Chapter 2

Writing Abilities in First and Second Language Learners With and Without Reading Disabilities

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Introduction

Canada is a country that absorbs many immigrants each year, and most immigrants tend to settle in large urban centres. The present research was conducted in Toronto, Canada’s largest metropolitan area, with a very diverse multilingual and multicultural population. In Toronto, 44% of the population of 4.5 million people was born outside of Canada, and 41% of the population has a native language other than English or French, Canada’s two official languages (Statistics Canada Census, 2001). Due to an immigration policy that favours educated and skilled workers, Canada tends to receive a large number of families who had high social standings in their home counties. Of course, this is a generalised observation and it must be noted that Canada also accepts many refugee families. However, although parents in immigrant families may fall within lower income brackets while they adjust to life in Canada, they are often highly educated and tend to place great value on the academic achievement of their children.

Diverse school populations reflect the larger demographic context, with approximately half of the school-aged population in Toronto being ESL (English as a Second Language) speakers. ESL learners may have recently emigrated from non-English speaking countries, or may have been born in Canada but have a limited knowledge of English due to being raised with a different home language. In school, ESL students spend the majority of the day in regular classrooms while ESL instruction is provided on a withdrawal basis several times a week. Withdrawal ESL classes often involve students who speak a variety of first languages and are grouped by level of English language proficiency rather than by age. Students are eligible for this extra support for up to two years.
While researchers in recent years have begun focusing their efforts on understanding and facilitating ESL students’ literacy development, particularly in regards to reading (August & Shanahan, 2006; Geva et al., 2000; Lesaux & Siegel, 2003), much remains to be done in the domain of ESL writing development. Additionally, there is a dearth of empirical information available on children who are ESL speakers and have a Reading Disability (RD). It is surprising that writing has not received more attention within the field of reading disabilities, ‘despite the fact that spelling, handwriting, and written composition difficulties are almost invariably involved’ (Willows, 1998: 203). Hence, the present study focused on ESL-RD learners, with the aim of enabling researchers, professionals and educators to better understand and support writing development in this vulnerable population. As will be discussed in more detail later, it is particularly urgent to acquire empirical information on the literacy development of ESL students who have an RD given that there are problems related to both over-identification and under-identification of these students in schools. In addition to the difficulties related to the identification of ESL-RD students, appropriate approaches to intervention with this group of vulnerable learners are unclear.

ESL Literacy Development

Due to its deep orthography, English is a challenging language to learn to write. That is, it is a morphophonetic language and the spelling of words is not phonetically transparent (e.g. ‘heal’ and ‘health’ share the same root, and the root is preserved in the spelling of ‘health’, though the pronunciation of the ‘heal’ component in ‘health’ is altered). Yet, learning to write well in English, be it students’ first (L1) or second language (L2), is an important stepping-stone for advancement in school and the workplace. In the academic context, writing is crucial for success in school exercises, assignments, essays and examinations. As a later life-skill, writing is a vehicle for human communication and expression. Writing is considered the most complex facet in the development of literacy. In native speakers, learning to write follows the development of oral language skills as well as the acquisition of basic reading skills. In fact, writing builds on many of the skills acquired from the process of learning to comprehend both oral language and text (Berninger et al., 2002). However, for young ESL learners the acquisition of oral language and the knowledge of print occur simultaneously when the child enters school (Chall, 1996). As a result, the development of aspects of oral language proficiency and of literacy skills may progress at different rates for ESL students (Durgunoglu et al., 1993; Geva et al., 1997). A recent meta-analysis (Geva, 2006) concluded that for ESL students, underlying cognitive-linguistic processes (such as phonological awareness and speed of lexical access) are the most robust predictors for
word recognition of ESL learners, and that indices of oral language proficiency typically explain only 3–4% of the unique variance on word recognition. The relationship between these cognitive-linguistic processes, word based skills and writing development in ESL and ESL-RD children has not been explored to date.

However, it is known that due to the multifaceted cognitive and linguistic demands of writing, it can be challenging for students (Bereiter, 1980; Scardamalia, 1981). Presumably, the challenge may be greater if children are ESL speakers, have an RD, or are both ESL-RD. Everyday oral language exchanges do not typically require the same degree of mastery and specificity with regards to academic and sophisticated vocabulary and syntax (Cummins, 1991; Olson, 1977). Additionally, most children seem to be able to use, decode and comprehend more advanced vocabulary and sentence structures when reading before they can use those same words and syntax in their written expression. Thus, based on the higher demands in areas such as vocabulary and syntax, it is possible that ESL children may continue to struggle with written expression after they have become adept at conversing and reading in English.

The fact that children with an RD may also have writing difficulties is suggested by research on EL1 (English as a first language) children (Willows, 1998). Both reading and writing seem to draw on similar underlying cognitive and linguistic processes, specifically related to factors such as phonological processing and orthographic knowledge (Berninger et al., 2002). Both lower level and higher level reading and writing skills have been shown to be related (Berninger et al., 2002). At the word level, difficulties with word identification are related to spelling problems. At the text level, poor reading comprehension seems to relate to difficulties with written composition. Whether these relationships between RD and writing difficulties are similar for ESL learners is not yet confirmed. Research on the characteristics of writing difficulties experienced by ESL, RD and ESL-RD children is necessary to enable more sensitive ways of assessing and identifying children whose writing development is at risk.

The Dilemma of Whether, When and How to Formally Assess ESL Learners

For the purposes of this discussion, a Reading Disability (RD) will be considered a subtype of a learning disability. Discerning which ESL learners have an RD is a process that has been subject to heated criticism and controversy (Limbos & Geva, 2001). In past years, the claim has been made that diagnoses of learning disabilities have been biased by socioeconomic, ethnic, linguistic and cultural factors, and that developmental and psychoeducational considerations pertaining to the attainment of adequate academic L2 language proficiency necessary for literacy skills
and academic achievement have been ignored (Cummins, 1991). This is extremely problematic because, by its very definition, a learning disability cannot be attributable to social, cultural, economic or emotional factors (Learning Disabilities Association of Ontario, 2005). Rather, an RD stems from difficulties with fundamental underlying cognitive and linguistic processes. The quandary that arose as a result of this controversy was about how best to assess cognitive and linguistic functioning in ESL learners in a fair manner. An example of the way the dilemma manifested itself can be seen in the school boards of Toronto where critics, who felt that ESL learners were over-represented in special education classes, pushed for the adoption of a policy whereby ESL learners would not be formally assessed by psychoeducational professionals until they had been in the English school system for five to seven years. This policy was well-intentioned and was adopted by many school boards in the region in order to allow the children time to acculturate and to develop their oral language proficiency. However, the consequences for ESL learners who actually did have a learning disability have been a lack of early identification and intervention, and hence long-term negative ramifications (Geva, 2000).

