). Higher reported frequencies of home literacy practices (e.g., reading, pointing out print) were also significantly and positively correlated with preschooler's print knowledge (Bennett, Weigel, & Martin, 2002), receptive and expressive language development (Bennett et al., 2002), vocabulary (Griffin & Morrison, 1997) and reading in school age children (Griffin & Morrison, 1997). Although a growing number of studies have provided evidence to support the relationship between parental ratings of literacy practices and formal literacy measures, not all studies converge. For example, Evans et al. (2000) found that the frequency of shared book reading did not significantly contribute to emergent literacy skills in kindergarteners. Also, Skibbe et al. (2008) found that maternal report of literacy practices did not accurately predict print-related knowledge in monolingual English-speaking children with and without SLI, when controlled for maternal education, a measure of SES. Variation in parent report instruments may account for these disparate findings.

A parent report instrument designed specifically for families of children with language impairment was used by Boudreau (2005) to examine the emergent literacy skills of 37 monolingual preschoolers with and without language impairment between the ages of 55 – 70 months. Additionally, the study examined the concurrent validity of parent report with standardized tests to assess emergent literacy skills. Parents completed the Early Literacy Parent Questionnaire (Boudreau, 2005) that consisted of items pertaining to five constructs of children's emergent literacy knowledge and two additional categories regarding parents' facilitative behaviours and children's orientation toward literacy. Scores on four out of five of the early literacy knowledge constructs were significantly and positively correlated to formal assessment measures for children with language impairment. In comparison, weaker correlations were found for children who had typically developing language.

The current study differed from Boudreau (2005) in that it sought to use the Early Literacy Parent Questionnaire with two groups of children with SLI. One group of children consisted of monolingual English speakers and the second group of children consisted of dual language learners. In contrast with Boudreau's study, the children in the current study were younger and consequently different standardized tests of emergent literacy were selected in order to be suitable for younger children.

This exploratory study extends the previous literature by examining the literacy skills of dual language learners using a parent questionnaire developed specifically for children with language disorders (Boudreau, 2005). The first question of this study investigated whether there were any differences in emergent literacy skills between monolingual and dual language learning children on a formal measure of letter/sound knowledge and two narrative tests. It was predicted that the dual language learners would have better letter and sound knowledge than the monolingual group. The rationale for this prediction was derived from the results of studies suggesting that children learning more than one language have phonological awareness skills that are better developed than those of monolingual speakers (Bialystok & Herman, 1999; Hammer & Miccio, 2006; Paez et al., 2007). It was also predicted that the monolingual children would outperform the bilingual children on measures of narrative ability on the two narrative tests. The rationale for this hypothesis is derived from studies demonstrating a linguistic advantage for monolingual children in vocabulary (Bialystok & Herman, 1999), complex syntax, and morphosyntactic accuracy (Pearson, 2002). The second question of this study examined whether there were differences between the two groups of children on parental ratings on an early literacy questionnaire. The predictions for this measure were that the dual language learners would outperform the monolingual children for the same reasons given above. The third question examined the relationship between parent report of children's emergent literacy skills on an early literacy questionnaire and objective data on literacy skills derived from formal test measures. It was predicted that there would be a significant correlation between indirect and direct assessment measures of emergent literacy. This prediction is based on Boudreau's (2005) study indicating that parental ratings of emergent literacy skills were significantly and positively correlated with the results of formal measures of emergent literacy skills in monolingual children with language impairment. This study is exploratory in nature due to the small sample size and because there is currently very little information available on dual language learners with SLI and their emergent literacy skills.

## METHOD

### Participants

Sixteen preschool-aged children with language disorders and their parents participated in this study. The families were recruited from active caseloads or waiting lists for language intervention offered by preschool speech and language services in two large metropolitan cities in central (n = 13) and eastern Canada (n = 3). All children participated in a larger study examining the efficacy of an emergent literacy intervention for preschoolers with SLI. This subgroup was selected because their parents also completed an early literacy questionnaire, which was the basis for investigation in the current study. Only the children's pretest data, collected prior to any intervention, were examined. Seven children came from homes where English was the only language heard and spoken while the remaining nine children came from homes where another language was heard and spoken 20 hours or more per week.

