CHAPTER 2

Inflectional morphology, Specific Language Impairment and Second Language Acquisition

2.0 Introduction

In this chapter, we discuss the theoretical motivations for examining inflectional morphology within the paradigm of SLI with a view to identifying dyslexia in a second language context. The following section attempts to show how the change of term “dyslexia” to “SLI” reflects a change in our understanding of this family of reading disorders.

2.1 Dyslexia and SLI: same or different?

Dyslexia was recognized in the 1930’s as an “extreme difficulty in acquiring the fundamental skills of written language in otherwise ordinarily functioning people” (Malmkjaer & Anderson, 1991: 116). Over the next 50 years, various researchers (chief among them Samuel Orton) attempted to explain the etiology of dyslexia. Orton’s work, which continues to influence remedial intervention for reading disorders in India, conceptualized dyslexia primarily as a dysfunction in visual perception. The popular reflex of this view is the belief that dyslexic children literally perceive letters and words backwards (e.g., ‘b’ for ‘d’, or ‘saw’ for ‘was’).
In his review of the field, Vellutino pointed out that "... even the most severely impaired readers do not suffer the visual anomalies attributed to them by perceptual deficit theorists" (Vellutino, 1979: xii). He considered three other plausible alternatives to the visual perception deficit theory:

(i) difficulty in integrating information from various sensory systems
(ii) dysfunction in processing serial information
(iii) deficiency or malfunction in language, especially an impairment in associating visual and verbal information.

Vellutino indicated his preference towards the latter two hypotheses, holding that difficulty in the decoding of printed words goes with difficulty in word retrieval and expressive language in general. This has heralded a shift of emphasis perceivable over the past 30 years as a movement away from a visual-perceptual explanation of dyslexia to the "growing recognition that most children with dyslexia have major difficulties in phonological processing" (Bishop and Snowling, 2004: 858).

Concurrently, a language disorder was being noticed that, unlike dyslexia, was not concerned primarily with the decoding of written language, but with a broad delay in oral language acquisition for no apparent reason. As this disorder, named Specific Language Impairment (SLI), began to be investigated, particular limitations in language ability with respect to lexical ability, phonology, argument structure, pragmatics, and morphosyntax began to be studied in close conformity with linguistic theorization pertaining to these modules of language (see Leonard, 1998 for an overview).

Dyslexia and SLI, originally studied as distinct disorders by distinct professional groups, were soon seen to manifest commonalities, such as problems with phonological processing. Currently, Specific Reading Disability (or SRD, as
dyslexia is now known), and SLI are seen as two facets of a common developmental
disorder. It has been suggested that SLI and SRD are points on a continuum rather
than distinct disorders. "As the 21st century begins, this conceptualization of the two
disorders has become so prevalent that it is common for authors of research reports to
use new terms such as language learning impairment to encompass children with
reading and/or oral language impairments" (Bishop & Snowling: 858). ¹

Behaviourally, there are similarities between dyslexia and SLI in both
directions: children with dyslexia have problems with oral language acquisition and
children with SLI have problems with literacy skills. Vellutino (1979) concluded that
reading disability was characterized by weakness in phonological, semantic, and
syntactic processing and in verbal memory. More recently, children with SRD have
been found to be below the mean on a battery of oral language tasks that is widely
used to diagnose SLI (Bishop and Snowling, op cit: 862). Such findings are also
confirmed by Stark and Tallal who conclude: "the vast majority of children with
reading impairment may also have some degree of oral language deficit" (Stark &

One question that might arise is whether their reading handicap contributes to
the poor oral language performance of dyslexics. Although there is some evidence
that "poor reading can depress oral language skills," it is arguably the case that the
behavioural similarities of dyslexia and SLI cannot be thus explained away.
Retrospective studies of children with dyslexia reveal an oral language delay in the
acquisition of language milestones in such children in comparison to normal
populations. These studies have the drawback of relying on parental memory.
Prospective studies of children with a family history of dyslexia have helped to
overcome this drawback. Recruiting children of parents with dyslexia has provided
strong evidence for continuities between oral and written language difficulties in that these studies reliably find that language development of children from at-risk families is slow in pre-school years. Conversely, high rates of literacy problems are found in children with SLI. Thus only 7 out of 82 children with SLI were free of reading problems in a study reported by Haynes & Naidoo (1991), showing that literacy development is as much of a problem in children with SLI as it is in dyslexia.