A recent study of teachers’ ability to accurately identify young ESL learners (Grades 1–2) who may be at risk for reading failure highlighted the need for increased sensitivity (Limbos & Geva, 2001). Findings revealed that when teachers were asked to spontaneously nominate students who they thought were at-risk for reading disabilities, 9 out of 10 ESL learners who actually were RD would have fallen through the cracks. Although teachers were relatively accurate at identifying EL1 learners at risk for reading failure, they were less accurate for ESL learners. This may be because teachers, in an attempt to be sensitive, are reluctant to nominate immigrant or minority children for psychoeducational assessment. Alternatively, it may be due to an over-reliance on children's oral language proficiency as a means of 'red-flagging' problematic development.

As a result of the dilemma of whether to formally assess ESL learners, researchers have begun focusing on ways to address over-representation or under-representation of immigrant or minority children in special education. To this end, in recent years researchers have been studying developmental trajectories associated with language and literacy skills in normally developing L2 children, the role of underlying cognitive and linguistic processes associated with language and literacy development in L2 learners, and the presentation of learning deficits in some of these learners. As previously discussed, recent work has shown that cognitive-linguistic skills and literacy skills can develop independently of oral language proficiency in children’s second language (Geva, 2006; Geva et al., 2000). The finding that phonological awareness and word recognition skills develop and can be measured early on in ESL learners has important practical implications. It suggests that it is possible to assess
children's phonological awareness and word recognition skills in their second language (L2) before their oral language proficiency matches that of their EL1 peers, and that problems in these areas are indicative of underlying difficulties, such as an RD, rather than language status (August & Shanahan, 2006; Geva et al., 2000). The present study built on this information by using these two variables to determine and classify participants' status.

The research presented below examined what Juel's (1988) 'simple view' of writing development classifies as lower level (e.g., spelling, syntax) and higher level writing skills (e.g., ideation, organisation, creativity). It is thought that in order to achieve higher-level productions of text, the lower-level skills must be consolidated and fluent (Bereiter, 1980; Scardamalia, 1981). These writing skills were examined out of context (i.e., spelling words in a list, writing sentences in isolation) and in context (i.e., by looking at various components within a larger body of text, including spelling, sentence structure and overall story coherence). Writing skills were measured at the word level with a test of spelling, at the sentence level with a test of syntax, and at the text level with a test of story production. The specific characteristics of writing difficulties for ESL and ESL-RD children were documented.

Research Aims and Rationale

The present study is part of a larger longitudinal research endeavour that began in 1996 and tracked ESL learners' literacy development from Grades 1–6. The present study focused on children in Grade 5 (10–11 years old) because they are supposed to have made the transition from the stage of learning to read and write, to the stage of reading and writing to learn (Chall, 1996). In Grade 5 and onwards, children are required to write longer, more abstract and complex texts in order to meet curricular standards. At this important stage in children's writing development, individual differences due to language proficiency and learning capacity have the potential to produce profound long-term detrimental effects if sensitive identification and intervention does not occur (Berninger & Amtmann, 2003).

The present study had several objectives: (1) to examine the extent to which the writing abilities of ESL learners in upper elementary school resemble those of their EL1 peers; (2) to examine the extent to which having an RD affects children's writing abilities; (3) to examine the extent to which the development of writing abilities in ESL-RD children resembles that of EL1-RD children; and (4) to compare the profiles of upper elementary EL1, ESL, RD, non-RD, EL1-RD and ESL-RD learners in terms of various factors that are thought to contribute to writing ability, including cognitive processes, cognitive-linguistic processes, oral language proficiency and literacy skills.
In line with the above objectives three main hypotheses were examined:

*Hypothesis 1.* That EL1 learners would outperform ESL learners on measures of writing ability.

*Hypothesis 2.* That children who did not have a reading disability would outperform children who did have a reading disability on measures of writing ability.

*Hypothesis 3.* That EL1 learners who had a reading disability would outperform ESL learners who had a reading disability on measures of writing ability.

**Method**

**Participants**

The research was conducted following a cross-sequential longitudinal design, and involved three successive cohorts of students. The sample was drawn from 12 schools in three different school-boards within metropolitan Toronto. These schools were located in areas of predominantly low-to-middle socio-economic status. When the initial overall sample was recruited, children who had special disabilities (e.g., sensory impairment, autism) were excluded. Additionally, at the onset, it was required that children had been living in an English-speaking country for at least four months to ensure that they had some exposure to English language and literacy instruction. Due to the fact that most ESL students in the sample began school in Canada in English in Grade 1, it was presumed that English was the first language that they had learned to read and write. The total sample for the present research included 273 Grade 5 children; only one child was eliminated from the overall sample due to the fact that he had not completed the target measure of written expression (i.e., Test of Written Language–III).