All children in the study had nonverbal cognitive abilities within normal limits (i.e., standard score greater than 80), as measured by the Columbia Mental Maturity Scale (CMMS) (Burgemeister, Hollander Blum, & Lorge, 1972), and a language disorder as defined by a score at least one standard deviation below the mean on the core language composite of the Clinical Evaluation of Language Fundamentals – Preschool 2 (CELF-P2; Wiig, Secord, & Semel, 2004). The latter test was administered by the referring clinicians and was used as the primary criterion for referring a child to the research project. Although not employed as selection criteria, two other measures were used to describe further the language abilities of our sample. The Structured Photographic Expressive Language Test – Preschool 2 (SPELT P2, Dawson et al., 2005) was administered to assess morphosyntactic skills. Participants earned an average standard score of 67.5 ( $SD = 13.8$ ) on this test. In addition, based on 20-minute language samples taken at pretest, all children had a mean length of utterance in morphemes that was at least one standard deviation below the mean for their age (Miller, 1981). None of the children had sensory disabilities, oral motor problems, overt neurological problems, or socio-emotional difficulties as determined informally by the referring speech-language pathologist. For dual language learners, the diagnosis of a language disorder was also based on parental concern and report of a concomitant delay in the child's first language acquisition. The length of time the dual language learners had been speaking English to communicate averaged 25.6 months, with a range of 10.6 to 40.6 months. The home languages of these children included: Cantonese (2), Mandarin (1), Russian (1), Sinhala (1), Somali (1), Spanish (1), and Tagalog (2).

Parents reported that all dual language-learning children were dominant in English at the time of the study.

The characteristics of the children in each group are displayed in Table 1. The group consisted of 5 females and 11 males. The average age of the children was 51 months (4 years; 3 months), and ages ranged from 46 to 57 months. Most of the participants in the current study (i.e., 14) were enrolled in half- or full-day Junior Kindergarten programs at the time of the study. These programs are intended for 4-year olds and are offered by public schools

in Ontario, in addition to Senior Kindergarten programs designed for 5-year olds. The hearing abilities of the children were tested by an audiologist or screened by clinic staff at the referring agency. All but one child had hearing within normal limits. This child, who was in the monolingual English group, had a screening result that was consistent with conductive hearing loss and was referred to a physician and audiologist for follow-up. Exclusion of this child's data did not make a difference to the findings and this child was included in the sample.

**Table 1**

**Summary Variables for Children's Demographic Characteristics and Intake Measures**

| Child Characteristics                 |                     | EL Group<br>( <i>n</i> = 7) | DL Group<br>( <i>n</i> = 9) |
|---------------------------------------|---------------------|-----------------------------|-----------------------------|
| Sex                                   | # Males / # Females | 5 / 2                       | 6 / 3                       |
| Age (mos)                             | Mean (SD)           | 51.0 (4.8)                  | 50.8 (3.2)                  |
|                                       | Min-Max             | 46-57                       | 46-55                       |
| CMMS Standard Score                   | Mean (SD)           | 100.3 (11.8)                | 104.7 (8.0)                 |
|                                       | Min-Max             | 82-111                      | 95-115                      |
| CELF-P2 Core Language Standard Score  | Mean (SD)           | 77.7 (5.4)                  | 73.7 (7.6)                  |
|                                       | Min-Max             | 71-86                       | 57-83                       |
| SPELT – P2 Standard Score             | Mean (SD)           | 70.4 (15.2)                 | 65.2 (13.1)                 |
|                                       | Min-Max             | 42-86                       | 51-94                       |
| Mean Length of Utterance in Morphemes | Mean (SD)           | 2.6 (0.66)                  | 2.6 (0.38)                  |
|                                       | Min-Max             | 1.6-3.4                     | 1.9-3.0                     |

Note: EL = monolingual English-speaking children; DL = dual language learning children; CMMS = Columbia Mental Maturity Scales; CELF-P2 = Clinical Evaluation of Language Fundamentals – Preschool 2; SPELT-P2 = Structured Preschool Expressive Language Test – Preschool 2.

