

Potential Language Impairment in a Vietnamese-English Bilingual Child: Insights from  
Narrative Analysis

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### **Abstract**

We performed a retrospective analysis of the narrative performance of a Vietnamese-English Language Learner who was struggling academically. We analyzed narrative samples in both English and Vietnamese for several variables that have been found to differentiate between children with language learning impairment (LLI) and their typically developing (TD) peers. Narratives were collected in both Vietnamese and English at two time points, separated by a one-year interval. We then compared these variables to those extracted from narrative samples collected from two TD peers matched to the struggling learner by age, gender, and language background. By comparing the performance in these variables, we explored the possibility that our struggling learner has LLI.

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Historically, the United States has seen waves of immigrants from different non-English speaking countries. According to a report released by the U.S. Census Bureau, 55.4 million people over the age of 5 speak a language other than English in their homes, which is an increase from 47 million in 2000 and 31 million in 1990 (Shin & Kominski, 2010).

This increase in bilingual populations in the U.S. affects many aspects of the mainstream culture, including education and by association, the caseloads of speech-language pathologists (SLPs). Even in states such as Minnesota, previously considered culturally homogenous, SLPs serve clients from many different cultural and linguistic backgrounds (Kohnert, Kennedy, Glaze, Kan & Carney, 2003). In the Minneapolis Public Schools, 70.2% of the student body (24,271 students) is of an ethnic minority: Latino, African American, Asian or Native American. In addition, and recently 23.2% of the student body (8,020 students) was identified as English Language Learners (ELL) (Minneapolis Public Schools, 2010).

Many of the students entering into the American public school system from culturally and linguistically diverse (CLD) homes are early sequential bilinguals. That is, many children learn a minority home language as their first language (L1) from birth when they primarily communicate with their families. In early childhood, usually upon entrance to school at age 4 or 5, they begin systematic experience with English as a second language (L2) (see Kohnert, 2007 for discussion).

Although most ELL students are typically developing (TD) learners, as are most monolingual students, some ELL students will present with language learning

differences, which will put them at risk for serious challenges with academic skills, including literacy (Gutiérrez-Clellen, Simon-Cerejido, & Wagner, 2008; Paradis, 2005; Uccelli & Páez, 2007). The challenge for the school based clinician who works with ELL is to distinguish between students with limited English proficiency due to reduced experience in the L2 from their ELL peers who present with a language learning impairment (LLI) due to some child-internal language weakness. Failure to separate adequate language skills given different experiences from an impaired language-learning system can lead to over-identification, under-identification, or missed identification of CLD students with or without LLI (e.g. Gutiérrez-Clellen et al., 2008; Kohnert, 2007; Paradis, 2005).

Paradis (2005) described the deferment of identification of LLI in CLD children due to their limited proficiency in English as “missed identity.” That is, when a struggling ELL child is referred to assessment, SLPs may implement a “wait and see approach” to allow for the child to gain more experience with English. This decision may lead to lifelong academic repercussions for CLD students. Though some children may outgrow their language learning delays in early childhood, those whose language learning difficulties persist without intervention into the early elementary school ages are at higher risk for significantly reduced academic outcomes (Fey, Catts, Williams, Tomblin, Zhang, 2004; Gutiérrez-Clellen et al., 2007; Paul & Smith, 1996; Uccelli & Páez, 2007).

### **Language Ability Differences: Impairment vs. Typical**

#### **Narrative language sampling.**

The hallmark characteristic deficit in children with LLI is a low language ability as compared the language skills of their TD peers. In this study, we used language samples as a basis for language comparison in three children learning Vietnamese (L1) and English (L2). Although the specific measures included in test batteries used by SLPs to identify LLI may vary somewhat, there are certain convenient tools used in the process that SLPs rely on. A nationwide survey by Kemp and Klee (1997) revealed that SLPs overwhelmingly agreed that language sampling is an integral element to any language assessment. Language sampling entails the recording of a child performing a linguistic task, in which they are communicating with another person in a somewhat naturalistic setting. Language sampling is useful in the diagnosis of LLI because it offers a glimpse into how the child's language ability may affect their functional communication, as well as their spontaneous use of certain linguistic features. This combination of language and communicative behaviors may not be as observable on standardized language tests (Hewitt, Hammer, Yont, & Tomblin, 2005).

There are many different ways to collect and transcribe language samples. Samples of children's language may be collected during structured and free play with adults or peers, semi-structured conversations, interviews, personal narratives and fictional and nonfictional story generation using various prompts. In this study we will focused on fictional narratives or storytelling. To elicit a fictional narrative, a child may be asked to narrate a story depicted in a wordless picture book, in a sequence of pictures, or in a silent movie. For the school-aged child, a narrative task is considered an ecologically valid and natural assessment because children are often asked to produce and

understand narratives as part of a typical educational curriculum (Cleave, Girolametto, Chen & Johnson, 2010; Paul & Smith, 1996; Scott & Windsor, 2000). Performance on structured narrative tasks has also been found to be an indicator of academic readiness in that it allows an examiner to assess a child's ability to understand and produce discourse and complex texts beyond that of a typical conversation. The skill in oral narrative generation provides a foundation for literacy-based key to success in later school years, such as paragraph and essay composition. (Gutiérrez-Clellen, 2002; Pearson, 2002). Also, relaying a narrative demands not only proficiency in integrating various morphology, syntax, and semantics, but also metalinguistic and pragmatic skills in order to convey a story that makes sense to the listener. In this way, narrative skills are a valuable method of collecting data at multiple language levels, separately and as they interact (Paul & Smith, 1996). As such, it is perhaps not surprising that narrative skills are sensitive to both developmental effects and LLI.

#### **Narrative differences.**

Children with LLI produce narratives that are significantly different in a number of ways from those of their TD peers. Monolingual children with LLI have been found to lag behind their peers in grammatical accuracy, grammatical complexity, syntactic complexity, lexical diversity, productivity, fluency, and story quality. These differences have been found to manifest in narrative samples (Fey et al., 2004; Paul & Smith; 1996; Scott & Windsor, 2000). Grammatical accuracy and grammatical complexity are often measured at the level of the Terminable unit (T-unit) or Communication unit (C-unit). These are established systems of segmenting connected speech samples, such as narrative

language samples, into meaningful units. T-units are defined as independent clauses and all of their modifying dependent clauses (Loban, 1976). For example, “Susie bonked the cat,” “Susie bonked the cat on the head,” and “Susie bonked the cat on the head with a zucchini” would all be counted as one T-unit or one C-unit each. C-units are similar in that they are also independent clauses with their modifying clauses, but they also include responses, which do not constitute a complete independent clause (e.g. one word responses, elliptical responses, etc.). For example, if the child produced the utterance, “Susie bonked the cat on the head. Yeah, with a zucchini,” those utterances would be counted as two C-units, but only one T-unit, as T-units must contain an independent clause.

Differences in narrative performance exist between preschool-age children with language delay and their TD peers. Paul and Smith (1996) investigated narrative skills in 4-year old children who were slow in expressive language development (SELD) at age 2 compared to those produced by age-matched TD peers. They found that the TD peers outperformed the LLI group in all areas of narrative skills including semantic content, lexical diversity, and morphosyntactic complexity. These group differences indicate that narrative ability may be a valuable tool in the identification of LLI of English-speaking preschool children. In the case of young children, narrative assessment is especially useful because it reveals areas of weakness that are important for the development of important academic skills such as literacy and writing. Early identification of LLI is critical because children with LLI who receive support services in the preschool and early school age years are more likely to achieve better academic outcomes (Pearson, 2002).

One of the hallmarks of LLI is the persistence of grammatical errors. Though all children make grammatical errors during the language acquisition process, children with LLI usually persist in making these errors past the age that is considered acceptable in TD learners. The analyses of language samples reveal that monolingual English-speaking children with LLI produce more grammatical errors than their TD peers (Fey et al., 2004; Scott & Windsor, 2000). For example, Scott and Windsor (2000) compared 60 school-aged children grouped into triplets including one child identified with LLI, one chronologically aged matched TD peer, and one TD peer with matching performance on a standardized vocabulary measure. After the participants watched a 19-minute video, they were asked to provide an oral narrative summarizing the depicted events of the video. Group differences were found on a number of measures. Children with LLI produced significantly more grammatical errors during their oral narratives than both their age and language-age matched peers. The LLI group also produced narratives that were less productive, meaning that they featured fewer words and utterances than their age matched peers. Group differences were also found in grammatical complexity. The LLI group produced narratives that featured fewer words per T-unit, indicating that the T-units that were produced did not feature diverse grammatical forms.