Of the total sample, 177 (65%) were ESL participants and 96 (35%) were EL1 participants. Information regarding children’s first language was gathered from their school files, with appropriate informed parental consent, at the onset of the study. Classroom teachers were also interviewed, and they confirmed children’s language status. Gender distribution in the sample was roughly equal: 126 (46%) of the children were females, 147 (54%) were males. The ages at the time of testing in Grade 5 ranged from 10 years, 0 months to 11 years, 8 months, with a mean age of 10 years, 9 months. The ESL students came from 10 different language groups; 70 spoke Punjabi, 59 Portuguese, 28 Tamil, six Urdu, four Hindi, three Cantonese, three Gujarati, two Mandarin, one Senegalese and one Russian. Because Canada is an immigration country, although the first language and home language of the EL1 students was English, they came from a variety of ethnic origins, including South-East Asian, European and Caribbean.
Instruments

Although 22 measures were administered to the Grade 5 children as part of the larger study, only eight of these will be examined in the present study. These tests were selected on the basis of theoretical considerations. In order to account for potential differences in children’s non-verbal intelligence, the Raven’s Standard Progressive Matrices test was administered. Two measures of students’ cognitive-linguistic processing skills that are known to be good predictors of literacy development in L1 and L2 learners were used: phonological awareness (modelled on the Rosner Test of Auditory Analysis), and rapid automated naming (RAN). One aspect of oral language proficiency, receptive vocabulary (Peabody Picture Vocabulary Test – Revised), was used in order to assess whether the EL1 and ESL groups differed in the breadth of their knowledge of English words. In terms of literacy assessment, a measure of reading at the word level was used as a basic indicator of reading skill (Wide Range Achievement Test 3 – Reading subtest). Writing abilities, the main variables of interest, were assessed at the word level using a measure of spelling (Wide Range Achievement Test 3 – Spelling subtest), at the sentence level (Test of Written Language III – Sentence combining subtest), and at the text level (Test of Written Language III – Story subtest). Raw scores from all measures were used for analysis due to the fact that standardisation samples are not typically representative of ESL students. Additional information about the measures is found below.

Non-verbal reasoning

A test of nonverbal intelligence, the Raven’s Standard Progressive Matrices (from here on: RAVEN) (Raven et al., 1983) was used to evaluate children’s non-verbal reasoning ability. It is known for reducing the effects of variables such as oral language proficiency, primary language and cultural background and is thus considered to be a test of intelligence that is relatively free of bias towards ESL learners. During the test children are shown an incomplete illustration of a matrix and then asked to choose the correct pattern from a set of five or six that will complete the matrix. Children point to or say the number corresponding to the missing piece.

Phonological awareness

A test of phonological awareness (PA), modelled on the Rosner Test of Auditory Analysis Skills (TAAS) (Rosner & Simon, 1971), was developed to determine students’ ability to identify and manipulate the sounds within words. In order to minimise the effect of vocabulary knowledge, only high frequency words (e.g. sunshine, picnic, leg) were included as the initial stimuli and target responses in this task. The order of items reflects developmental trends and task demands increase gradually. The test begins with elision items that require children to delete a morpheme in compound words (e.g. say ‘sunshine’, now say it again but do not say
‘shine’). The following items require children to delete a phoneme from one-syllable words (e.g., say ‘hand’, now say it again but do not say /h/). The last set of items is the most challenging as it requires children to delete single phonemes in consonant blends (e.g., say ‘left’, now say it again but don’t say /f/).

Rapid automatized naming

This continuous naming task measures the speed and accuracy of children’s retrieval of letter-names. It was taken from a Rapid Automatisation Naming Test (RAN) (Denckla & Rudel, 1976). To determine eligibility for the test, children are asked to read a series of five high frequency English letters. Provided they read those letters correctly, children are then presented with a series of 50 letters (each of the original five is repeated 10 times in a random order) and asked to say the letter names aloud as quickly and accurately as possible. The examiner records miscues and uses a handheld stopwatch to measure the time in seconds taken to complete the task. The amount of time that a child takes to name all 50 letters is taken as the total raw score.

Receptive vocabulary

A test of verbal comprehension, the Peabody Picture Vocabulary Test-Revised (PPVT-R) (Dunn & Dunn, 1981), was used to assess children’s oral language proficiency. The PPVT-R is a standardised test that requires a child to select one of four pictures that best depicts a target word read aloud by the examiner (e.g., point to a picture of a ‘kayak’ on a page depicting four different types of boats). It consists of 175 items, including nouns, verbs and adjectives. The PPVT-R is considered to be a valid and reliable test of receptive vocabulary (reliability coefficients range from 0.52 to 0.90).

Word-level reading

A test of word recognition, the Reading subtest on the Wide Range Achievement Test Third Edition (WRAT 3-R) (Wilkinson, 1993), was used to determine children’s ability to identify and decode age-appropriate words. Children read single words in English orally from a list that gradually increases in difficulty. The test consists of 42 monosyllabic and polysyllabic words (including nouns, verbs, adjectives and prepositions). The WRAT-3 is considered to be a valid and reliable test (reliability coefficients range from 0.85 to 0.95).

Spelling

A test of spelling was taken from the Wide Range Achievement Test Third Edition (WRAT 3-S; Wilkinson, 1993, Spelling subtest). It was used to measure children’s ability to accurately spell English words. The test consists of a list of 40 monosyllabic and polysyllabic words that increase in complexity and obscurity as the test progresses. The examiner dictates
the target word to the student, then uses it in a sentence and finally repeats
the word. The WRAT-3 is considered to be a valid and reliable test
(reliability coefficients range from 0.85 to 0.95).

Written syntax

The Sentence Combining subtest from the Test of Written Language
Third Edition (TOWL-III) (Hammill & Larsen, 1996) was used to evaluate
syntactic skills in writing. Children are required to read and then combine
several short sentences into one longer, more complex, grammatically
correct sentence that retains the meaning of the original sentences (e.g.
‘The dog is black’ and ‘The dog is large’ could become ‘The large dog is
black’ or ‘The black dog is large’). The test taps into children’s ability to
use English grammar (e.g. knowledge of conjunctions, correct subject-
verb agreements, appropriate verb tense, ability to produce grammatically
correct compound sentences) in their writing. Spelling, punctuation and
capitalisation errors are not penalised. A list of correct answers is provided
in the TOWL-III scoring manual. Any response that departs from the
examples in a significant way, or that is ‘awkward or confusing’ is deemed
incorrect. Each answer is given a score of either 1 or 0, and there are 20
items on the test that increase in length and complexity of the stimulus
sentences and target outcomes. Scoring was conducted by two trained
research assistants who double-scored a random selection of 20% of the
tests; reliability correlations between the two scorers was very high
($r = 0.98$). Sentence Combining is a complex task because it taps into both
language proficiency (i.e. knowledge of English grammar) as well literacy
skills (i.e. the ability to generate one’s answers under somewhat controlled
conditions). The TOWL III is considered to be a valid and reliable test
(internal consistency, test–retest reliability with alternate forms, and intrascorer reliability coefficients approximate 0.80–0.90 for different ages).