Table 2 summarizes the demographic characteristics of the families in terms of the parents' age, education, employment, and family composition. There were no significant differences between the monolingual English children and dual language learners for their age, CELF-P2 Core Language standard score, SPELT-P2 standard score, MLU in morphemes, mother's age, mothers' education, or father's education,  $U_s = 20.5-31$ ,  $p_s = 0.232-1.0$ . In addition, the sex of the children was evenly distributed between the two groups,  $X^2(1, N = 16) = 2.25$ ,  $p = 0.134$ . However, there was a significant group difference for the father's age,  $U = 10.5$ ,  $p = .040$ . The fathers in the dual language learner group were older than the fathers in the monolingual English group by a mean of 4.9 months.

### Design and Procedures

Cognitive, language, and emergent literacy test data were obtained during two test sessions of approximately 1

hour each. During the first test session, a research assistant administered the CMMS (Burgemeister et al., 1972), the Test of Preschool Early Literacy, Subtest 1 (TOPEL; Lonigan, Wagner, Torgensen, & Rashotte, 2007), and the Renfrew Bus Story (Cowley & Glasgow, 1994). A 10-minute parent-child interaction was videotaped focusing on storybook reading. Parents received a questionnaire about the child's developmental and family history and a second questionnaire about emergent literacy practices in the home (Boudreau, 2005) to complete and return at the second test session. All questionnaires were completed in English. During the second test session, scheduled one week later, the questionnaires were collected and a research assistant administered the SPELT-P2 (Dawson et al., 2005). A second 10-minute parent-child interaction was videotaped, focusing on free play with play dough. The two 10-minute interactions were combined and transcribed to yield an estimate of the child's MLU in

**Table 2**  
**Parents' Demographic Characteristics**

| Child Characteristics                       |                           | EL Group<br>(n = 7) | DL Group<br>(n = 9) |
|---|---------------------------|---------------------|---------------------|
| Mother's Age (Years)                        | Mean (SD)                 | 34.4 (3.1)          | 36.9 (6.9)          |
|   | Min-Max                   | 29-38               | 29-45               |
| Father's Age (Years)                        | Mean (SD)                 | 35.1 (4.0)          | 40.0 (4.4)          |
|   | Min-Max                   | 30-43               | 34-49               |
| Mother's Education                          | # High school             | 0                   | 4                   |
|   | # College/some university | 4                   | 2                   |
|   | # University degree       | 3                   | 3                   |
| Father's Education                          | # High school             | 0                   | 3                   |
|   | # College/some university | 4                   | 2                   |
|   | # University degree       | 3                   | 3                   |
| # Hours Non-English Language Spoken at Home | Mean (SD)                 | 0 (0)               | 41.6 (11.6)         |
|   | Min-Max                   | 0-0                 | 26-56               |

Note: EL = monolingual English-speaking children; DL = dual language learning children; Father's education and age could not be collected from 1 family in the EL2 group.

morphemes. Finally, a spontaneous narrative sample was elicited using Story A3 from the Edmonton Narrative Norms Instrument (ENNI; Schneider, Dubé, & Hayward, 2005).

### Measures

The Early Literacy Parent Questionnaire (Boudreau, 2005) consists of seven categories of items that examine children's emergent literacy skills and home literacy practices. The first five categories examined children's behaviours and included: *Interaction with Books*, which consisted of questions regarding behaviours shown during shared book reading (5 items); *Response to Environmental Print*, which examined children's questions and responses to signs, logos, and words in the environment (2 items); *Letter/Sound Knowledge*, which asked about children's ability to identify and/or name letters or sounds (3 items); *Phonological Awareness*, which asked about children's ability and interest in noticing or producing rhymes (4 items); and *Writing*, which consisted of items asking about children's abilities and interest in writing

letters or words (5 items). Two additional categories examined: *Parents' Facilitative Behaviors*, which included what parents do to facilitate early literacy development (4 items), and *Children's Orientation to Literacy*, which consisted of questions that tapped children's interest in literacy activities (5 items). Parents were required to answer each questionnaire item by assigning a score using a 5-point Likert scale, with 1 indicating a low frequency and 5 indicating a high frequency of occurrence. A detailed description of each category is available in Boudreau (2005) who found that Cronbach's alpha for the six of the seven subscales yielded reliability coefficients of .64 - .83. The subscale containing items about what parents do to support literacy development had weak internal consistency (i.e., .38) and any results related to this subscale must be interpreted with caution.