In addition to reduced productivity and grammaticality, children with LLI have been found to produce narratives that are less fluent than those of their TD peers. A marked number of disfluencies and slowed rate of speech can indicate a task that is linguistically and cognitively more overwhelming for that child; and may therefore, greater disfluencies and slowed rate of speech may indicate a disordered language system

(Leadholm & Miller, 1994). A high number of disfluencies can be a characteristic that differentiates children with language learning difficulties from their TD peers (Gutiérrez-Clellen, 1996 in McCabe & Bliss, 2003).

Fluency is also a confounding factor in the issue of mistaken and missed identity of CLD children because children with limited experience with a language may also be disfluent in that language. For our purposes, fluency is described as the presences of maze behaviors such as word repetitions, phrase repetitions, revisions, and interjections. These normal nonfluencies are produced to some extent by all speakers of any particular language, and are different from stuttering (Fiestas Bedore, Peña & Nagy, 2005; Leadholm & Miller, 1995). Children who are in the process of acquiring an L2 may demonstrate a slowed speaking rate and increased hesitations during narrative discourse similar to those demonstrated by monolingual children with LLI (McCabe & Bliss, 2003). This may be because of the discrepancy between a child's development of receptive language (i.e. vocabulary) and the development of their expressive language abilities (i.e. syntactic production). Children tend to be more disfluent when their language system is being pushed beyond its limits (Fiestas et al., 2005). In that case, it would be very important for ELL to consider the number of and types of disfluencies present in the narrative discourse of not only the L2, but also the child's L1 in order to determine if the observed difficulty in fluency is due to a language learning weakness or to decreased proficiency in that language (McCabe & Bliss, 2003). As with other types of language measures, age, language, and cultural peers provide a critical reference point

for determining the parameters of “typical” performance in the evaluation of narrative production skills (e.g. Kohnert, 2010) for ELL.

Many studies have examined the quality of fictional stories elicited from school-age children with and without LLI. Story quality is defined as the child’s ability to provide sufficient descriptive and evaluative information and to maintain a cohesive flow of information using appropriate story structure while recounting the events in an illustrated story (Pearson, 2002).

Paul and Smith (1996) found that children with LLI experienced increased difficulties with cohesion, indicating deficits in processing and metalinguistic skills, which are characteristically weak in children with LLI resulting in narratives of lesser quality.

Fey et al. (2004) conducted a large longitudinal study examining the oral composition skills of 538 second grade children with LLI, nonspecific LLI (children with LLI due to a concomitant disorder), low IQ, and no measurable language difficulties. The participants consisted of predominantly monolingual, English speaking children, though six participants of Hispanic origin were reported. The participants were asked to generate an orally relayed story based on a set of four pictures. The outcome measures of this study included number of different words (lexical diversity), mean length of C-unit (syntactic complexity), total number of C-units (productivity), clausal density (grammatical complexity), and grammatical accuracy, as well as a subjective story quality score based on ordinal ratings of descriptive quality of story elements (setting, characters, etc.), language sophistication, and plot complexity. Results showed that the children with LLI produced narratives, with fewer and less complex C-units, as well as

fewer words, fewer different words and more grammatical errors. This is consistent with other studies comparing narratives of TD and LLI children (Paul & Smith, 1996; Scott & Windsor, 2000). However, on the measure of story quality, the LLI group produced stories of poorer quality than the TD group. The TD group produced higher quality narratives than all other groups. Language impairment, and the underlying weakness with the processing and organization of language, may impact the manner with which children can effectively organize and relay information in a narrative format.

### **LLI and Bilingualism**

Differentiating between TD children and those with LLI from diverse backgrounds can be a challenge. When their skills are assessed only in English, ELL children make grammatical errors similar in type and frequency to those of monolingual English children with LLI. Paradis (2005) examined TD bilingual children's finite morphology in two conditions: during a 45-minute conversational language sample and with the Test of Early Grammatical Impairment (TEGI: Rice & Wexler; 2001). The study participants had a variety of home languages but all were learning English as their L2. The assessment was conducted only in English (L2). Paradis (2005) compared her results to morphological errors noted in the literature to be characteristic of monolingual children with LLI. She found that TD ELL produced some of the same grammatical errors in their L2 as English-only speaking children with LLI, including omission errors of tense, plurals, and prepositions in both conditions. In addition, a majority of the children were erroneously identified with LLI according to their scores on the TEGI.

This indicates that to an untrained examiner focused on grammatical performance, misdiagnosis of TD ELL children is a real possibility.

During assessment of CLD children, SLPs must determine whether a child's perceived difficulty in language is related to impaired ability, reduced proficiency in English, or normal variables associated with early sequential bilinguals (Kohnert, 2007). Reduced English proficiency may easily lead to mistaken identity. In this study, our ultimate goal was to compare the language abilities of children with CLD backgrounds. The American Speech and Hearing Association (ASHA) (2004) recommends narrative assessment as an alternative means of evaluating CLD populations for whom standardized testing is not valid. Narratives may be a less-biased task and/or more informative task for judging the language abilities of children from diverse language backgrounds compared to standardized tests, which measure discrete aspects of language in isolation. Of course, this also presumes a clear understanding of typical narrative skills in both the L1 and L2 of developing bilingual children.

Cleave et al. (2010) compared 26 preschool children: 12 dual-language learners (bilinguals) and 14 monolinguals. The bilingual group featured children learning a variety of home languages, but testing was conducted only in English. Both groups were composed of exclusively of children who had been identified with LLI. All participants were administered a standardized narrative measure, the Renfrew Bus Story (Glasgow & Cowley, 1994). Two spontaneous language samples were also collected, and two standardized tests were administered: the *Clinical Evaluation of Language Fundamentals Preschool – 2<sup>nd</sup> Edition* (CELF-P2: Semel, Wiig & Secord, 2003) and the *Structured*

*Photographic Expressive Language Test – Preschool 2<sup>nd</sup> Edition* (SPELT-P2: Dawson et al., 2005). Between the groups, the dual-language group consistently performed significantly worse than the monolingual group on the standardized tests, despite comparable severity of impairment between the two groups. There were no significant differences found between groups in any of the narrative tasks. The bilingual group also produced some grammatical forms in the narrative task for which they did not demonstrate understanding during the standardized tests. Due to the decontextualized nature of the elicited tasks, the language systems of the bilingual group may have been excessively taxed in comparison in the standardized tests in comparison to the more naturalistic narrative task. Language sampling in this case provided a generally more accurate portrayal of the language abilities of the dual-language learners.

An accurate portrayal of grammatical ability is critical during assessment because it has been shown to be a differentiating factor between TD and LLI in ELL children. Gutiérrez-Clellen et al. (2008) explored Spanish-English bilingual children's ability to produce finite morphology in English. Specifically they targeted the morphological forms third person singular –s, past tense –ed, auxiliaries BE and DO, and copula BE. They compared 71 Spanish-English bilingual children aged 4;5 to 6;5 years with and without LLI. Participants were grouped into three groups: Spanish dominant, English dominant and balanced bilinguals. The children were asked to produce oral narratives based on two wordless picture books. Based on grammatical analyses of these narratives, they concluded that the children with LLI had increased difficulty with English morphemes in comparison to their TD peers, as expected. However, the Spanish

dominant TD group also had increased difficulty with English grammatical morphology similar to the LLI group because the forms were being targeted in their weaker language.

Narrative analysis may provide a more accurate representation of language skills in ELL children. Investigation of language samples in English as well as the child's L1 may be able to reveal important information critical for differential diagnosis. It is also useful to use age matched TD peers with similar language background as a point of comparison for how a "typical" ELL child should or at least could be performing.

Restrepo and Kruth (2000) explored the grammatical characteristics of two age-matched Spanish-English bilingual children with similar language backgrounds: one child was TD and exhibiting exceptional acquisition of English while the other was diagnosed with LLI and was struggling to acquire English. They examined three language samples in both Spanish and English for both children: a story retell, spontaneous conversation while playing a game and a conversation with an examiner about past experiences. Language samples were collected at two different time points, a year apart for each child. The study examined productivity (MLU), grammatical errors (in errors per meaningful unit), and grammatical constructions used in both Spanish and English. Through their analyses they concluded that there were frank differences between the TD child and the LLI child. When compared to a TD peer, the child with LLI produced more grammatical errors and a less diverse range of sentence structures in English. The observed grammatical difficulties were also present in Spanish. The analysis in both languages revealed that the child with LLI indeed had an impaired ability to learn and use language compared to her TD peers, rather than limited proficiency in English.