Story composition

A test of higher-level writing ability, the TOWL–III Story Composition
(Hammill & Larsen, 1996; Spontaneous writing format, Form B) was the
dependent measure of main interest. The test is designed to be used with
children aged 7–18 years. In this test the child is shown a complex picture
stimulus depicting an evocative, interesting scene and then given 15
minutes to write a story based on the picture. The story is scored using three
subtests. The first is entitled Contextual conventions and refers to the ability
to utilise the basic mechanics of writing in context (i.e. capitalisation,
punctuation, spelling). It consists of 12 items that examine the appropriate
use of capital letters, various types of punctuation (e.g. quotation marks,
commas, apostrophes, question marks) and spelling. A holistic rating
system is used for most items (e.g. wherein 0 = poor, 1 = average, 2 = good)
and a total of 18 points are available. In addition to the global rating indices
offered in the TOWL–III manual, the frequencies corresponding to the
number of punctuation, capitalisation, and spelling errors were recorded for each child as supplemental information (e.g. if a child made 17 spelling errors that figure would be recorded in addition to the global rating score of ‘0’ in order to increase the test’s sensitivity).

The second subtest is entitled Contextual language and examines higher-level aspects of writing in context (e.g. grammar, vocabulary, verb usage). It consists of 14 items that target the quality of sentence structure (e.g. presence of run-on sentences, compound and complex sentences), the components of sentences (e.g. introductory phrases, conjunctions), and the quality of writing (e.g. subject–verb agreements, complexity of vocabulary used). A total of 51 points are available. Supplementary information was included in addition to the global rating scores offered by the test developers for: the percentages of T-units (i.e. Thought-units: independent complete clauses containing a subject and object, as well as any connected dependent clauses) within (1) badly constructed, (2) simple and (3) complex or compound sentences; the number of correctly spelled words with seven or more letters; and the number of correctly spelled words with three or more syllables.

The third subtest for scoring students’ stories is entitled Story Construction. In this subtest the examiner considers the overall coherency and quality of the story. The plot and sequence of the story are marked for logical and smooth progression. The story beginning and ending are considered. The quality of the prose, character development, use of emotion, and action are also scored on rating scales wherein more points are awarded for better use of the target devices. A total of 21 points are available.

Scoring of the TOWL–III Story Composition was conducted by two graduate students. Reliability coding was conducted for each of the three subtests (Contextual Conventions, Contextual Language and Story Construction) due to the complexity of the scoring system and the element of subjectivity on some items. A supplemental set of guidelines with additional details was constructed by the scorers to aid in obtaining reliability and to decrease ambiguity for difficult items. The first rater scored all 273 stories. A randomised sample of 20% of the stories was selected to be double-scored by the second marker. Consistency between the two raters was calculated with intra-class correlation coefficients using a two-way random model. A high degree reliability of was achieved ($r = 0.92$, Cronbach’s $\alpha = 0.96$) for the Contextual Conventions subtest. For the Contextual Language subtest, a high degree of reliability was also achieved ($r = 0.87$, Cronbach’s $\alpha = 0.93$). However, for the Story Construction subtest, reliability scoring was less consistent due to the subjective nature of the items ($r = 0.68$; Cronbach’s $\alpha = 0.81$). The difficulty of scoring subjective aspects of writing has been acknowledged by other researchers in the field (e.g. Weigle, 2002). Consequently, results from the Story Construction subtest need to be interpreted with some caution.
Procedures

Participants were recruited via a letter that was sent home with all students and contained detailed information about the process and goals of the research project. A consent form was included that could be signed and returned by parents. At the beginning of testing sessions, verbal assent was obtained by asking children whether they would like to participate. All testing was conducted by fully-trained graduate students and research assistants in the children’s schools. Participants were tested individually or in groups, depending on the measure, in a quiet place in the school. In Grade 5, children were withdrawn from their classes on four separate occasions for testing sessions that lasted approximately 30 minutes.

Results

The results section is divided into four main sections; the first presents the way that students’ classification as ESL learners was confirmed, the second details the manner in which students were objectively classified as having a RD, the third presents the group comparisons on cognitive, linguistic and literacy measures, and the fourth section presents results pertaining to the three main hypotheses in relation to children’s story-writing.

Classification of students as ESL learners

An independent samples $t$-test revealed that there were significant differences in age between the EL1 and ESL participants ($t(1,271) = 3.37, p < 0.01$), with the EL1 participants being on average two months older than the ESL participants. Due to the age difference, age was used as a covariate when comparing L1 and L2 groups. In order to determine whether the ESL classification remained valid in Grade 5, a comparison of normally developing (i.e. without RD) students was conducted using vocabulary as the dependent variable. An ANCOVA, using language group (EL1 or ESL) as the independent variable, revealed a significant difference between ESL-non-RD and EL1-non-RD students ($F(1,245) = 27.12, p < 0.001$) such that the ESL-non-RD students had lower scores on the test of receptive vocabulary. A subsequent ANCOVA revealed that there were no significant differences between ESL-RD and EL1-RD students on the vocabulary test ($F(1,22) = 0.001, ns$).

Classification of students as reading disabled

As there are no standardised screening measures to detect RD in ESL children and independent information from teachers would likely not be reliable (Limbos & Geva, 2001), it was necessary to use an empirical
method to identify RD students. The results from the tests of phonological awareness and word-level reading were used to determine which subjects met criteria for having a RD. All children who scored more than one standard deviation below the mean on both tests of phonological awareness and word identification were classified as being RD. This stringent and systematic methodology was designed to isolate students who were significantly behind their ESL and EL1 peers. Other studies have shown that RD is a dimensional rather than a categorical state. As with other procedures based on cut-offs it is necessary to acknowledge that the reading difficulties of students identified as RD may vary in terms of severity. The chosen classification method yielded a sample of 25 students. This number constituted 9.16% of the participants.