Not all aspects of oral language difficulties are implicated in literacy. For example, articulatory problems (overt problems with speech-language production) do not pose a problem for the development of letter-sound decoding skills. It may however be difficult to disentangle the effects of “poor speech” from “poor language,” as children with speech and language impairment tend to have more severe speech difficulties than those with speech impairments only. In a study by Nathan et al (2004), the group with speech-only difficulties performed as well as IQ-matched controls in measures of phonological awareness, reading, and spelling ability, whereas the children with speech and language difficulties were impaired in phoneme awareness and showed a trend for their reading and spelling skills to be poorer. Bishop & Snowling conclude that language skills are stronger predictors of reading outcome than speech skills. Importantly, SLI is associated with problems in understanding written language as well as with decoding print. Bishop & Snowling conclude their overview of the behavioural parallels between dyslexia and SLI with the observation that the evidence has led researchers “to suggest that the difference between SLI and dyslexia is quantitative rather than qualitative. On this view, the specific diagnosis the child receives is a function of the age of the child, the severity of the impairment, and the professional discipline of the person making the diagnosis” (Bishop & Snowling, 2004: 865). However, given the heterogeneity of both these
disorders, Bishop & Snowling argue for a more complex multi-dimensional model that accommodates both, citing also neurobiological evidence that suggests that the study of pure reading difficulties and broader language impairments be kept separate.

2.1.1 The cognitive marker approach

Our brief discussion of dyslexia and SLI should suffice to point to the need for a more focused investigation into the specifics of reading problems than through broad behavioural measurements of reading. Research into reading problems under the rubric of dyslexia has had a history of concentrating on reading as a decoding skill, i.e., the conversion of print or written symbols into sounds. However, the current conceptualization of the reading process is much more complex. Reading is an active process mediated by a child’s internal grammar. It involves decoding, but is also driven by a search for meaning (Goodman, 1976; Smith, 1971). Stanovich (1980) argues for an integration of the “bottom-up” or decoding approach to reading with the “top-down” or meaning-seeking accounts, in an “interactive-compensatory” model where a process at any level can compensate for deficiencies at any other level (Stanovich, 1980: 36).

In the classroom, a child’s difficulties with reading become more significant not merely in decoding contexts (such as reading aloud), but in the child’s reluctance or failure to read for meaning or comprehension. It is in view of such considerations that we have adopted an SLI perspective on reading problems. An approach to diagnosis referred to as the “Cognitive Marker” approach tries to identify the deficits underlying behaviour in linguistic terms; such as phonological deficit or problems in using inflectional endings.
2.1.1.1 Phonological deficit as a cognitive marker of dyslexia or SLI

Phonological deficit since it represents a commonality between dyslexia and SLI in their populations as well as investigative traditions has been a favoured area of investigation. The idea is that imprecise phonological representations cause difficulty in the mapping between phonology and orthography. According to the phonological deficit hypothesis “dyslexic individuals have highly specific deficit in the phonological language domain which leads to problems in short term memory, sound segmentation and categorization and sound blending and consequently to problems in reading and spelling” (Rack, Snowling, and Olson, 1992: 31).