Restrepo and Kruth (2000) also found that, in addition to grammatical difficulty, the child with LLI exhibited greater language loss in Spanish (the L1) between the first and second data points than the TD peer, who maintained her Spanish skills as her English skills improved. This presents another case against deferring a diagnosis of LLI in ELL children. That is, children from immigrant families with LLI need additional support to maintain and develop the home language (L1) along with the language used in the school and the broader community (Kohnert, 2007). Their L1 in this case gives them access to their familial support system; therefore, they are more likely to succeed academically in the school age years and beyond (Tang, 2006; Schmid, 2001). Children with LLI are already at risk for academic failure without appropriate services, let alone without the support of their family. As such, effective differential diagnosis is key to optimize outcomes for bilingual children with LLI (e.g. Kohnert & Medina, 2009; Kohnert, 2010).

### **The Vietnamese Language and Community: An Overview**

It is important to explore LLI in the context of different languages because it will yield important information regarding clinical decisions and how best to serve children learning these languages (Leonard, 1998). In this study, we focused on the Vietnamese speaking population. Vietnamese refugees began immigrating to the United States following the fall of Saigon, marking the end of the war in Vietnam in 1975, settling in California, Texas, Florida, Minnesota, Washington, and many other states (Do, 1999).

The number of Vietnamese speakers in the United States is growing quickly (Shin & Kominski, 2010). In 2000, approximately one million people reported speaking

Vietnamese at home. As of 2007, that number has risen to 1.2 million speakers.

Recently, it has surpassed Italian as the 6<sup>th</sup> most commonly spoken home language in the United States other than English (Shin & Kominski, 2010). Increasing the knowledge base of SLPs related to Vietnamese-English learners is a significant need (Pham, 2011; Tang, 2006).

Vietnamese is the national and official language of Vietnam and the primary language spoken by the Vietnamese population living in the United States. Vietnamese is a tonal language. It uses five or six different lexical tones to distinguish between meanings of different words depending on regional dialect (Nguyen, 1997; Tang, 2006). Words may share an identical spelling, but depending on the tone applied to that word, the meaning changes (Nguyen, 1997). Vietnamese uses a Romanized orthography, and written words are separated into one-syllable units. At first, it would seem that Vietnamese is purely monosyllabic. However, this is not the case. Some words actually consist of two or more syllables, with the syllables separated by spaces. For example, the word “*bực mình*” appears as two words, but the two units that form one word meaning “annoyed,”

Vietnamese also utilizes classifiers. Classifiers are similar to articles in English in that they precede nouns, but they play an additional role in that they also specify attributes of the noun, providing information regarding size, shape or animacy (Tang, 2006). Some linguists propose that classifiers are distinct from nouns and should be considered separate from the nouns they classify (see Pham & Kohnert, 2009 for a review). Others argue that the classifier cannot be separated from the meaning of the

noun and therefore should be considered as part of the noun. Because the ultimate goal of this study was to compare Vietnamese and English, we have decided to consider classifiers as separate from the nouns they modify (i.e. classifier + noun = 2 words) to correspond to articles in English (e.g. a, the) that are considered separate from the nouns they precede (Nguyen, 1997).

Unlike English, Vietnamese does not feature the use of bound morphemes to mark verb tense, agreement, or plurality. Rather it relies on context and function words to fulfill these functions (Tang, 2006). Vietnamese is also a null subject language, meaning that subjects may be omitted from independent clauses when it is otherwise clear in the context. Take for example, the sentence, “*Con trai đi chơi. Rồi đi về.*” [The boy went out to play. Then goes home.] There is no explicit subject in the second sentence, but given the context established by the preceding sentence, we can infer that the subject is still the boy (Nguyen, 1997).

### **Current Study**

In this study, we investigated narrative skills in a Vietnamese-English bilingual school-aged child who was struggling academically. Our narrative task was story generation, collected in Vietnamese (L1) and English (L2) at two time points with a one-year interval between each collection. Story generation has been found to be an ecologically valid method of sampling spontaneous language in school aged children, and a sensitive measure that differentiates between LLI children and their TD age- and language-matched peers. Narratives may be analyzed to reveal information about multiple aspects of children’s expressive language skills including story quality, speech

productivity, fluency, lexical-semantic diversity, and grammatical skills. Individually and/or combined, previous studies have found that these dependent measures differentiate between LLI and TD monolingual or Spanish-English bilingual children (e.g. Fey et al. 2004; Fiestas et al., 2005; Paul & Smith, 1996; Scott & Windsor, 2000).

This was a descriptive study. I compared the expressive language skills of one struggling Vietnamese ELL as compared with those of two TD ELL peers. Specifically, I conducted post-hoc narrative analyses using two sets of data collected at a one-year interval. The first set of narratives was collected when the participants were in 3<sup>rd</sup> grade, and the second set was collected when the TD peers were in 4<sup>th</sup> grade while the struggling ELL was retained in 3<sup>rd</sup> grade. The data was collected using a story generation task in Vietnamese and in English. The dependent measures analyzed were productivity, lexical diversity, syntactic complexity, fluency, grammatical complexity, grammatical correctness, and story quality. A main goal of this study was to determine which, if any, of these variables distinguished the struggling ELL from the two TD peers in both the L1 and L2. Using peers matched by age and gender with similar language, educational and cultural backgrounds provided key points of comparison in this descriptive study. It was possible that this particular child had been struggling in English is because of an undiagnosed LLI, which would be evident in both Vietnamese and in English, although possibly to different degrees or manifesting in different ways. It was also possible that, although this participant was struggling in L2, there would be no evidence of weakness in L1, indicating low L2 proficiency rather than LLI. For variables that are not sensitive, we will explore confounding variables that would lead to contrastive results to the other

results found in the literature as well as implications related to analysis in Vietnamese. It is important to explore language skills in both L1 and L2, relative to culture, language and age-matched peers to separate language differences from disorders (Kohnert, 2007).

### **Methods**

Normative data for Vietnamese-English speaking children are not available. Participant selection was based on local norms calculated from the performance of children who participated in a larger longitudinal study (Pham, 2011). On each of several experimental tasks, the mean, standard deviation and range for each age group were calculated. These calculations served as the normative data to identify the “struggling ELL” as well as two TD participants.

By comparing performance to local age-group averages, we were able to select a participant who demonstrated low language skills in English (the struggling ELL), a peer who demonstrated average language skills in English (A-ELL), and a peer who demonstrated high language skills in English (E-ELL) based on certain criteria. English was designated as the qualifying language because it is the primary language of school instruction. Though none of these participants have been diagnosed with LLI, typically an initial referral to the SLP for school-age children is based on poor performance in the English classroom. The criteria for this study were created with this mind in order to emulate the model of identification currently utilized in public schools. The following section describes the four language tasks used to generate local norms. Then participants of this study are described. Table 1 describes how the three participants compared to one another, as well as the calculated group norms.

## **Participant Selection**

Four language tasks were used to determine each child's language abilities in decontextualized tasks. These tasks were based on those used in standardized testing, but did not reference the norming sample to compare the participants' performance. Rather, the scores of all 48 children in the data pool were compared to each other, creating a local norming group. Local group norming is a useful method to compare the performance of CLD children for whom a valid set of normative data is not available (see Kohnert, 2010 for a review). These scores were used to compare participants to their age-matched Vietnamese-English bilingual peers in both languages to create criteria for inclusion into this study. Both English and Vietnamese versions of the task were administered and scored by a native speaker of each respective language. Two different examiners administered each language task battery separately to each participant. Participants completing tasks in English first were counter balanced with children completing tasks in Vietnamese first. Half of the participants completed tasks in Vietnamese then English, the remaining children completed English tasks first followed by Vietnamese.

### **Receptive/expressive vocabulary.**

Sixty-one items (item 45 to item 106) from the Receptive One Word Vocabulary Test (Gardner, 1985) and Expressive One Word Vocabulary Test (Gardner, 1990) were administered to each participant. The Vietnamese version featured the same 61 items translated into Vietnamese and presented with the English version stimulus books. Prior to beginning the task, the three practice items at the beginning of the test were administered to each participant to ensure comprehension of task expectations.