The TOPEL (Lonigan et al., 2007), Subtest 1, Print Knowledge has 36 items that measure early knowledge about written language conventions and form, as well as letter/sound knowledge. The subtest consists of three parts. Part A contains 12 items that measure print concepts

(e.g., location of print on a page, discrimination of letters from numbers), Part B contains 10 items that measure alphabet letter and sound knowledge (e.g., names of letters and sounds that letters make), and Part C contains 14 items that measure phonological awareness. The test manual reports Cronbach's alpha for this subtest at 0.95 and test-retest reliability at 0.89.

The Renfrew Bus Story (Cowley & Glasgow, 1994) was used to elicit a story retelling from each participant. The examiner used pictures to tell a story to the child, who was then asked to retell that story. Each narrative was scored for key content elements, as per the test manual, to derive a raw Information Score.

Story A3 of the Edmonton Narrative Norms Instrument (Schneider et al., 2005) was used to elicit a spontaneous narrative from each participant. Fourteen sequenced pictures that illustrated a story were presented to the child, who then used the picture cues to generate a novel story for the examiner. This task yielded a raw score for Story Grammar elements (e.g., setting, characters, problem, resolution), determined according to the test instructions.

**Transcription and Scoring.** A research assistant transcribed both the ENNI and Bus Story narratives produced by the children using the Systematic Analysis of Language Transcripts (SALT; Miller & Chapman, 2002). The following reliability figures include transcripts for all 37 children with SLI participating in the parent study. Twenty percent of the narratives for both the ENNI and the Bus Story were randomly selected and transcribed by a second research assistant for reliability purposes. Both research assistants were blind with regards to the group assignment of the children and purpose of the study. Interrater reliability was calculated at the utterance boundary level (i.e., was the segmentation of utterances accurate?) and at the word level (i.e., was each word correctly transcribed?). Reliability was calculated using the following formula:  $\text{number of agreements} / (\text{number agreements} + \text{disagreements}) \times 100$  (Sackett, 1978) and yielded 91.5% for words ( $n = 1929$  words) and 92.2% for utterance boundaries ( $n = 487$  utterances) for the ENNI transcripts and 91.4% for words ( $n = 2007$  words) and 96.5% for utterance boundaries ( $n = 511$  utterances) for the Renfrew Bus Story transcripts.

A research assistant subsequently scored the ENNI narratives for story grammar elements, according to the instructions provided by the test developers for Story A3 (Schneider et al., 2005). The Renfrew Bus Story narratives were similarly scored for information units, according to the instructions in the test manual (Cowley & Glasgow, 1994). Twenty percent each of the ENNI narratives and The Renfrew Bus Story narratives were then randomly

selected and rescored by a second research assistant to provide reliability estimates. Both scorers were blind to the group assignment of the children and purpose of the study. Reliability was calculated using the same formula and the inter-rater reliability was 92% ( $n = 713$  items) for the ENNI Story Grammar raw scores and 89% ( $n = 413$  utterances) for the Renfrew Bus Story Information raw scores. The Kappa reliability coefficients were 0.84 for the ENNI Story Grammar raw scores and 0.77 for the Renfrew Bus Story Information Scores.

## RESULTS

The results are presented in three sections. First, we provide a descriptive summary of parents' ratings on the family literacy questionnaire. Second, we compare the monolingual English children and the dual language learners to examine whether there are any group differences in parent report on the early literacy questionnaire. Also, we compare the monolingual English children and the dual language learners using a range of formal measures of emergent literacy. Third, we calculate correlations between the parents' subjective ratings on the early literacy questionnaire and objective measures of children's emergent literacy skills (e.g., print concepts, sound awareness and narrative skills). This study is exploratory in nature given the small sample sizes. Thus, the results may be used for generating hypotheses for future studies of dual language learners and may not be generalizable to all dual language-learning children receiving speech and language services.