A popular paradigm for investigating phonological deficit has been the non-word reading paradigm. The reading of non-words such as *trapedent* cannot be aided by knowledge of meaning and so must depend on letter to sound decoding. Dyslexics have been found to be poor at non-word reading (Rack et al 1992). However, the reading of non-words has been criticized as an unreal task which could pose problems even for normal readers. This is a task that is not part of the normal reading process, which is a meaning-directed activity. The justification for the task is that auditorily familiar but visually unencountered regular words are in fact like non-words and phonologically decoded in normal reading. However, the actual reading process is not independent of a “mental lexicon”. Knowledge of a language includes a lexicon which stores syntactic, semantic and phonological properties of words, and builds up interconnections between them. When readers come across novel but real words, these words have a full range of properties, and find a place in the mental lexicon. Thus, besides phonology, other factors like syntax, semantics, and context could influence the pronunciation of novel non-words.
While Rack et al (1992) present a convincing case for a non-word reading deficit, some aspects of the theoretical foundation of a phonological deficit hypothesis remain unclear. To say that dyslexics are deficient in “phonological language skills” would suggest that they are not aware of the possible sound patterns in a language. But there is no evidence to show that dyslexics exhibit abnormal speech patterns or that their knowledge of phonological patterning in their language is deficient in any way (see Raman, 1999, for a fuller account of this criticism).

The phonological account concentrates on the reading of isolated words and it can explain poor reading comprehension to the extent that comprehension involves word decoding. This account is a good indicator of reading achievement at the level of context-free words and non-word reading. However, as Bishop & Snowling, acknowledge models of reading that focus on the decoding of single words are an oversimplification, as they focus primarily on the mechanics of reading, and give less attention to the process of extracting meaning from print (i.e., reading comprehension). When reading achievement is measured in terms of comprehension syntax and semantics are better predictors of reading ability (Catts, 1993).

Oral language problems in children with SLI are at least as strongly linked to poor reading comprehension as to decoding skills. Although children with SLI have many of the same phonological processing problems as are seen in dyslexia, they have additional deficits in the domains of syntax, semantics, and discourse, whose impact on literacy development is often underestimated because of a tendency to focus on reading of single words rather than connected text. Children with SLI have oral language deficits that affect processing at the level of the sentence or paragraph. SLI research has documented that syntactic deficits are a hallmark of SLI. There is considerable evidence that shows that English-speaking children with SLI have
disproportionate difficulties with grammatical morphology. These difficulties are seen in spontaneous speech (Oetting and Rice, 1993) and elicited speech samples (Rice, 2000; van der Lely & Ullman, 2001) as well as in grammaticality judgment tasks (van der Lely & Ullman, 1996). This suggests that syntactic as well as semantic deficits are implicated in poor reading in SLI. Rice (2000) proposes that children with SLI have distinctive problems in using verb inflectional endings.

In a second language situation, the relevance of the phonological marker approach becomes particularly problematic, as the assumption that the sound patterns of the language are already known, and that only letter-sound correspondences need to develop, is unjustified. Children in schools are exposed simultaneously to printed textbooks and oral inputs from the teacher, as early as in kindergarten.

In the next section, we discuss the problems that inflectional morphology poses to various language learner populations.

2.2 Inflectional morphology in L1, L2 and SLI

Researchers have hypothesized that inflectional morphology in English is difficult for language learners of various populations including typically-developing first language (L1) learners, second language learners (L2), and first language children with Specific Language Impairment (SLI) (Brown, 1973; Dulay and Burt, 1974; Leonard, 1998). It is a well-documented fact in language acquisition, whether first- or second, that inflectional morphemes are acquired late (Brown, 1973; Dulay and Burt, 1974 1975; Dulay and Burt and Krashen, 1982; Krashen, 1981) and that within this category, some morphemes are acquired later than others.

Brown's (1973) study revealed that children acquiring English as a first language show a natural order of acquisition of morphemes with -ing and plural -s
acquired early and possessive -s and third person singular -s acquired late. Irregular past tense is acquired much before regular past tense. (English being a morphologically poor language, the most widely researched areas are verb past tense morphology and noun plural morphology.)

Second language acquisition research has similarly shown that a natural morpheme-acquisition order exists among diverse groups of children learning English as a second language. However, the L2 order of acquisition is different from the L1 order. Dulay and Burt (1974) show that (of the 11 inflections studied), case markers were the earliest acquired while 3rd person singular -s was the last. Plural -s was acquired at the midway stage and regular and irregular past tense were acquired later, with irregular past being more difficult than the regular past. This presents a contrast to the L1 acquisition order where irregulars are learnt first. The finding that irregular past is more difficult or later acquired than regular past in L2 is supported by our data as well.