During the receptive task, the child was presented an array of four pictures. The administrator verbally presented the target word, for the child to identify from the array and indicate via pointing. The test items were scored as correct if the child indicated the picture that matched the presented target.

During the expressive vocabulary task, the child was shown a color drawing of the target and asked to verbally provide the name for that item. A test item was scored as correct if the child provided the correct name for the object. Some items had multiple correct responses. Incorrect responses were manually recorded in order to refer to equivalent responses per the examiner's manual.

#### **Timed picture naming.**

A timed picture naming task was created, similar to that featured in a study conducted by Kohnert, Bates and Hernandez (1999). The task measures lexical access of commonly used words. Participants were asked to name 40 common objects (nouns) and 40 actions (verbs) presented via black and white line drawings. A head-worn microphone positioned one inch from the participant's mouth recorded each participant's response time (i.e. the time between the presentation of the stimulus and the time the microphone registered a vocal response from the child). The pictures were presented via a computer screen and the participants were instructed to name the pictures as quickly as they could, without any unnecessary vocalizations (e.g. "um" or "uh") before producing the name of the picture. The picture disappeared from the screen as soon as the microphone registered a verbal response from the participant. A click of the mouse from the task administrator would present the next test item. Prior to the beginning the task, eight

practice items were administered to ensure the participant understood the instructions. Participants were required to reach criterion on these eight practice items before beginning the task. Criterion was determined to be correctly naming 6 out of 8 practice items without unnecessary vocalizations. The same stimulus set was used in both English and Vietnamese testing sessions, though order of presentation was different. Correct verbal responses were manually tallied online on the task protocol. Errors such as failure of the microphone to register the verbal response and inadvertent responses, which caused the microphone to register an unnecessary vocalization, were also recorded on the record form. For the purposes of this study, picture naming accuracy was the outcome measure included in the local norming process.

#### **Sentence repetition.**

Twenty items from Sentence Recall subtest from the *Clinical Evaluation of Language Fundamentals- 4<sup>th</sup> edition* (CELF-4: Semel, Wiig, Secord, 2003) were chosen for the English version of this task. The test items were read aloud to the participant, and the participant was instructed to repeat the target sentence exactly how they heard it. There were a total of two practice-items administered prior to beginning the task. The task administrator was not permitted to repeat test items. Items were scored for number of errors or differences between the repeated sentence and the target. Each item scored a maximum of 3 points, for a total of 60 total points. A sentence repeated with no errors scored 3 points, repeated sentences with one error scored 2 points, sentences with two errors scored 1 point, and any more than 2 errors were scored as zero. Differences such as word substitution, word addition and word order changes were counted as errors.

Conjoining verbs (e.g. “cannot” into “can’t”) were not scored as errors. The Vietnamese version was developed by Pham (2011) and was not a direct translation of the English version. Rather, test items were developed to include the same number of syllables and maintain the same grammatical target as its English counterpart.

## Participants

Table 1

*Participant comparison and local norms for age group*

	Age at T1 in years; months	Receptive One- Word Vocabulary Test	Expressive One- Word Vocabulary Test	Sentence Repetition	Timed Object/Action Naming
“Sy” (L-ELL)	8;9	<u>29</u>	32	<u>10</u>	62
“Hoc” (A-ELL)	9;0	46	25	43	65
“Dai” (E-ELL)	8;10	<b>51</b>	<b>38</b>	<b>50</b>	67
Group Norms	Mean	43	26	34	66
	Standard Deviation	8	9	11	5
	Range	29-58	10-40	10-51	56-73

*Note:* L-ELL = Low English Language Learner. A-ELL = Average English Language Learner. E-ELL = Exceptional English Language Learner. Scores that fell at least 1 standard deviation below the group mean, are underlined. Scores, that fell 1 standard deviation above the group mean, are in boldface. Group norms were calculated using solely children within the same age range.

Participants of the larger longitudinal study attended Hillcrest Foreign Language Academy, a public school in Orlando, Florida. Hillcrest includes 90 minutes of Vietnamese language instruction per day in addition to its English curriculum. The participants in this study were chosen from a sample of 48 children who participated in a larger study investigating the language development of school-aged Vietnamese-English

bilinguals (Pham, 2011). A comparison of the three selected participants as well as the calculated peer-based norms is presented in Table 1.

**Struggling learner.**

Sy (pronounced as “See”) was a 8;9 male student living in Orlando, Florida. He was born in the United States where he has received all of his formal education. He has been struggling academically for some time. He was retained in the third grade. Despite frank academic struggle, Sy has neither been identified with LLI nor referred to receive any special services. In a language survey given to Sy, he reported speaking mostly Vietnamese to his parents, only English to his siblings and friends at school, and Vietnamese with his friends at church/temple and in the community. His parents reported Sy’s Vietnamese skills in speaking, understanding, reading and writing as generally “weak.” In this study, we used a set of data that was collected when Sy was in third grade at age 8;9, as well as data collected one year later, when Sy repeated third grade, and when the TD peers were in the fourth grade. This was a critical time for Sy as it was apparent that he was experiencing serious academic difficulties.

In decontextualized language measures Sy performed below average when compared to the group norms calculated from the data pool of 48 children. As shown in Table 1, he performed more than 1 standard deviation below the mean of the local norming group in 2 out of 4 tasks in English: receptive vocabulary and sentence repetition. For the purposes of this study, Sy was considered a low-English language learner (L-ELL). We explored the possibility of a diagnosis of LLI via the

aforementioned analyses and by comparing these analyses to those of typically developing peers.

**Typically developing peers.**

Two TD peers matched on age, gender and language background were chosen to provide a point of comparison for Sy. One peer was a student demonstrating exceptional English language abilities compared to his peers (E-ELL). The other was a student demonstrating average English language abilities compared to his peers (A-ELL). The criteria for both of these designations were determined through performance on the 4 decontextualized language tasks in English mentioned previously. As shown in Table 1, the E-ELL peer scored at least one standard deviation above the peer group mean (n=48) on three out of four tasks in English. The A-ELL participant scored within 1 standard deviation of the group mean on all tasks in English. Both TD peers were included in order to explore the differences between Sy and the wide range of English language learning curves present in ELL children. Typically developing ELL children demonstrate a wide variation of learning curves while learning L2, which further complicates the identification process and increases the possibility of misdiagnosis (Paradis, 2005). English is designated as the qualifying language because it is the primary language of school instruction. Typically, if referrals were to take place, the evidence provided would be based on performance in English.

In addition to language ability criteria, the TD participants were male and within 4 months of Sy's chronological age. For both typically developing peers, we analyzed

data collected during the third and fourth grades in order to compare with Sy's data at these respective time points.

Our first TD peer is Dai (pronounced as "dye"). Dai was a 8;10 male student living in Orlando, FL. He was excelling academically and is demonstrating very high skills in English. He was born in Vietnam, and his family immigrated to the United States when he was eight months old. He had received all of his formal education in the United States. In a language survey given to Dai, he reported that he spoke only Vietnamese to his grandparents and at church/temple, mostly Vietnamese to his parents, mostly English to his siblings, and only English to his friends at school. His parents reported his Vietnamese skills in speaking, understanding and writing as "very well" and his skills in reading Vietnamese as "well." Based on his performance in English language tasks during the 3<sup>rd</sup> grade when Dai was 8;10 years old, he was identified as a high-English language learner (E-ELL). As shown in Table 1, he scored greater than one standard deviation above his peers on three out of four tasks in English.

Our second TD peer is Hoc (pronounced as "howk"). Hoc was a 9;0 male student living in Orlando, FL and a classmate of Sy and Dai. Hoc was born in Vietnam, and immigrated at age 6;5 to the United States where he has received all of his formal education. In a language-use survey given to Hoc, he reported that he speaks mostly Vietnamese in his home to his parents and grandparents and mostly English to his siblings and friends at school and in the community. Based on his performance in the language tasks in English completed when he was a 9;0 year old student in third grade, he

has been identified as an average English language learner (A-ELL). As shown in Table 1, he scored within 1 standard deviation of the mean in all language tasks in English.

## **Narratives**

### **Sample collection.**

Four different language samples, two in Vietnamese and two in English, were collected and analyzed for each participant. The first pair of narratives (one in Vietnamese and one in English) was collected at the same time as the decontextualized language tasks used to determine each participant's language skill. The second pair of samples was collected 12 months later. By examining the narratives in both Vietnamese (L1) and English (L2) at these two different time points, we will be able to observe changes over time at multiple language levels in both L1 and L2.