### Descriptive Summary of Questionnaire Data

The questionnaire results are first described for all families, combining the monolingual English children and the dual language learners. Descriptive statistics for the seven categories derived from the early literacy parent questionnaire are displayed in Table 3. As can be seen in Table 3, parents gave higher ratings to four categories of emergent literacy (i.e., *Book Interaction*, *Letter/ Sound Knowledge*, *Parents' Facilitative Behaviours*, and *Children's Orientation to Literacy*) with mean values of 3.5, 3.1, 3.4, and 3.0, respectively. These values correspond to frequency values of "occasionally" or "weekly". Parents gave lower ratings to items belonging to the category *Phonological Awareness*, which received a group mean of less than 2.0 (i.e., "rarely"). Additionally, parents also gave lower ratings to the categories *Response to Environmental Print and Writing*, with mean ratings ranging from 2.1 - 2.8 (i.e., "on occasion"). Thus, for this group of 4 - 5-year-old children, parents reported engaging in a high frequency of literacy interactions involving book reading and letter/ sound knowledge but engaged in less frequent interactions involving phonological awareness and written language.

**Table 3****Summary Statistics for the Questionnaire Categories, by Group and Combined**

| Questionnaire Category           | EL Group (n=7)<br>Mean (SD) | DL Group (n=9)<br>Mean (SD) | Combined (n=16)<br>Mean (SD) |
|----------------------------------|-----------------------------|-----------------------------|------------------------------|
| # Hours/week of book reading     | 3.7 (2.2)                   | 4.3 (2.7)                   | 4.0 (2.4)                    |
| Interaction with Books           | 3.5 (0.4)                   | 3.4 (0.5)                   | 3.5 (0.5)                    |
| Response to Environmental Print  | 2.6 (0.7)                   | 2.8 (1.2)                   | 2.7 (1.0)                    |
| Letter/Sound Knowledge           | 3.1 (0.9)                   | 3.1 (1.2)                   | 3.1 (1.0)                    |
| Phonological Awareness           | 1.5 (0.7)                   | 2.1 (1.2)                   | 1.9 (1.0)                    |
| Writing                          | 2.1 (0.5)                   | 2.8 (0.6)                   | 2.5 (0.6)                    |
| Parents' Facilitative Behaviours | 3.6 (0.9)                   | 3.3 (0.7)                   | 3.4 (0.8)                    |
| Orientation to Literacy          | 2.8 (0.7)                   | 3.3 (0.7)                   | 3.1 (0.7)                    |

Note: EL = monolingual English-speaking children; DL = dual language learning children; Ratings of 1 = lowest frequency and 5 = highest frequency.

### Group Comparisons of Children's Emergent Literacy Skills, as Assessed by Parent-Ratings

Parental ratings for monolingual English children and dual language learners were compared using a series of Mann-Whitney non-parametric tests. Non-parametric tests were used because the ratings on the 5-point rating were not parametrically distributed and the sample size was small. In response to an item on the number of hours of shared reading, parents indicated that the monolingual children participated for an average of 3.7 hours per week whereas the dual language children participated for an average of 4.3 hours per week. This difference was not significant. There also were no significant differences between the two groups on parental ratings of any of the seven emergent literacy categories. However, one category, namely *Writing*, showed a trend towards a group difference, ( $p = .070$ ). In this case, more dual language

learners achieved high ratings (i.e., ranging from 2.2 to 3.8) in comparison to monolingual children (i.e., ranging from 1.4 to 2.8). However, due to the small sample size, this trend in the data must be interpreted with caution.

### Group Comparisons of Children's Emergent Literacy Skills, as Assessed by Standardized Measures

Next, comparisons between monolingual English children and dual language learners on a series of formal emergent literacy measures were performed using a series of Mann-Whitney non-parametric tests. In this case, non-parametric tests were used because the sample size was small and histograms revealed that the data were not normally distributed. Descriptive statistics and corresponding  $p$  values are displayed in Table 4. The results indicated no significant difference between the two groups of children for the Renfrew Bus Story