Of the 25 students with reading disabilities, eight were EL1 (32%) and 17 (68%) were ESL. These proportions corresponded closely to those in the overall sample. Additionally, the proportions of ESL students from various first language groups were proportionately represented (eight were Portuguese, seven were Punjabi, one was Hindi, one was Tamil). In the RD sample, 15 (60%) were male and 10 (40%) were female, similar to the overall group. The average age was 10 years, 8 months; an independent samples t-test indicated that there were no significant differences in age between the RD and non-RD groups ($t(1,271) = 0.28$, ns). Additionally, there were no significant differences in age between ESL-RD and EL1-RD students ($t(1,271) = 1.29$, ns).

**Group differences on cognitive, linguistic and literacy measures**

Due to the difference between the language groups with respect to age, age was covaried in the univariate and multivariate analyses. Language group (ESL or EL1) and reading disability status (RD or non-RD) were the independent variables, resulting in a $2 \times 2$ structure for all of the subsequent ANCOVAs and MANCOVAs. Bonferroni correction was applied to adjust the alpha level for multiple analyses. See Table 2.1 for a summary of the descriptive statistics and results from comparisons of performance on non-verbal reasoning ability, cognitive-linguistic, oral language proficiency and literacy measures.

An ANCOVA revealed that there were no significant differences in terms of non-verbal reasoning ability between ESL-EL1 learners ($F(1,271) = 0.41$, ns) or RD–non-RD children ($F(1,271) = 1.65$, ns). In addition to there being no significant main effects, there was no significant interaction between ESL-EL1 and RD–non-RD groups ($F(1,271) = 0.00$, ns).

A MANCOVA was conducted to examine group differences on other cognitive, linguistic and literacy measures, including phonological awareness, rapid automated naming and word recognition. There were no significant ESL-EL1 differences on these variables, that is, on their phonological
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<td>(n = 17)</td>
<td></td>
<td>(n = 8)</td>
<td>(n = 8)</td>
<td></td>
<td>(n = 248)</td>
<td>(n = 25)</td>
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</table>

Note: RAVEN = Ravens’ Progressive Matrices; PA = phonological awareness; RAN = rapid automatised letter naming; PPVT = Peabody Picture Vocabulary Test - Revised; WRAT-Reading = Wide Range Achievement Test - 3rd edition, Reading subtest; WRAT-Spelling = Wide Range Achievement Test - 3rd edition, Spelling subtest; TOWL-III Sentence Combining = Test of Written Language - 3rd edition, Sentence Combining subtest.

*p < 0.05, **p < 0.01, ***p < 0.001.
awareness scores ($F(1,268) = 0.65, ns$), rapid automated naming scores ($F(1,268) = 0.09, ns$), or word identification scores ($F(1,268) = 0.18, ns$). However, there were significant differences between the RD–non-RD groups on all of these variables, that is, the RD group had significantly lower phonological awareness scores ($F(1,268) = 140.84, p < 0.001$), slower rapid automated naming scores ($F(1,268) = 17.73, p < 0.001$), and lower word identification scores ($F(1,268) = 107.74, p < 0.001$). It is important to note that having below average phonological awareness and word identification scores were the criteria used to select the RD group, and so it was expected that these scores be significantly lower for the RD sample. There were no significant interactions between language groups and RD groups for any of the variables, that is, phonological awareness scores ($F(1,268) = 0.34, ns$), rapid automated naming scores ($F(1,268) = 1.74, ns$), or word identification scores ($F(1,268) = 0.01, ns$).

A MANCOVA was conducted to examine group differences on word spelling and sentence combining. There were no significant differences between ESL and EL1 groups for either spelling ($F(1,264) = 0.73, ns$) or syntax ($F(1,264) = 0.27, ns$). There were significant differences between RD and non-RD groups on both spelling ($F(1,264) = 67.94, p < 0.001$) and syntax ($F(1,264) = 5.21, p < 0.05$) such that the non-RD group outperformed the RD group. There were no significant language group by RD group interactions on either spelling ($F(1,264) = 0.10, ns$) or syntax ($F(1,264) = 0.01, ns$).

**Group differences in writing measures**

Table 2.2 summarises the results of group comparisons on the Story Composition measure. The number of words that children wrote in their stories was compared using an ANCOVA. There were no significant effects for language (ESL-EL1) group ($F(1,268) = 1.72, ns$), RD group ($F(1,268) = 0.12, ns$), or for the language group by reading disability group interaction ($F(1,268) = 0.80, ns$).

In order to examine the quality of writing in context, analyses involving various clusters of specific writing skills were conducted. Firstly, a MANCOVA with the three story subtests was conducted. There were no significant differences between ESL and EL1 groups on the Contextual Conventions ($F(1,268) = 0.47, ns$), Contextual Language ($F(1,268) = 3.83, p = 0.05$), or Story Construction ($F(1,268) = 1.92, ns$) subtests. Of note is the fact that the ESL-EL1 group difference is approaching significance at the $p < 0.05$ level for the Contextual Language subtest in favour of the ESL students. There were significant differences between RD and non-RD students on the Contextual Conventions ($F(1,268) = 13.50, p < 0.001$), Contextual Language ($F(1,268) = 40.50, p < 0.001$), and Story Construction ($F(1,268) = 30.62, p < 0.001$) subtests such that the non-RD students
Table 2.2 Writing abilities as measured by performance on the story writing task

<table>
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<tr>
<th>TOWL–III story composition</th>
<th></th>
<th>ESL</th>
<th></th>
<th>EL1</th>
<th></th>
<th>RD</th>
<th></th>
<th>Non-RD</th>
<th>RD</th>
<th>Total</th>
<th>Non-RD</th>
<th>RD</th>
<th>Total</th>
<th>Non-RD</th>
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<td></td>
<td>(n = 160)</td>
<td></td>
<td>(n = 17)</td>
<td></td>
<td>(n = 177)</td>
<td></td>
<td></td>
<td>(n = 8)</td>
<td></td>
<td></td>
<td>(n = 96)</td>
<td></td>
<td></td>
<td>(n = 248)</td>
<td></td>
<td>(n = 25)</td>
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<tr>
<td>Contextual conventions</td>
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<td>6.31</td>
<td>5.27</td>
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<td>5.14</td>
<td>6.18***</td>
<td>3.12***</td>
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<tr>
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<td>17.20***</td>
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Table 2.2  Continued