The narrative samples were collected individually in a quiet room by a trained examiner proficient in Vietnamese or English, depending on the target language for that sample. The two languages were collected on different days. The sessions in each language were conducted at least two days apart. Half of the children completed all tasks in English first, while the other half completed the session in Vietnamese first. The children were asked to provide verbal narratives in both languages using storybooks without words. The Vietnamese sample was elicited using Mercer Mayer's *A Boy, a Dog and a Frog* (1967). The English language sample was elicited using Mercer and Marianna Mayer's wordless picture book, *One Frog Too Many* (1975), which shares many of the same themes and vocabulary with the first story. Two separate stories were

chosen in order to prevent practice effects between elicitations between languages as well as between data collection points.

Before the participant was instructed to tell the story, the task administrator gave the book to the participant and asked him/her to preview all of the pictures. It was emphasized to the participant that they were to use all the pictures of the book to tell their story. If a picture was skipped during the telling of the story, the task administrator prompted the child to “tell me more” about the skipped picture.

### **Transcription.**

The narratives were digitally audio-recorded and transcribed into the Child Language Data Exchange System (CHILDES; MacWhinney, 2000) via the program CLAN using CHAT conventions in both languages. Native speakers of each language transcribed all samples. After transcription, another native speaker would check over the transcription by listening to the audio recording and noting any disagreements. Both researchers subsequently resolved disagreements by consulting the audio file and discussing the most reasonable transcription.

Transcribers listened to the audio recordings via Sony’s Digital Voice software or Windows Media Player, depending on the format of the file. After transcription, each sample was segmented into communication units (C-units) as utilized by Loban (1976). A C-unit is defined as an independent clause and all of its subordinating or modifying clauses. Also, utterances that do not stand alone as independent clauses (e.g. ellipticals, one word responses) also qualify as a C-unit and contribute to the overall word counts and subsequent analyses. For example, “Susie bonked, the cat,” “Susie bonked the cat on

the head,” and “Susie bonked the cat on the head with a zucchini” are all coded as one C-unit. However, “Susie bonked the cat. Yeah, with a zucchini” would be coded as two. According to the Strong Narrative Analysis Procedure (SNAP: Strong, 1998) and Loban (1976), the C-unit is utilized in order to ensure reliable and uniform segmentation of narratives into meaningful units. In contrast, other methods of language sample segmentation used in other studies such as pause or intonation criteria are more ambiguous and therefore less reliable (Scott & Windsor, 2000).

Generally, the same criteria were used for both Vietnamese and English, but certain concessions were needed to accommodate Vietnamese features. Written words in Vietnamese are separated into syllables, creating the impression that each syllable is one word. However, some words in Vietnamese actually consist of two or more syllables (Nguyen, 1997). In order to ensure that these words would be counted as a single word instead of two, the two segments were connected in CLAN with an underscore. For example, the word *bực mình* (annoyed) usually appears as two words, but was coded as *bực\_mình* in CLAN to signify that the two segments together compose one semantic unit and should therefore be counted as only one word in productivity and lexical diversity measures. There is some controversy regarding which words are truly multisyllabic. To resolve this issue, a Vietnamese Dictionary (Tan, 1994) and a reputable online dictionary were consulted (vdict.com). Any word appearing in the dictionary consisting of both parts was coded as one word. If a word did not appear in the Vietnamese dictionary, the online dictionary was consulted as a second opinion.

C-units were also coded slightly differently for Vietnamese than in English. In Vietnamese, independent clauses do not need to have an iterated subject, which causes some confusion when parsing a transcript into C-units. For example, take the word sequence “*Con trai chạy bị té*” [The boy ran fell]. That sequence could be separated into two independent clauses or compound clauses featuring two actions conjoined together. It was determined that in order to be coded as a compound C-unit, the two actions within the C-unit must be connected with a conjoining word (e.g. “then,” “and,” or “but”). Therefore, the aforementioned example would have been coded as two separate C-units, “*Con trai chạy. Bị té*” [The boy ran. (he) Fell.] However, if the sequence was “*Con trai chạy rồi bị té*” [The boy ran then fell], the inclusion of the conjoining word *rồi* [then] would have allowed the sequence to be coded as one compound C-unit featuring two actions.

Another factor in determining the number of units in a word involved the use of classifiers in Vietnamese. Classifiers were counted as a separate from nouns, and as a distinct word class. For example the noun *con éch* [animacy classifier + frog] was considered two words, in much the same way that “the frog” would be considered two words in English. Nguyen (1957) compiled a list of over 200 different classifiers used in Vietnamese. Using this list as a reference, any noun preceded by any of these classifiers was considered two separate words.

## **Outcome Measures**

### **Fluency.**

In order to analyze the fluency of each sample, all mazes, repetitions and hesitations were coded into the transcripts according to CHAT conventions. Hesitations (e.g., um or uh) were coded as non-words and did not factor into total word counts. Repetitions of words and phrases were coded only counted once in total word counts. Abandoned utterances were also counted as disfluency. Abandoned utterances are C-units in which the child did not finish an idea before starting another C-unit. For each narrative sample, the total number of disfluencies as well as the number of each type of disfluency was calculated. It should be noted that the disfluencies coded in the samples are not generally considered “stuttering-like” disfluencies, but rather normal-type disfluencies that normally occur in connected speech.

Rate of speech in words per second was calculated for each narrative by dividing the total number of words produced and the amount of time needed to complete the narrative task. Length of the narrative was calculated by subtracting any time the examiner is speaking from the length of time the child is speaking during the audio recording. This was calculated by subtracting the time at which the child began speaking from the time after the child says their last word.

#### **Productivity and lexical diversity.**

It has been well documented that children with LLI perform more poorly on measures of productivity and lexical diversity compared to their typically developing peers (Fey, 2004; Restrepo & Kruth, 2000; Scott & Windsor, 2000; Paul & Smith, 1996). These measures include mean length of C-unit (MLU), number of C-units, total number of words (TNW), and number of different words (NDW). Mean length of C-unit (MLU)

is the average number of words produced in a C-unit in a particular speech sample. MLU serves as a gross measure of syntactic complexity based on the principle that more advanced syntactic forms present in a C-unit will influence the length in words (Hewitt et al., 2005). Number of C-units and TNW serve as a measurement of the amount of information contained in the narrative. NDW is the number of unique words used in a narrative. NDW serves as a measure of lexical diversity and vocabulary development. After transcription and coding, the FREQ and MLT functions of CLAN were used to calculate these parameters.

### **Grammaticality.**

A graduate student in Speech Language Hearing Sciences and a trained Vietnamese Language teacher calculated grammaticality ratings for all narratives in both languages. After hearing each sentence read out loud to them, the judges were asked to if the C-unit was grammatical or not, and to tell the examiner precisely why the C-unit was not grammatical. Grammaticality represents a superficial rating of how “correct” the sentence sounds to a native speaker. Each C-unit was given a rating of 1 or correct and 0 for incorrect. The ratings were added together, and the aggregate score was divided by the number of C-units in order to get the average number of errors per C-unit. Judges were also asked to identify precisely why the C-unit was grammatically incorrect. These errors were classified and inventoried for each participant in both languages. The grammatical errors were also classified in noun, verb and miscellaneous errors in order to allow for cross-linguistic comparisons.

### **Grammatical complexity.**

In addition to grammatical correctness, grammatical complexity was analyzed. Grammatical complexity was measured in the number of complex C-units. Complex C-units are those that feature an independent clause and at least one other dependent clause that included another noun and verb (e.g. “The boy went out to the swamp while the frog and turtle watched” and “The boy got mad because the big frog kicked the little frog.”) The use of complex sentences is a strategy for efficient communication, which indicates a language facility that may be impaired in children with LLI. Scott and Windsor (2000) and Gutiérrez-Clellen (1998) found differences between TD and LLI groups were found when the number of clauses per C-unit was examined.