**Table 4****Summary Statistics for Standardized Tests of Emergent Literacy Skills by Group**

|                       |           | EL Group<br>(n = 7) | DL Group<br>(n = 9) | $U$ and $p$ levels |
|-----------------------|-----------|---------------------|---------------------|--------------------|
| TOPEL Raw Score       | Mean (SD) | 9.71 (9.2)          | 13.7 (6.0)          | $U = 48.0$         |
|                       | Min-Max   | 4-30                | 4-26                | $p = .080$         |
| ENNI Story Grammar    | Mean (SD) | 6.6 (6.1)           | 12.3 (3.5)          | $U = 47.5$         |
|                       | Min-Max   | 0-16                | 9-19                | $p = .089$         |
| Bus Story Information | Mean (SD) | 6.9 (2.8)           | 7.9 (2.1)           | $U = 43.5$         |
|                       | Min-Max   | 3-12                | 4-12                | $p = .199$         |

Note: two-tailed  $p$  values; EL = monolingual English-speaking children; DL = dual language learning children; TOPEL = Test of Preschool Early Literacy; ENNI Story Grammar = Edmonton Narrative Norms Inventory Raw Score; Bus Story Information = Renfrew Bus Story Information Raw Score.

Information Score. There were trends noted for both the TOPEL ( $U = 48.0, p = .080$ ) and the ENNI Story Grammar ( $U = 47.5, p = .089$ ). In both cases, there were more dual language learners with high scores in comparison to the monolingual group. However, given the small sample size, it is important to exercise caution in interpreting these trends in the data.

### Correlations between Formal Tests and Parent-Reported Literacy Skills and Practices

Next, correlations between the seven categories of the early literacy parent questionnaire and formal

measures of emergent literacy skills were examined. The monolingual English and dual language learner groups were collapsed for these analyses because there were no significant group differences for parent ratings or formal measures, as described above. Spearman's rank correlation coefficients were used because the ratings on the Likert scale could not be assumed to be parametrically distributed. One-tailed tests were used because the hypotheses were directional and they preserved power to detect significant correlations. Table 5 displays the  $r$  and  $p$  values for these correlations.

**Table 5**  
Spearman Rank Order Correlations between Parent's Ratings of Early Literacy and Standardized Tests of Emergent Literacy Skills

| Questionnaire Categories <sup>1</sup> | TOPEL                      | ENNI                       | Bus Story                     |
|---------------------------------------|----------------------------|----------------------------|-------------------------------|
| Interaction with Books                | $r = .009$<br>$p = .487$   | $r = .321$<br>$p = .113$   | $r = .456$<br>$p = .038^*$    |
| Response to Environmental Print       | $r = .380$<br>$p = .073$   | $r = .307$<br>$p = .124$   | $r = .625$<br>$p = .005^{**}$ |
| Letter/Sound Knowledge                | $r = .440$<br>$p = .044^*$ | $r = -.102$<br>$p = .353$  | $r = .011$<br>$p = .484$      |
| Phonological Awareness                | $r = .084$<br>$p = .379$   | $r = .482$<br>$p = .029^*$ | $r = .419$<br>$p = .053$      |
| Writing                               | $r = -.004$<br>$p = .493$  | $r = .391$<br>$p = .067$   | $r = .186$<br>$p = .245$      |
| Orientation to Literacy               | $r = .567$<br>$p = .011^*$ | $r = .198$<br>$p = .232$   | $r = .250$<br>$p = .176$      |

$N = 16$ ; \* one-tailed  $p < .05$ ; \*\* one-tailed  $p < .01$

<sup>1</sup> Parents' Facilitative Behaviours were not entered into the correlations due to weak internal consistency (Boudreau, 2005).

Note: TOPEL = Test of Preschool Early Literacy, Subtest 1 Raw Score; ENNI = Edmonton Narrative Norms Inventory Story Grammar Raw Score; Bus Story = Renfrew Bus Story Information Raw Score.

Several of the parental rating scale categories were associated significantly with some of the children's literacy skills as measured by standardized tests. For example, the parents' ratings for *Letter/Sound Knowledge* and *Orientation to Literacy* were positively and significantly correlated to the TOPEL ( $r = .440, p = .044, R^2 = .194$  and