Research on English speaking children with SLI has shown that the development of verbal grammatical morphology tends to be more affected than nominal grammatical morphology (Bedore and Leonard, 1998; Oetting and Rice, 1993, Rice, Wexler and Cleave, 1995). Rice et al (1995) and Rice and Wexler (1996) have shown that children with SLI

(i) have more difficulties with tense morphemes (third person singular, regular and irregular past tense) than non-tense morphemes (progressive, prepositions and plurals)

(ii) make significantly more omission errors than commission errors for both tense and non-tense morphemes
(iii) experience similar difficulties across task types, i.e., spontaneous and elicited tasks.

The SLI group had greater difficulties with tense morphemes than normally developing peers and MLU-matched typically-developing younger children. This has led these researchers to suggest that tense morphology could serve as a clinical marker of SLI in English.

The difficulties that inflectional morphology poses for L1 English-speaking populations with SLI are well documented in the research on SLI. Difficulties with inflectional morphology in L2 learners of English have not perhaps been studied in similar depth. Nevertheless, research has shown that L2 learners of English have difficulties that are similar to those of children with SLI. Prévost and White (2000) examine the variable use of inflection in adult second language acquisition within the framework of the Missing Surface Inflection Hypothesis (MSIH). They propose that “L2 learners have unconscious knowledge of the functional projections and features underlying tense and agreement. However, learners sometimes have a problem with realization of surface morphology such that they resort to non-finite forms” (op cit: 103). Ionin and Wexler (2002) examine the omission of verbal inflection in child L2 acquisition of English and argue for the presence of functional categories in L2 grammar. They argue that omission of inflection is due to problems with the realization of surface morphology, rather than to feature impairment, in accordance with the MSIH.

Longitudinal case studies (see Paradis 2005 for references) have shown that after accommodating for individual differences in acquiring mastery of tense morphemes and order of acquisition, tense morphemes are more difficult than non-tense morphemes especially 3rd person singular and past tense.
2.2.1 Regular and irregular morphology: one mechanism or two?

The literature on SLI (Bishop, 1994; Eyer and Leonard, 1995; Leonard, 1989, 1998; Oetting and Rice, 1993; Oetting and Horohov, 1997; Ullman and Gopnik, 1999; van der Lely and Ullman, 2001) has consistently revealed that the language-learning difficulties of children with SLI in English are most severe in the sphere of inflectional morphology, that is, bound morphemes such as the past tense and the plural morphemes. The representation and acquisition of these inflections, especially the past tense inflection has been the focus of debate in cognitive science. The debate focuses on whether a single mechanism or a dual mechanism accounts for the representation and acquisition of inflectional morphology.

Past tense, in English shows a “regular-irregular” distinction (the regular being V-ed forms, which fail to occur in the “exceptional” or “strong” paradigms of irregular verbs such as blow-blew). According to the single mechanism view (Rumelhart and McClelland, 1986), “lexical items and grammatical rules are represented and processed by a single system” (Ullman, 1999). Rule-like generalizations are thought to emerge as a result of learning associations between verb stems and past tense forms, i.e., a connectionist pattern-associator memory produces both regular and irregular forms as generalizations from previously learnt similar verbs. This approach attempts to capture the patterns seen among irregulars (ring-rang, drink-drunk) as well as the predictability of regulars.

The dual-mechanism view (Pinker, 1984, 1991) states that different mechanisms underlie regular and irregular inflectional morphology (Marcus, Pinker, Ullman, Hollander, Rosen, and Xu 1992). This approach attempts to capture the predictability of regulars and the fact that they are an open class, as against the unpredictability of irregulars (compare sing-sang, fling-flung, bring-brought) and the
fact that they form a closed class. (That is, new words – and non-words – tend to have regular rather than irregular past tense forms). According to the ‘dual system’ framework, irregular forms are stored in and retrieved from an associative lexical memory (similar to that proposed by the single-mechanism view) while regular forms are computed by a grammatical rule, which underlies the -ed suffixation to the verb stem.