### **Story quality.**

A universal grading rubric for story quality of narratives does not currently exist. In the past, many researchers such as Pearson (2002), Fey et al. (2004), and Uccelli and Páez (2007) have investigated story quality in different children’s narratives. The rubrics used in these respective studies were developed according to the specific task being used to elicit the narrative. A rubric for scoring story quality with the current data was a revised version of the rubric developed by Pham, Kohnert, and Lobitz (2009). The rubric was based on the rubric created by Pearson (2002) and Uccelli and Páez (2007), but was modified in order to accommodate features of the Vietnamese language and narrative style. The aspects of story quality analyzed in this rubric were 1) number of complete story episodes, 2) sequence, 3) use of perspective/affect, and 4) story coherence. Each area was rated on a 0 to 5 point scale. With four areas in total, the highest possible score

was 20 points. Specific criteria were devised for each point on the scale. Refer to Appendix A for specific scoring criteria.

An episode consisted of 1) an initiating event 2) an action and 3) a direct consequence. The narrative sample needed to include all of these components in chronological order in order to be tallied as a complete episode. Eight possible episodes were identified for each story stimulus. Each narrative was read and parsed into different episodes, which were comprised of all three of the elements described above. A narrative earned more points for including more complete episodes.

Sequence was defined as the observed ability to express a chain of events occurring during the story. This was measured by two elements in the narrative: marked beginning or end and action sequences. A beginning was considered “marked” if the child began their narrative with a phrase such as “once upon a time” or “one day” in English and equivalent phrases in Vietnamese. An ending was marked if the child produced a summative statement that involved at least three of the characters (e.g. The boy, the dog and the frogs were friends.”), or used the phrase, “the end.” Sequence was also judged according to the use of action sequences. Action sequences defined as the statement of two separate observable actions performed within the same C-unit (e.g. “The boy ran and caught the frog” or “While the boy was looking, the big frog kicked the little frog.”). The narrative scored one point for each marked beginning, marked end and action sequence produced, with a maximum of five points.

In addition to expressing a sequence of observable events, the narratives were scored based on ability to express the emotions and intentions experienced by the

characters, as well as use of dialogue to express what the characters are saying to each other. These qualities were not explicitly expressed in the pictures and indicate the child's ability to extrapolate details in order to provide a higher quality narrative. The child scored points for using dialogue, as well as for using different emotion and intention words.

Coherence is the ability to communicate a story in a way that is understood by the listener. In our rubric, cohesion was measured in terms of percentage of utterances with a clear subject. This was calculated in conjunction with the use of pronouns to refer to characters and objects. Narratives received points if at least 85% of sentence subjects were clear, as well as if diverse pronouns with clear referents were used.

### **Reliability**

Intertranscriber reliability was completed for twenty percent of the 48 narrative samples collected in the data corpus. Reliability was calculated for segmentation of samples into C-units. A trained research assistant was given transcripts that had not been segmented into C-units. The research assistant was instructed to listen to the audio recording and segment the transcript according to the criterion for a C-unit. This was then compared to the original transcription. The number of agreements were divided by the total number of C-units. The reliability for segmentation was calculated to be 95.2% in English and 93.1% in Vietnamese.

In addition to segmentation, interjudge reliability was calculated for story quality ratings. A trained research assistant using the same story quality rubric rated twenty percent of the samples. Seven points of agreement were possible for story episodes, five

for sequence, 6 for perspective/affect, and 4 were possible for coherence for a total of 22 agreements between the four areas. The number of agreements between judges was divided by 22 to calculate reliability. The interjudge reliability for story quality was calculated to be 91.7% for English and 90.6% for Vietnamese.

## **Results**

### **Fluency**

Table 2 presents an inventory of the total number of disfluencies as well as the number of each type of disfluency produced in each participant's narrative. It is evident that Sy was much more disfluent than his TD peers at T1 in both Vietnamese as well as English. He produced 32 disfluencies and 36 disfluencies at time point 1 (T1) and time point 2 (T2) respectively.

Hoc produced about half as many, with 13 and 11 disfluencies at T1 and T2. Dai produced even less, with seven and three disfluencies at T1 and T2. Sy persisted in making a markedly larger number of disfluencies at T2 in English; however, his rate of disfluency was very low. His rate of disfluency at T2 was greater than Hoc, and equal to that of Dai.

Sy performed similarly in his English and Vietnamese narratives. He continued to produce markedly more disfluencies than either TD peer at both time points. Sy was consistently more disfluent than his peers in both sheer number of disfluencies and in rate of disfluency. The gain in overall fluency rate from T1 to T2 observed in English for Sy was not evident in Vietnamese.

Table 2

*Inventory of Disfluencies produced by all Participants*

Time 1						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Word Repetitions	15	14	4	1	1	3
Phrase Repetitions	3	3	2	0	1	1
Revisions	9	5	3	3	5	3
Interjections	3	0	4	2	0	0
Abandoned Utt.	2	3	0	0	0	0
Total Disfluencies	32	25	13	6	7	7
Rate of Disfluency	0.11	0.13	0.06	0.03	0.03	0.03
Time 2						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Word Repetitions	11	20	0	3	0	0
Phrase Repetitions	8	5	2	0	0	0
Revisions	14	6	6	5	3	4
Interjections	2	1	3	8	0	0
Abandoned Utt.	1	0	0	0	0	0
Total Disfluencies	36	32	11	16	3	4
Rate of Disfluency	0.01	0.14	0.04	0.08	0.01	0.02

Eng = English, VN = Vietnamese. Utt. = Utterance. Rate or disfluency was calculated by dividing total number of words in narrative by number of disfluencies.

The rate of speech was also calculated in words per minute. Table 3 details the rate of speech for both languages. In English, Sy's speech rate was slower than that of the TD peers at both time points for English and Vietnamese. Sy tended to be slower in

Vietnamese than in English. In contrast, the TD peers generally tended to use a faster rate of speech in their Vietnamese narratives than in English. Thus, on both measures of fluency, Sy's performance in Vietnamese (L1) fell below that of his peers at both time points. In English, Sy lagged behind peers in rate of speech, but caught up to them in rate of fluent speech by T2.

Table 3

*Rate of Speech in Words per Minute*

Time 1						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Total Words	273	197	235	192	230	216
Length (minutes)	3.23	3.48	2.27	1.53	2.06	1.80
Rate (Words/Min)	84.50	56.60	103.50	125.50	111.65	120.00
Time 2						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Total Words	372	230	255	195	265	175
Length (Minutes)	4.25	3.25	2.40	1.58	1.91	1.28
Rate (Words/Min)	87.52	70.76	104.50	123.41	198.74	136.71

*Note:* Length of narrative is the total amount of time the child is speaking during in the audio recording.

This was calculated from when the child produces the first word and the last word in the narrative. Minus any time the examiner is speaking. Speech rate was calculated by dividing the total number of words produced in the narrative by the length of the narrative.

## **Productivity**

Table 4 details all productivity and lexical diversity measures in both languages at both time points. Number of C-units and total number of words (TNW) serves as measurements of productivity, or the amount of information produced in a narrative. In English, Sy produced more C-units at both time points than his TD peers, while Dai produced the least. At T1, Sy's narrative featured 35 C-units, while Hoc's featured 34 and Dai's featured 22. The same was true at T2. Sy produced the most C-units at T2, while Dai produced the least.

At T1, the same trend occurred in Vietnamese as in English regarding number of C-units. Sy produced the most C-units (36 C-units). Hoc produced a comparable amount to Sy (34 C-units), and Dai produced the least (19 C-units). At T2, Sy's Vietnamese narrative did not demonstrate the same growth in productivity as his English narrative at this time point. However, the same pattern persists as T1. Sy produced slightly more C-units than Hoc, and Dai produced the least of all.

The same pattern was present in the analysis of TNW at T1 in English, with Sy outperforming his peers. Sy had the highest TNW (273) in his English narrative. Hoc produced less with 235, and Dai performed similarly to Hoc, but produced the least TNW with 230 total words. The pattern continued at T2. Sy produced noticeably more words in his English narrative at T2 than either TD peer. At T2, Sy produced 372 words in English, which was significantly more than Hoc (255 words) or Dai (265 words), who demonstrate similar productivity at T2.

Table 4

*Productivity*

Time 1						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Total # C-units	35	36	34	33	22	19
TNW	273	197	235	192	230	216
NDW	62	50	80	74	84	83
MLU	7.80	5.58	6.91	5.60	10.45	11.34

  

Time 2						
Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Total # C-units	49	32	30	27	24	14
TNW	372	230	255	195	265	175
NDW	109	54	92	70	82	63
MLU	7.59	7.18	8.50	7.22	11.04	12.50

*Note:* TNW = Total number of words. Total number of words is the gross number of words produced in a narrative sample. NDW = Number of different words. Number of different words is the number of unique words produced in a narrative sample. MLU = Mean Length of C-unit. Mean length of C-unit was calculated by dividing the total number of words by the number of C-units.