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<td>% Compound and complex sentences</td>
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<td>33.40</td>
<td>5.79</td>
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<tr>
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<td>90th</td>
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<td>63rd</td>
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<td>10</td>
<td>11</td>
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<td>11</td>
</tr>
<tr>
<td>Total score for three story subtests</td>
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<td>22.35</td>
<td>34.79</td>
<td>32.13</td>
<td>20.88</td>
<td>31.19</td>
</tr>
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<td>9.46</td>
<td>7.90</td>
<td>10.15</td>
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<td>9.85</td>
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<td>51.40</td>
<td>80.27</td>
<td>53.84</td>
</tr>
</tbody>
</table>

**p < 0.01. ***p < 0.001.
outperformed the RD students. There were no significant interactions between language and RD groups on the Contextual Conventions ($F(1,268) = 1.96, ns$), Contextual Language ($F(1,268) = 0.02, ns$), or Story Construction ($F(1,268) = 0.00, ns$) subtests. Percentiles, based on average group performance scores, were taken from the TOWL-III scoring manual and are listed in Table 2.2. The pattern of percentiles reflected the trend of the aforementioned MANCOVA results. They indicated that non-RD ESL and EL1 students consistently scored in the normal range, higher than ESL-RD and EL1-RD students.

Given that there were no significant differences between ESL and EL1 groups on any of the three subtests, subsequent analyses focused on the writing quality of RD students. In order to examine differences between groups on lower level writing skills in context, a MANCOVA with the number of punctuation and capitalisation errors per 100 words, the number of spelling mistakes per 100 words, and the total number of non-duplicated correctly spelled long words (i.e. with seven or more letters) as dependent variables was conducted. Although the trend of results shows that RD children made an average of two more punctuation and capitalisation errors per 100 words than non-RD children, the degree of difference between RD-non-RD children on this item did not reach significance ($F(1,268) = 2.90, p = 0.09$). There were significant differences between RD and non-RD students on the spelling measures; RD students made an average of 10 more spelling mistakes per 100 words ($F(1,268) = 42.37, p < 0.001$), and spelled fewer long words correctly ($F(1,268) = 25.56, p < 0.001$). As expected, based on previous results, there was no significant main effect for language group ($F(1,268) = 1.78, ns$), nor a significant language group by RD group interaction ($F(1,268) = 0.77, ns$).

In order to examine students’ syntactic or grammatical skill when writing in context, a MANCOVA with the percentage of T-units found in badly constructed, simple, and compound or complex sentences as the dependent variables was conducted. RD children had significantly more badly constructed sentences ($F(1,268) = 26.32, p < 0.001$), significantly fewer simple sentences ($F(1,268) = 8.69, p < 0.01$), and significantly fewer compound and complex sentences ($F(1,268) = 24.09, p < 0.001$). Again, there was no significant main effect for language group ($F(1,268) = 0.34, ns$), nor a significant language group by RD group interaction ($F(1,268) = 0.09, ns$).

Finally, to examine students’ higher level skills when writing in context, a MANCOVA was conducted with the quality of students’ plot, sequencing, and prose in the story as the dependent variables. RD students had significantly more difficulty than non-RD students in creating a coherent plot ($F(1,268) = 27.32, p < 0.001$), a smooth, logical sequence of events ($F(1,268) = 30.19, p < 0.001$), and in using effective prose ($F(1,268) = 27.62, p < 0.001$). There was no significant main effect for language group.
(F(1,268) = 0.48, ns), nor a significant language group by RD group interaction (F(1,268) = 0.42, ns).

Discussion

The present study examined the writing skills of upper elementary school children, with a particular interest in the development of children who were ESL speakers as well as children with reading disabilities (RD). It was hypothesised that EL1 learners would outperform ESL learners on a task that evaluates the ability to write a story, given that writing represents one of the most complex aspects of literacy development (Hypothesis 1). However, contrary to expectations, the ESL learners did as well as the EL1 learners on the measure of written expression. This result is encouraging because it indicates that after approximately 4.5 years of receiving instruction in English and learning to read and write in English at a very young age, ESL learners are able to match their EL1 peers who attend the same schools and to develop their writing abilities well.

It was also expected that children with poor phonological awareness and word-level reading difficulties would also have difficulties writing. As assumed in Hypothesis 2, these children with RD performed more poorly on the test of written expression than children without RD, indicating that there may be similar underlying linguistic and cognitive deficits affecting the development of both reading and writing. Finally, it was hypothesised that being ESL speakers and therefore having poorer oral language proficiency would exacerbate difficulties that ESL-RD children experienced in the area of writing (Hypothesis 3). However this hypothesis was not supported; ESL learners with RD did not perform more poorly than EL1 learners with RD. There were no significant differences in the cognitive, linguistic or academic profiles of the two groups of children (ESL-RD and EL1-RD). It seems that the more powerful factor when considering risk for writing failure is RD status; language status (L1-L2) does not exacerbate difficulties resulting from underlying linguistic and cognitive processing deficits.

The writing skills and the general profile of ESL learners

The results of this study indicate that after several years of attending school in English, ESL learners are able to achieve age- and grade-appropriate writing abilities; the mean scores for ESL-non-RD students were all above the 50th percentile as based on standardised norms. Although normally developing ESL students continued to lag behind their EL1 counterparts in terms of their oral language proficiency (i.e. vocabulary growth), they performed equally well on all measures of writing abilities. This observation held on measures of lower level writing skills that require relatively little higher level planning and that place fewer demands on content generation.
and the coordination of multiple skills (i.e. spelling and syntax). Additionally, when generating a story, ESL learners matched EL1 learners in terms of the mechanics of writing such as punctuation, spelling, capitalisation, as well as on higher order aspects of writing such as generating appropriate sentence structures and monitoring for grammatical appropriateness and complexity. This was also the case when the quality of writing was judged on the basis of the overall organisation and flow of the compositions. In fact, the ESL students showed a slight advantage on certain aspects of the story writing that measured factors such as the generation of grammatically correct sentences. The reasons for a potential bilingual advantage in terms of writing ability are not clear, but may be related to extraneous factors that were not included in this study such as parental education, home literacy environment, and socio-economic status. Regardless, the ESL learners were able to master lower and higher level writing skills as well as to express themselves in writing both in and out of context as competently as their EL1 peers (see story samples in Figure 2.1a and b).