Thus irregular verbs are subject to frequency and cohort size effects. As a result, more frequently used irregulars like went are likely to be recalled more successfully than less frequently used ones like slunk. Similarly, verbs that share memory traces with many other similar-sounding neighbouring forms, e.g., ring-rang, spring-sprang, are likely to be recalled more quickly. The dual-mechanism view holds that the retrieval of an irregular form blocks the rule. When an irregular is not successfully retrieved, the rule may be applied resulting in an overregularization (bring-bringed) (Marcus et al, 1992).

Consistent with the single and dual mechanism hypotheses are alternative theories of SLI: (i) the input-processing account and its variants (Bishop, 1997; Leonard, 1998; Rumelhart & McClelland, 1986; Tallal et al, 1996) and (ii) the grammar-specific account (Clahsen, 1989; Gopnik & Crago, 1991; Rice & Wexler, 1996; Ullman & Gopnik, 1999) respectively. van der Lely and Ullman (2001: 182 ff.) briefly summarize these two competing accounts. The input-processing account hypothesizes that impaired input processes and limited processing capacity cause SLI. On this view, children with SLI have an auditory perceptual deficit which causes problems in perceiving morphemes such as -ed, and -s, which have ‘low perceptual salience.’ Therefore, additional resources have to be allocated to perceive such morphemes, which causes further difficulties in learning morphological paradigms. In
addition, “these children’s general processing capacity limitations affect phonological memory, the production of consonant clusters, the speed of processing and retrieving words such that consonants and final morphemes may be lost in the production process, and cause delay in lexical development which is seen as central to problems with inflectional morphology” (loc cit).

The input-processing deficit account and its variants are consistent with the view that a single mechanism underlies regular and irregular past tense inflection. The grammar-specific deficit account on the other hand, holds that “impairments of mechanisms and/or representations specific to the grammatical system cause SLI” (van der Lely and Ullman, 2001: 183). This hypothesis assumes that aspects of language that rely on grammatical processes may be impaired while aspects that rely on other processes such as associative learning and memory may be spared. According to the grammar-specific deficit account, cognitive mechanisms are specialized for different functions, and so can be differentially impaired (loc cit).

Noun plural morphology in English has also been examined within the framework of the single mechanism and the dual mechanism hypotheses. As in the case of verb morphology, noun morphology also shows a “regular-irregular” distinction. Children “first construct a small number of word-specific paradigms for a given feature such as number (e.g., ball-balls, eye-eyes). After a small set of word-specific paradigms is generated, a general morphological paradigm develops” (Oetting and Rice, 1993: 1237). Once this paradigm has developed it would lead to the use of the regular suffix in obligatory contexts and overregularizations (foot-foots) whenever an irregular is not successfully retrieved. A key feature of the dual mechanism hypothesis is that the development of the rule would enable a child to inflect forms that it has not heard before, i.e., the use of inflections would not depend
on input frequency. In contrast, irregular plurals like irregular verbs are learnt through an associative memory network (following Rumelhart and McClelland, 1986) and therefore are heavily dependant on input frequency. Research involving the acquisition of noun plurals by children supports the dual mechanism hypothesis (see Oetting and Rice, 1993 for fuller discussion and references).

In our work, tasks on regular and irregular morphology serve as a probe for the dual-mechanism model of inflectional development for English past tense and plural morphology. We find strong support for this hypothesis in our data. The question whether there is a parallel or comparable distinction between regular and irregular morphology in Malayalam is considered in Chapter 3 sec. 3.3.2, and the relevant data are discussed in Chapter 4 sec. 4.1.2.1 on past tense production in Malayalam.