TNW is similar in Vietnamese at T1. Sy and Hoc's TNWs were comparable. Their performances did not differ as drastically as in English. Sy produced 197 words, which was comparable and slightly more than Hoc (192 words). Dai produced the most TNW with 216 words. At T2, Sy produced more TNW than either peer. Sy's Vietnamese narrative did not increase drastically in productivity like his English narrative. However, he did persist in producing more words than Hoc and Dai in Vietnamese at this time point. Sy produced more TNW than either TD peer. He

produced 230 words, Hoc produced 195 words, and Dai produced only 175 total words at T2.

Dai consistently produced the highest MLU of any of the participants, while Sy and Hoc produced comparable MLUs at most time points. At T1, Sy's narrative sample featured a longer MLU than Hoc. Sy's MLU at T1 was 7.80 words per C-unit, while Hoc's was 6.91. Dai produced a markedly higher MLU, 10.45. At T2, Sy and Hoc's performance diverge with Hoc's MLU exceeding that of Sy. Sy produced an MLU of 7.59 and Hoc produced a higher MLU with 8.50. Dai persisted in producing a much higher MLU than both Sy and Hoc at T2 with an MLU of 11.04.

In MLU, Sy and Hoc remained comparable in Vietnamese at T1, while Dai exceeded either of the others by a remarkable degree. Sy's MLU in Vietnamese at T1 is comparable to Hoc's. Sy's MLU was 5.58, compared to Hoc's MLU of 5.60. Dai produced a more elevated MLU at 11.34 words per C-unit. Sy and Hoc's MLUs were also comparable at T2. Sy produced an MLU of 7.18 and Hoc produced an MLU of 7.22. Dai persisted in producing the highest MLU at T2 with 12.50.

Number of different words (NDW) was an indicator of lexical diversity and vocabulary development. NDW was where Sy's performance diverges from the other variables. At T1, Sy produced fewer NDW than either TD peer. Sy's narrative featured 62 different words, while Hoc and Dai featured similar NDW with 80 and 84 different words respectively. At T2, Sy's narrative diverged from the trend. He produced 109 different words, which was slightly more than Hoc, who produced 92 different words. Dai produced the least different words at T2 with 82.

At T1 in Vietnamese, Sy also produced the least NDW. Dai produced the most NDW at T1 in Vietnamese. Unlike in English, there seems to have been a greater difference between the performance of Hoc and Dai, the two TD peers. Unlike his English narrative at T2, Sy's Vietnamese narrative at T2 featured the least NDW with 54 words. Dai, who produced the least NDW at T2 in English, produced slightly more than Sy with 63 different words. Hoc produced 70 different words, the most different words at T2.

### **Grammatical Complexity**

Grammatical complexity was judged in terms of mean number of clauses per C-unit or number of complex C-units featuring an independent clause and one or more dependent clauses. Table 5 summarizes the calculated clausal density of all narrative samples for all participants across both languages, as well as the calculated mean number of clauses per C-unit (MLU-C). For English at T1, Sy produced two complex C-units, while Hoc produced only one. Dai produced the most with 3. Because there was little variance in the number of clauses produced in the narratives, the calculated MLU-C varied little. Sy produced an MLU-C of 1.06, Hoc of 1.06 and Dai of 1.13. At T2, the performance of Sy and Hoc diverged: Sy produced no complex C-units. He also produced a C-unit, which did not include an independent clause, which resulted in an MLU-C of 0.98. Hoc produced the most C-units at T2 with 5, resulting in an MLU-C of 1.17. Dai's performance continued. He produced the same number of complex C-units as at T1, three. His calculated MLU-C was 1.13 for T2.

For Vietnamese at T1, the performance of the three participants was comparable. Both Sy and Hoc produced one complex C-unit in their narratives resulting in an MLU-C of 1.03 for both. Dai produced two, the most of all participants at T2, resulting in an MLU-C of 1.16. At T2, Sy and Dai's performance were identical with both participants producing 4 complex C-units each. Due to the wide difference between the number of C-units produced at T2 by Sy and Dai, the resulting MLU-Cs were much different. Dai produced an MLU-C of 1.36. Sy's MLU-C was calculated at 1.13. Hoc produced the least number of complex C-units. He produced two in his narrative at T2. This resulted in an MLU-C of 1.04.

Table 5

*Clausal Density and Grammatical Complexity*

## Time 1

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Complex C-units	2	1	1	1	3	2
MLU-C	1.06	1.03	1.03	1.03	1.14	1.16

## Time 2

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Complex C-units	0	4	5	2	3	4
MLU-C	0.98	1.13	1.17	1.04	1.13	1.36

*Note:* Eng = English. VN = Vietnamese. Clauses are defined as independent and modifying dependent clauses featuring both an additional noun and verb. MLU-C = Mean number of clauses per C-unit. Mean number of clauses per C-unit was calculated by dividing total number of clauses by the total number of C-units.

## Grammaticality

Table 6 summarizes percentage of grammatical C-units for all participants in both English and Vietnamese. A native speaker of each language rated each C-unit for grammaticality. Each C-unit was given a score of 1 if it was judged to be grammatical and a score of 0 if it was judged to be not. A percentage of grammatical utterances was calculated from these ratings. At T1, Sy's narrative was judged to be markedly less grammatical than either TD peer whose performances were comparable. Sy's C-units were judged to be 31% grammatical. Hoc was judged to be 70% grammatical and Dai was judged to be 68% grammatical. At T2, the same pattern persisted. Sy's grammaticality improved slightly, resulting in 37% grammatical C-units. However, this was still markedly lower than both TD peers, who persisted in performing similarly. Hoc and Dai were rated at 70% and 72% grammatical respectively.

Table 6

### *Percentage grammatical C-units*

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Time 1	31%	44%	70%	57%	68%	84%
Time 2	37%	40%	70%	70%	72%	86%

*Note:* Eng = English. VN = Vietnamese. Each C-unit was judged by a native speaker to be either grammatically correct or incorrect. Percentage of grammatical C-units was calculated by dividing the number of grammatically correct C-units by the total number of C-units.

Generally speaking, participants tended to make more errors in English than in Vietnamese. In Vietnamese, Sy persisted in producing markedly more errors than his peers at T1, with 44% accuracy compared to Hoc (57%) and Dai (84%). His percentage

of grammatical C-units falls noticeably short of his TD peers. At T2, both TD peers improved slightly in grammaticality, but Sy did not. Sy's grammaticality percentage drops 4 percentage points to 40%, compared to Hoc's at 70% and Dai's at 86%. As was the case at T1, Sy's narrative in Vietnamese at T2 was the least grammatical.

Table 7

*Summary of Grammatical Errors*

## Time 1

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Verb Errors	21	3	7	3	7	0
Noun Errors	1	4	3	6	1	0
Miscellaneous Errors	7	13	0	3	0	2
Total Errors	29	20	10	12	8	2

## Time 2

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Verb Errors	24	7	3	3	3	0
Noun Errors	7	7	4	3	1	2
Miscellaneous Errors	6	10	1	2	0	1
Total Errors	37	24	8	8	4	3

*Note:* Eng = English. VN = Vietnamese. Verb errors are defined as errors attached to verbs such as omission of morphological tense markers, copula or auxiliaries in English, and imprecise verb use in Vietnamese. Noun errors are errors related to nouns. English noun errors included omission of plural -s and possessive -'s. Vietnamese verb errors included imprecise vocabulary, omission of classifier, or misuse of kinship terms. Miscellaneous errors in English and Vietnamese included imprecise use of prepositions and conjunctions. See Appendix A for a list of errors and examples.

Grammaticality was also examined more deeply. A native speaker judged each C-unit for specific errors. These errors were classified and inventoried. The inventory of

grammatical errors as well as error examples is presented in Appendix A. A summary of these errors is presented in Table 7. The errors were classified into verb, noun and miscellaneous errors.

Sy produced more grammatical errors than either TD peer in both languages. In English at T1, Sy produced a total of 29 grammatical errors. This is markedly more than Hoc, who produced 10 errors, and Dai, who produced 8 errors. At T2, the same pattern is apparent. Sy produced the most errors, while both Hoc and Dai's produced notably less. Both TD peers produced fewer errors at T2 than they did at T1. This is not true for Sy who produced more errors at T2 than he did at T1.