(a) Once long ago in the time of cave men a herd of wild elephants charged through a village called Imfi Imfi DO DO HAE. They came from a jungle close by. No one knew why they came it was said they were mad.

The elephants caught the men by surprise then just started to stomp and hurt other living things. It was dangerous out there so the women and children stayed inside.

(b) Once upon a time when cave men and women lived there existed a far-off jungles where wild animals are greater than the tigers or leeps lived. These animals were enormous, ferocious, and very hungry. So one man named Jafob set off to the woods in search of fire wood. Everyone said the woods were so dangerous that one step in there, you'll be killed but that man did not believe a thing they said. So while he was in the woods his buds were wondering, he also thought he heard footsteps, he looked back................. Atttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttttt
Other researchers have found similar results when investigating the early development of reading skills of bilingual children without reading disabilities. For example, in another Canadian study, Lesaux and Siegel (2003) found that ESL learners who had attended school in English since kindergarten attained similar scores on a variety of reading measures to their EL1 peers. Findings such as these strengthen the notion that, with appropriate instruction, ESL learners are able to develop strong reading and writing skills in English after a few years of schooling in an English speaking environment and exposure to balanced literacy programmes.

In this study the profiles of ESL and EL1 students were similar not only on writing tasks, but also on other cognitive, linguistic and literacy components that underlie writing ability. In particular, there were no L1–L2 group differences in the phonological awareness, speed of rapid automated naming or word-recognition skills of normally developing ESL and EL1 learners. As expected, L1 and L2 students scored similarly on a test of non-verbal intelligence.

The writing skills and the general profile of RD learners

This study confirms that RD children who have deficits in the areas of phonological awareness and word recognition have a significant amount of difficulty with writing as well. Although it has long been assumed that both reading and writing draw on similar cognitive and linguistic skills and hence impairments in certain key functions affect both processes, there has been little empirical data recorded on the matter.

In the current study RD children, regardless of their language status, had difficulty with most aspects of writing. To begin with, they struggled with spelling and written syntax in and out of context. In other words, they had difficulty with spelling and the monitoring of syntax when the task required them to generate a story-text, as well as when spelling and syntax were targeted in isolation and were not embedded in a more complex task. When writing a story, children with RD struggled with the mechanics of writing, including punctuation, capitalisation, spelling, with higher level aspects of writing such as sentence structure constraints and the generation and coordination of vocabulary, as well as with aspects of the overall structure of their compositions including the ability to compose stories with interesting plots and story lines.

Interestingly, differences between the RD and non-RD groups were due to the quality, rather than the quantity, of their story writing. In other words, although children with RD wrote as many words on average as children without RD, they made more than twice as many spelling errors, spelled far fewer multi-syllabic words correctly, and the vast majority of their sentences were either fragments, run-ons, or other badly constructed sentences. As can be seen in the excerpts of stories written by students with RD (see story samples in Figure 2.2a and b), poor spelling and
Figure 2.2  (a) Excerpt from a story written by an EL1-RD student;  
(b) excerpt from a story written by an ESL-RD student

sentence-structure was a significant and pervasive problem and contributed to the stories being difficult to comprehend. The finding that RD students spelled almost three times fewer multi-syllabic words correctly may be attributed to two complementary factors. First, this may be due to their profound spelling difficulties and the trouble they have in segmenting words into syllables and phonemes while monitoring for corresponding orthographic patterns. At the same time, this difficulty may also reflect poorer vocabulary knowledge, as it is possible that due to their reading difficulties they are less exposed to longer and more sophisticated words. These two explanations are not mutually exclusive in that the RD children may be unwilling to attempt to use multi-syllabic words in their writing because they are unsure of the spelling or meaning of those words. RD students also had difficulty producing well-written simple, compound and complex sentences, the quality of their prose was poor, and their stories lacked coherent plots and smooth sequencing of events. In summary,
RD children performed significantly below their non-RD peers on measures of lower and higher level writing skills both in and out of context.

There were no differences in non-verbal intelligence between RD and non-RD students, indicating that it is underlying cognitive-linguistic and literacy skills rather than non-verbal cognitive ability that distinguish RD students from their normally developing peers. RD students had impoverished receptive vocabularies and slower rapid automatised naming ability. The repercussions of having a smaller vocabulary was seen in their written productions as both EL1-RD and ESL-RD children wrote fewer long words and used more immature, vague words in their stories (see story samples in Figure 2.2a and b). By the time students have reached Grade 5, the majority of new vocabulary is acquired through reading. However, for RD students who read less than their normally developing peers, the rate at which their vocabulary grows is significantly slower, a phenomenon related to the Matthew effect by which the poor readers become poorer over time (Stanovich, 1986). Thus, the implications of having a small vocabulary include difficulties with both recognising words when reading text, as well as with producing words when attempting to write detailed, interesting, age-appropriate texts.