2.2.2 Predictions of the dual mechanism hypothesis

According to the dual system account, "normally developing children should be better at producing regular past tense forms, which are rule-produced, than irregulars, which are retrieved from memory" (van der Lely and Ullman, 2001: 185). This is because for normally developing children, regular forms are rule governed products and so are not subject to factors like frequency effects. The learning of regular inflectional rules (we have said) is paradigmatic. Children abstract a rule from a general morphological paradigm that develops out of word-specific paradigms for specific features such as past tense or plurality. Once a rule has developed, the use of inflections becomes independent of input frequency. Thus a child should not have to hear the inflected form of a word before producing it.
Irregulars on the other hand, are learnt as lexical items and are stored in the memory as linked lexical pairs. This means that they are learnt individually after repeated exposure. They are therefore subject to factors such as frequency effects. Thus we would not expect a child to produce an irregular form that it has not heard before in the input.

Children with SLI are hypothesized to have problems with rule-governed suffixation. As a result, they may memorize both regular and irregular forms. Therefore for such children we would expect performance on regulars and irregulars to be comparable. They may “in the absence of intact suffixation rules, ... be forced to memorize regular as well as irregular past tense forms. If regular and irregular forms are stored, similar production rates may be found for the two past tense types” (Ullman and Gopnik, 1999: 56).

Another prediction of the dual-mechanism account pertains to novel forms. Normal children are predicted to regularize irregular novel forms with more regularizations than irregularizations, i.e., given the novel form *crive*, they are more likely to produce a regularized past marked form like *crived*, rather than an irregularized form like *crove*. Since novel forms by definition cannot be encountered in the input, there can be no representations for these forms in the mental lexicon. The only remaining option is for a default rule to apply and this results in the production of a regularized form. As van der Lely and Ullman say “... the regular rule applied as the default whenever memory access fails, can account for a greater number of regularizations than irregularizations produced for novel verbs” (van der Lely and Ullman, 2001: 203). In the case of children with SLI, access to a default rule is denied and therefore they show a lack of overregularization (Ullman and Gopnik,
1999). However, some productivity can be expected through associative mechanisms and this results in irregularized forms (van der Lely and Ullman, 2001).

The dual-mechanism account predicts that for children with SLI, “the two past tense types should be similarly produced and similarly judged” (van der Lely and Ullman, 1996: 805). For normal children who do not store regular forms, this need not be so (cf. van der Lely and Ullman, 1996).

Note that the elicitation tasks administered to these populations include not only production but judgment tasks as well. In general, judgment tasks require the recognition of forms that are stored in the memory while production involves an additional step of retrieval. Judgment tasks are better indices of internal competence than production tasks.

So far, we have focused on the morphological representation and processing of inflections, whether regular or irregular in normal and non-normal populations. However, children with SLI also have other problems with inflectional morphology, such as the outright omission of such morphology or the acceptance of inflection-less forms. SLI children may produce and accept unmarked regular and irregular verb forms in past tense contexts. As van der Lely and Ullman (1996) note, this suggests that their impairment may extend beyond morphological computation to the syntactic representation of tense. In the following section, we will encounter the suggestion that impaired syntactic representation of tense may serve as an effective criterion to distinguish between typically developing slow second language learners and children with SLI.

Having discussed the dual-mechanism account and the predictions that it makes with regard to regular and irregular inflections in normal and SLI populations,
we turn to a discussion of the similarities between children with SLI and slow L2 learners in an ESL situation.

2.3 Similarities between SLA and SLI: Issues in assessment

In an English as a second language (ESL) situation such as ours, children come to school from various language backgrounds. While all of them are speakers of the languages of their homes, the amount of English that they possess varies: some come with no English at all, others come with some knowledge of English and still others are almost fluent speakers of English by the time they begin schooling. Assessing language and learning disabilities in such a multilingual setting is challenging. The lack of access to standardized assessment protocols in Indian languages often forces special educators and psychologists to use tests developed in English. Most often, assessment protocols and language tests are designed for monolingual English-speaking populations and resources for testing whether a bilingual child’s language development is proceeding normally are few. The question that confronts researchers, special educators and informed teachers is: how can one differentiate between a typically-developing but slow second language learner, in this case English (who will eventually catch up with his/her peers), and one who might have a language learning disability and would benefit from special education services?