$r = .567, p = .011, R^2 = .321$ ). By standards of behavioural research, the correlation coefficients represented medium and large effect sizes, respectively, showing that the parents' ratings and the formal test measure shared 19% and 32% of their variance (Cohen, 1988). Parent reports of their children's phonological awareness skills "(i.e.,

rhyming) were positively and significantly correlated with the ENNI story grammar scores were also positively and significantly correlated with the ENNI story grammar scores ( $r = .482, p = .029, R^2 = .232$ ). The correlation coefficient for this result is considered to be a medium effect size (Cohen, 1988) and showed that the two measures shared approximately 23% of their variance. Finally, parents' ratings concerning *Interactions with Books* and *Response to Environmental Print* were both significantly and positively correlated with the results of the Renfrew Bus Story Information raw score ( $r = .465, p = .038, R^2 = .216$  and  $r = .625, p = .005, R^2 = .391$ ). The two effect sizes were medium and large (Cohen, 1988), indicating shared variance of 22% and 39%, respectively. Thus, parental ratings of their children's literacy skills were related to objective measures of the children's proficiency in literacy activities.

### Discussion

The first purpose of the current study was to examine the emergent literacy skills of monolingual and dual language-learning children with SLI using direct and indirect measures. Although it was hypothesized that the dual language-learning children would have stronger emergent literacy skills as measured by the TOPEL, the results did not indicate any significant differences between these two groups of preschool children on this test measuring print, letter, and sound knowledge. Moreover, the group comparisons using an indirect measure of emergent literacy, the Early Literacy Parent Questionnaire (Boudreau, 2005), were in general agreement with the results of the TOPEL and did not yield any significant group differences in children's emergent literacy skills or parental behaviours that facilitate literacy. It should be noted that many of the parent report items on the questionnaire received low ratings (see Table 3), which may reflect the children's young ages (i.e., 46 – 57 months of age) and lack of formal exposure to literacy. In comparison, the children in Boudreau's study (2005), for whom the questionnaire was devised, were somewhat older (55 to 70 months of age). Given the young ages of the children in the current study, the emergent literacy measures also differed from those used by Boudreau to be suitable to a younger age group. Thus, it is possible that group differences between dual language learners and monolingual children may emerge as children's experiences with formal literacy instruction increase. Of interest, there were two trends in the data. The overall TOPEL raw score and ratings for one questionnaire category, *Writing*, showed trends approaching significance that favoured the dual language learners. These data and the results of prior work showing advantages for dual language learners (e.g., Cardenas-

Hagan, Carlson, & Pollard-Durodola, 2007; Paez et al., 2007) suggest that future research investigating the letter/ sound knowledge of these two groups of children is warranted.

The second hypothesis was that the monolingual children would have better narrative skills than the dual language learners as measured by two narrative tests. This hypothesis was not substantiated in either the story retelling task (Renfrew Bus Story) or the narrative generation task (ENNI). The lack of significant differences in narrative ability between the two groups of children in this study replicates findings in two previous studies that investigated narrative skills in dual language learners and monolingual children, although the participants in both these studies had typically developing language (Lofranco, Peña, & Bedore, 2006; Pearson, 2002). These results are also in line with those of Cleave et al. (2010), who reported no differences in the narratives of dual language learners with SLI and monolingual children with SLI. All of the dual language learners in the present study were English dominant at the time of testing, according to parent report. Thus, it appears that dual language learners with SLI who are English dominant may not be at a disadvantage when asked to produce English language narratives in comparison to a monolingual group. Of interest was a trend for the dual language learners to perform better on the ENNI story generation task only. A post hoc analysis of the parent report questionnaire was conducted to determine if there were differences between the two groups on an item that relates to story-telling ability. A significant group difference favouring dual language learners was revealed in the ratings for Item 6 concerning the frequency in which children in both groups made up stories and told them ( $U = 13.5, p = .040$ ). This finding suggests that the dual language-learning children may have had more prior experience at home with the type of story generation activity required by the ENNI. If this trend is confirmed in future research, one possible hypothesis may be that story formulation in the child's two cultures and languages may lead to more complete story productions.