When analysing the task demands of producing text in writing, the reasons as to why writing is such an exceedingly complex task and furthermore why it is particularly demanding for RD children become clear (for a useful volume of writing research see MacArthur et al., 2006). When writing, students must tap into their ability to process phonological and orthographic information quickly and accurately in order to spell words, access syntactic knowledge in order to sequence the words into grammatically correct sentences, attend to punctuation and capitalisation conventions, bear in mind the conventions of paragraph-structures in order to put sentences into a logical sequence, and organise paragraphs in such a way as to create a comprehensible plot in the larger body of text. Coordinating these various tasks simultaneously is very taxing on students’ cognitive capacity, working- and short-term memory and executive functioning skills (Levine & Reed, 1999). Writing requires the ability to sustain attention, retain and manipulate a large amount of information, plan ahead and organise information. Students must coordinate subskills of writing such as spelling, punctuation and capitalisation while retaining the content and message that they wish to convey. Additionally, there are visual-motor integration demands involved in the physical aspects of handwriting that add further complexity to the process of writing. When considering the cognitive demands and the degree of coordination of systems that is required in order to produce text in conjunction with the knowledge that many of the sub-skills required for writing are not automatic for RD students and the fact that they process textual information more slowly, it becomes apparent why RD students have such severe difficulty in writing.
ESL-RD students cognitive, linguistic and academic profiles

The present research found that RD children who were L2 speakers of English were not at increased risk for writing failure when compared to their L1 peers with reading disabilities. There were no differences on any aspects of lower or higher level writing skills in or out of context between ESL-RD and EL1-RD students. In fact, there were no significant differences between ESL-RD and EL1-RD Grade 5 students in terms of other measures of their cognitive, linguistic or academic profiles. This pattern of results is comparable to those of other recent studies which found that poor decoders had very similar word-level reading skills whether English was their first or second language (da Fontoura & Siegel, 1995; Geva & Yaghoub-Zadeh, 2006; Geva et al., 2000; Lesaux & Siegel, 2003; Lipka et al., 2005; Wade-Woolley & Siegel, 1997).

Interestingly, there were no differences in receptive vocabulary, an aspect of oral language proficiency, between ESL-RD and EL1-RD students either. The finding that EL1-RD students had equally impoverished vocabularies as ESL-RD students is unexpected and striking given the fact that normally developing ESL students had significantly poorer vocabularies than their EL1 peers. The difference between L1 children with and without RD may be related to the previously discussed Matthew effect (Stanovich, 1986). The result is a cause for concern, however, future research with larger samples of EL1-RD students is necessary in order to confirm the trend of results and to elucidate the mechanisms underlying vocabulary growth in RD children. In sum, similar processing deficiencies in the areas of phonological processing and poor vocabulary typify the profiles of L1 and L2 students with RD in the present study, manifesting themselves in similar academic difficulties in the area of writing.

Conclusion and Implications

The present study supports the validity of using below average word identification and phonological awareness as a means of identifying both ESL and EL1 students who are at-risk for reading and writing disabilities. The method of selecting those students who were significantly below average in both of these areas yielded a percentage of the population that is predicted by both researchers and clinicians (approximately 10%; International Dyslexia Association, 2000). Furthermore, the proportions of first language groups in the RD sample were representative of those in the overall sample, indicating that this method of identification neither over-identifies nor under-identifies ESL students. This is a key finding, as the debate over whether too many or too few ESL students are identified as being learning disabled and receive appropriate special education support is one with a long and heated history (Limbos & Geva, 2001).
Diagnosing RD in L2 learners is complex and problematic (Geva & Wade-Woolley, 2004). There is currently no standardised battery of RD screening measures that is appropriate for L2 learners who come from diverse linguistic and educational backgrounds. Indeed, it may not be possible to develop such batteries. For this reason it is important to clarify the conditions under which L1–L2 differences are less likely to be a sufficient explanation for academic failure. Clearly, developing objective and timely ways to ascertain risk in L2 students is an important step in ensuring early and appropriate identification. The current results should give educators and professionals conducting psychoeducational assessments or informal screening more confidence in their ability to identify ESL students who also have learning disabilities because it suggests that similar methods and constructs should be used for both ESL and EL1 students. It appears that measuring the underlying cognitive-linguistic processes of phonological awareness and rapid automated naming along with the academic indicators of poor word identification and spelling are equally good indicators of risk for reading and writing failure for ESL students as they are for EL1 students. Poor vocabulary may be an additional sign of risk for RD and writing difficulties for both L1 and L2 students at this age and would become evident in an assessment of children’s oral language proficiency.

When examining writing more specifically, it seems that in the process of identifying a student with RD the ‘red flags’ in their writing include poor spelling, poor sentence structure, and an overall sense of disorganisation. The evidence of a poor vocabulary manifests itself in writing lacking words that add detail, spark interest and convey maturity. Of note is the finding that length of story writing was not an indicator of RD status in the current sample because RD students wrote the same amount of words as other students on average. Bearing in mind these ‘red-flags’, it follows that in terms of intervention, regardless of their language status as ESL or EL1, students identified as RD need intensive support to develop the basic building blocks of writing (e.g. spelling) and editing skills to check for grammatical and mechanical mistakes, as well as a template or strategy to provide structure to their writing (e.g. explicit instruction on how to construct coherent paragraphs) thereby targeting the development of both their lower and higher level writing skills (Berninger & Amtmann, 2003; Danoff et al., 1993; James et al., 2001). RD students also need specialised intervention targeting their underlying linguistic difficulties, that is, exercises to develop their phonological processing skills by improving their phonological awareness and the automaticity of letter-sound connections, as well as instruction to enlarge their lexicon thus giving them easier access to a greater range of vocabulary and enabling them to enrich their writing using more complex and sophisticated words.
The current study provides a snapshot of written expression abilities in elementary school aged children because all participants came from a single grade. Differences between ESL and EL1 students in terms of their writing ability may have existed in earlier grades but have dissipated by Grade 5. Investigating the development of ESL and RD students over time is necessary in order to learn more about early warning signs for risk of writing difficulties as well as the typical prognosis. It should be possible to identify RD students and provide appropriate and timely intervention for spelling, punctuation, capitalization and grammar before children reach Grade 5. Other researchers should attempt to replicate the current means of identifying RD students, using different tasks that measure the same variables with different samples of children.

With appropriate and early instruction in English, ESL students are able to attain well-developed writing skills by the time they reach the later grades in elementary school. However, students with RD struggle with most aspects of writing and therefore require sensitive identification and intervention before they progress on to middle school. Both ESL and EL1 students with RD have similar profiles and as a result they can be assessed in similar ways, with particular emphasis on their phonological processing and word identification skills. By implication, intervention methods that are successful with EL1-RD students should also be implemented with ESL-RD students.

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References