Differentiating between the non-fluent, errorful language that is a part of normal second language acquisition and the non-fluent, errorful language typical of specific language impairment is difficult. Teachers unaware of language or learning disabilities attribute poor performance to lack of attention, interest and motivation on the part of the students. Research comparing monolingual children with SLI and their
L2 age-mates in Swedish (Håkansson and Nettelbladt, 1993) and French (Paradis & Crago, 2000) has shown that both groups show strikingly similar patterns of error. This overlap between the two populations makes it difficult to differentiate between slow L2 learners and children with SLI and leads to instances of “mistaken identity” and “missed identity” (Cummins, 1984, 2000; Genesee, Paradis, & Crago, 2004 cited in Paradis, 2005). Mistaken identity occurs when a slow L2 learner is identified as language or learning disabled. Missed identity occurs when an L2 learner has a language or learning impairment but goes unnoticed because his poor performance in the L2 and language-related activities is attributed to his lack of sufficient exposure to the language. In ESL contexts, where English is rapidly becoming the language of communication, it becomes necessary to exercise caution while assessing L2 children keeping in mind the risks of mistaken and missed identity.

Paradis & Crago (2000) compare English-speaking L2 learners of French and age-matched French-speaking children with SLI, to see whether (i) cross-learner similarities exist among the two groups in the use of tense morphology, temporal adverbials, agreement morphology, and distributional contingencies associated with finiteness, and (ii) tense-marking difficulties can serve as a clinical marker of SLI in a multilingual context. The study is conducted within the framework of Wexler’s (1994) optional infinitive (OI) account.²

The population in the study consists of 10 monolingual French-speaking children with SLI, 10 normally developing monolingual French-speaking children, and 15 English-speaking children learning French as a second language. The children are approximately 7 years of age.

The study reveals that an optional tense-marking stage is evident in both children with SLI and L2 learners. However, “comparisons between the SLI and L2
group yielded differences in various and overlapping levels of incomplete mastery” (Paradis & Crago, 2000: 844). The spontaneous production data from these children reveal that the SLI and the L2 group’s score on accurate use of present tense did not differ significantly from that of the control group. However, the scores of the SLI and L2 groups on the use of past and future tense were significantly lower than those of the control group. In addition, the L2 group’s score on past and future were significantly lower than those of the children with SLI.

An analysis of the errors produced by the two groups in past and future tense contexts shows (i) the use of a non-finite form, and (ii) the use of the present tense. Though both error types were made by both groups, the pattern of error varied. The children with SLI produced a greater percentage of non-finite verbs than present tense verbs for both contexts. In contrast, the L2 children showed the opposite pattern producing a greater percentage of present tense verbs than non-finite verbs.

Paradis and Crago consider their results in light of an earlier suggestion by Rice and Wexler (1996) that “variability with tense marking could be a signature characteristic of the clinical population at an age when use of tense-markers in the normally developing population has stabilized at ceiling” (Paradis & Crago, 2000: 844). They point out that in L2 acquisition, tense-marking difficulties can be found in normal development at later ages. However, they note that “if L2 children are being assessed in their first language, variable tense marking could be an effective diagnostic marker, depending on how the OI/EOI pattern is manifest in the first language” (loc cit). They also suggest that a more selective criterion than tense-marking difficulties could be developed. Thus, “the greater use of nonfinite forms as errors by the children with SLI could indicate that they have particular difficulty producing non-thematic verbs, such as auxiliaries…” (loc cit).
The next study we consider pertains particularly to English as a second language (ESL). Paradis (2005) examines (i) whether the English of L2 learners is similar to the English of monolingual children with SLI of approximately the same age and (ii) whether the similarities, if any, could lead to instances of "mistaken identity" in the context of assessment.