The second objective of this study was to examine correlations among formal and informal measures of emergent literacy skills. Five questionnaire categories yielded significant relationships with at least one of the standardized literacy tests, suggesting the potential usefulness of this parent report measure for providing information on children's emergent literacy skills. Variation in parental ratings of *Letter/ Sound Knowledge* and *Orientation to Literacy* reflected differences in TOPEL scores. The items in *Orientation to Literacy* included interest in books, requests for help in reading,

and requests for help writing, which may reflect the child's interest in letters and sounds. Letter and sound knowledge are skills that are directly assessed by items on the TOPEL. Ratings of *Interactions with Books* and *Response to Environmental Print* were positively correlated with the Bus Story Information raw score. Sample items in *Interactions with Books* included talking about pictures and making up stories, which may speak directly to the child's ability to tell a story. Items in *Response to Environmental Print* refer to the child's ability to read sight words in books and identify words on signs, which indicate an interest in reading. Indirectly, this latter category on the questionnaire may reflect a higher level of experience with storybooks and storytelling. In contrast to these findings, Boudreau (2005) found weak evidence of a relationship between the parent questionnaire and a story-retelling task. The difference may be due to the children's ages and the tasks used. The Bus Story is shorter and may be less difficult than the wordless picture book used by Boudreau (2005). Finally, variation in the average rating for *Phonological Awareness* items (i.e., rhyming) was positively correlated with the ENNI Story Grammar raw score. This association is puzzling but may be explained by an underlying factor not tapped by this study, such as cognitive processing ability or working memory skills. Both rhyming and story generation are more difficult, advanced tasks for preschool-aged children. *Writing* was not related in any significant way to the results of the standardized tests. Ratings for *Writing* were uniformly low, presumably because the preschool children in this study were not yet learning to write. The category concerned with parents' facilitative behaviours achieved low internal consistency in Boudreau's study (2005) and was not entered into the correlational analyses. In summary, the observed pattern of results provides preliminary support for using parent report of literacy and is consistent with previous findings reported by Boudreau (2005), who found similar relationships between parental ratings and children's letter/ sound knowledge. Boudreau noted that questionnaire categories focusing on phonological awareness, response to print in the environment and alphabet knowledge were highly correlated with examiner-administered measures of emergent literacy. The results of this study provide additional support for the use of parent report. The Early Literacy Parent Questionnaire is promising, not only for assessment purposes, but also because parents who are observant of their children's emergent literacy skills may be in a better position to support their children's further literacy development.

## Limitations of the Study

Several limitations should be noted in interpreting these findings. First, the sample size of this study was small, reducing the study's ability to detect significant differences. A larger sample size might have revealed larger group differences and additional correlations between parental report and direct testing. Conversely, some of the observed trends and significant correlations may not be replicated with a larger sample. Particular caution must be used in interpreting any trends in the data as they apply to dual language and monolingual preschoolers with SLI.

Second, the dual language learners in the current study were dominant in English and had been speaking English for approximately two years. The length of time the dual language learners had been exposed to English was highly variable, from 10 to 40 months. Moreover, all parents were able to read and complete the parent questionnaire without the assistance of a translator or interpreter. It is possible that clearer group differences would emerge in a more cohesive group of dual language learners with different characteristics (e.g., less exposure to English) or home backgrounds.

Third, the addition of a group of typically developing children would have provided a valuable reference group for comparison to the children with SLI. This would have helped to create a more complete snapshot of the literacy skills of the monolingual and dual language children with SLI.

Clearly, more research is needed to investigate the literacy skills of dual language and monolingual preschoolers. Future studies need to replicate and extend the pattern of correlations between the early literacy parent questionnaire and standardized tests of literacy. In addition, it will be important to examine the emergent literacy skills of monolingual and bilingual children using larger sample sizes to determine similarities and differences in their literacy profiles.

## Clinical Implications

The parent rating scale used in this study to assess home literacy practices and children's emergent literacy skills shows promise as an assessment procedure. The pattern of correlations in the current study, together with the data from Boudreau (2005), suggests that parents provide useful information about their children's early literacy skills. Future research in using the scale should investigate the ability of this rating scale to capture outcomes of treatment.

## CONCLUSION

In conclusion, the Early Literacy Parent Questionnaire (Boudreau, 2005) provided valuable information

about the emergent literacy skills of monolingual and dual language learning children with SLI. When used in conjunction with formal measures, it may provide additional insight on preschool children's home literacy environments and emergent literacy skills. For clinicians working with multicultural clients, having tools that they can administer to monolingual and bilingual families to collect emergent literacy data is valuable for capturing children's abilities in their home environments.

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