The test population in the Paradis (2005) study consisted of 24 minority language immigrant children between the ages of 4; 4 and 7; 10 years, who were learning English as a second language (ESL) in Edmonton, Canada. They had been exposed to the minority language at home and had had little exposure to English before schooling began. At the time of their recruitment for the study, they had been exposed to English consistently for one and a half years. Tasks designed to elicit spontaneous and elicited speech samples containing tense and non-tense grammatical morphemes (see Paradis, 2005 for full list) were administered to these children. The ESL children's use of grammatical morphology was examined to see whether there were similarities with the error patterns found for English-speaking children with SLI (cf. Rice et al, 1995; Rice and Wexler, 1996).

The results show that ESL children exhibit similar patterns of difficulties in the use of inflectional morphemes as English-speaking children with SLI. The ESL children had slightly more difficulties with tense rather than non-tense morphemes. They made significantly more errors of omission than commission for both tense and non-tense morphemes. The prediction that they would face similar difficulties across task types i.e., spontaneous and elicited speech received weak support. "The ESL children's scores were the same for both tasks for third person singular [-s], past [-ed] and BE, .... However, the children's scores for irregular past tense verbs and DO were lower on the TEGI than in spontaneous speech" (Paradis, 2005: 183). The
patterns that emerged from the group data were evident in the data of individual children as well most of the time.

The Paradis (2005) study serves to reinforce the observation that SLI and L2 groups make the same kinds of errors, this time with respect to the acquisition of English as a second language. It is important to determine whether a child’s errors are due to incomplete acquisition of English or due to impaired language learning, a problem compounded by the fact that individual learners vary in the amount of time they take to achieve mastery in the use of grammatical morphemes. We reiterate the need to be careful when considering the inflectional morphology errors of ESL learners as a sign of language impairment, particularly when using diagnostic oral language tests norm-referenced for monolingual English speakers. The performance of the ESL children on the TEGI in Paradis (2005) showed that the use of such tests would identify most, if not all the ESL children as language or learning disabled rather than typically-developing L2 populations. Paradis therefore stresses that it is vital to assess ESL children in their L1 using tools and tests that have been developed for that particular language, or through parental reports.
Notes to Chapter Two

1 Prevalence rates for dyslexia are reported to be 10% (Hornsby, 1984) while SLI affects approximately 7% of children (Leonard, 1998). Approximately 85% of the population with SLI have dyslexia and vice versa (Bishop & Snowling, 2004). Direct comparison between children with SLI and children with dyslexia has revealed similarities in performance on tasks such as rapid naming, repetition of single monosyllabic nonsense words, mental imagery, phonological awareness, speech perception, and syntactic proficiency (Leonard, 1998).

2 The OI account proposes that “the grammatical feature tense is not marked obligatorily in child language as it is in adult language” (Paradis & Crago, 2000: 835). Thus, children acquiring a language go through a stage where developmental omission errors in the use of inflections marking finiteness or tense are frequent.

As mentioned in sec. 2.2, research on first-language acquisition of children with SLI has shown that tense marking is an area of particular difficulty. L2 acquisition research examining root infinitives in L2 learners (both adult and child) (Paradis, Le Corre, and Genesee, 1998 cited in Paradis & Crago, 2000) has suggested that “the underspecification or optionality of grammatical tense may be a characteristic of early L2 acquisition” (loc cit: 836).

3 The TEGI (Test for Grammatical Impairment: Rice and Wexler, 2001) was used for the elicited speech task. This is a standardized test in English developed for identifying children with SLI. It focuses on testing expressive abilities with grammatical morphology.

4 Alternatively, the performance of ESL learners may have to be norm-referenced to that of their own peers (as in this thesis). This would lead to the identification of
students at risk for SLI as "outliers." Peer-norm-referencing may become unavoidable in multilingual contexts such as ours, for two reasons:

(i) the heterogeneity of mother tongues in a single class. For example, in our study, 13 students in a class of 30 had mother tongues other than Malayalam, and had to be excluded from our study;

(ii) the children's limited L1 capabilities. In our population, with English being the dominant school language, we were unable to administer a connected reading task in Malayalam to match with the task in English.