When we examined the type of errors in English, the majority of the errors produced by all participants are verb errors, errors involving verb morphology. A very common error was the omission of 3<sup>rd</sup> person –s and past tense –ed morphemes. Both Sy and his TD peers produced many of these errors. All participants also produced noun errors related to morphology. All the participants tended to omit the possessive –s or plural –s morphemes at least once in each narrative.

Sy produced markedly more grammatical errors than his peers in Vietnamese, as well. At T2, Sy produced 20 errors compared to Hoc (12 errors) and Dai (2 errors). At T1, the gap widens between Sy (24 errors) and his TD peers (8 errors for Hoc and 3 errors for Dai). In Vietnamese, the most common errors were use of imprecise vocabulary. Imprecision was judged when a C-unit did not completely express what would have been expected given the stimulus, or in this case, the picture illustrating a particular event in the story (e.g. use of the word “feet” to express that there were many

“footprints” or use of the preposition “on” when the picture show the characters falling “into” the pond). Imprecision was common for Sy and Hoc, especially in verbs, nouns, conjunctions, and prepositions. Both Hoc and Sy produced many imprecision errors, though Sy produced a markedly greater number of these errors. Dai’s Vietnamese narratives were judged to be overall the most grammatical, featuring only a few errors.

### Story Quality

Table 8

#### *Story Quality Scores*

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Story Episodes	2	2	3	4	3	3
Sequence	2	0	1	2	4	5
Perspective	4	3	4	4	1	4
Coherence	4	3	2	2	5	4
Total Story Score	12	8	10	12	13	16

  

Participant	Sy		Hoc		Dai	
	Eng	VN	Eng	VN	Eng	VN
Story Episodes	3	3	3	2	3	2
Sequence	5	2	3	3	5	5
Perspective	4	4	1	4	0	4
Coherence	5	3	4	4	4	3
Total Story Score	17	12	11	12	12	14

*Note:* Eng = English. VN = Vietnamese score. Story episodes consist of an initiating event/emotion, action and consequence. Sequence is defined as the use of action sequences and marking of beginning and end of story. Perspective is the use of emotion/intention words to describe how characters are feeling. Coherence is defined by percentage of clear subjects and clear use of pronouns to describe characters. All scores are

out of a possible 5 points, with total story score out of a possible 20 points. See Appendix B for complete scoring system.

Table 8 displays a summary of the story quality ratings for all narratives at all time points for both languages. At T1 in English, the overall story quality scores for all participants were not very different. Sy actually outperformed Hoc in Story Quality at T1. Sy's narrative was rated with a score of 12, Hoc's with 10. Dai's narrative at T1 received the highest rating with a score of 13, which was comparable to Sy's score. Sy produced fewer story episodes than his TD peers. However, his score was bolstered by the inclusion of more emotion/intention words and the use of clear subjects and pronouns.

Hoc performed similarly to Sy in English, producing fewer sequence elements, fewer clear subjects, but more story episodes. Dai performed the best at T1, his scores were bolstered by high use of sequence elements and coherence elements. At T2, Sy's narrative (17 points) scored considerably higher than his TD peers (12 and 14 points, respectively). Though he used the same amount of complete episodes in his narrative, his score is bolstered by increased use of sequence, perspective and coherence elements.

For Vietnamese at T1, Sy's narrative received the lowest score of the group (Sy 8; Hoc 12; Dai 16). He underperformed his TD peers in almost all areas. He produced fewer story episodes, no perspective elements, and fewer coherence elements. Dai received the highest score at T1 in Vietnamese. This did not remain true a year later. At T2, the difference in performance among all the participants was unremarkable. The story quality scores were the same/comparable for Sy and his two peers, and ranged from 12 to 14.

## Discussion

In this study, we conducted a retrospective examination of narrative production skills in a Vietnamese-English bilingual child, Sy, who was having academic difficulties. He had no current history of a formal diagnosis for LLI or any other speech, language, or learning disability. Due to his academic challenges, we have reason to believe that he may have been a case of missed identification. That is, it is possible that, although his academic struggles were attributed to his ELL status, they may in fact have reflected an underlying difficulty with language consistent with LLI. We compared Sy's narrative performance in L1 and L2 to that of two TD peers matched to Sy on chronological age, gender, and language experience and cultural background. The narratives, collected in both Vietnamese and English at two different time points, were the source of multiple dependent measures. These dependent measures were chosen based on previous studies, which found that these measures collected in narrative samples could be used to differentiate TD children from children with LLI. These dependent measures were fluency, productivity and lexical diversity, grammatical complexity, grammaticality, and story quality. It is unclear if (a) these dependent measures would be sensitive in a child learning Vietnamese and English and (b) whether the participant of interest, Sy, actually had LLI or was experiencing difficulty in learning English, the primary language of the educational setting. We found that on some dependent measures, Sy's performance fell well below that of his peers in Vietnamese, as well as in English. However, on other measures, Sy's performance was quite strong, on par, or in some cases, even above, that

of his peers. Results from the dependent measures are summarized in the following sections.

### **Sensitive Dependent Measures**

The most sensitive variable that would identify Sy as LLI was be his increased difficulty with grammar in both English and Vietnamese. Monolingual and bilingual children with LLI have been found to produce narratives with more grammatical errors than their TD peers (Fey et al., 2004; Gutiérrez-Clellen et al., 2008; Paul & Smith, 1996; Restrepo & Kruth, 2000). It is important to note that all the participants, regardless of English language ability, produced some errors in the narratives in English, especially verb errors. This would indicate that it is definitely typical for a Vietnamese-English bilingual child to produce verb errors, especially verb inflection errors. Other omitted morphemes such as the plural-s and possessive –s were also produced by Sy and the TD participants as well. These grammatical errors are quite common in typically developing Vietnamese-English speakers (Tang, 2006). This underscores the need for appropriate peer-based comparisons when characterizing the language abilities of developing ELL children (c.f. Kohnert, 2010). In the present case, it is quite clear that Sy produced markedly more grammatical errors than either of the TD peers in both languages. What is also important to note is the breadth and diversity of errors. Sy not only produced more of each type of error, but also a greater variety of types of errors, indicating difficulty in many different grammatical domains.

Many of Sy's verb errors were omissions of verb morphemes (e.g. "The frog jump in the water"). In English, the omission of verb inflections is characteristic of both

LLI and typical ELL (Gutiérrez-Clellen et al. 2008; Paradis, 2005; Tang, 2006). In addition to these omission errors, Sy also demonstrated idiosyncratic errors that were neither produced by his peers nor widely reported for typical L2 learning. For example, Sy produced the C-units “The big frog is don’t” at T1 and “He were be a pirate” at T2. In their two-subject comparison, Restrepo and Kruth (2000) noticed that the child with LLI produced idiosyncratic forms in English that were not utilized by the TD child.

Gutiérrez-Clellen et al. (2008) tracked the use of commission errors versus omission errors in their study of Spanish-English bilingual children. Commission errors are errors that feature the addition of a morpheme (e.g. “He were be a pirate”) while omission errors are those that omit an obligatory morpheme (e.g. “The frog jump on the two lily pad”). The TD participants did not produce commission errors. These forms are otherwise not widely reported in the literature for typically developing ELL children, indicating that Sy’s grammatical deficits may be different from those of typical ELL.

What is also important to note is that Sy’s grammatical difficulties changed little in the one year interval between T1 and T2 data collection, while his TD peers showed some improvement in this area. For example at T1, Sy’s percentage of grammatical C-units in Vietnamese was low, but was only shy of Hoc’s percentage by 13%. However, at T2, Sy produced fewer grammatical C-units than he did at T1, while the grammaticality of Hoc’s narrative showed marked improvement. The persistence of grammatical difficulty is another key characteristic of LLI as is a potential weakening of the L1 (c.f. Restrepo & Kruth, 2000; Kohnert, 2007).

In addition to grammaticality, a large difference was observed in the fluency of Sy's narrative compared to his TD peers. Sy was generally more disfluent in both languages, at both time points than his TD peers. Mazes and disfluencies may indicate an expressive language weakness (Fiestas et al., 2005; Leadholm & Miller, 1995). Therefore, an increased number of disfluencies could be an indicator of an increased cognitive load caused by the difficulty with the task. This was a contrastive finding to Scott and Windsor (2000). When comparing the performance of children with LLI with their chronological age matched and language age matched peers, they found that the number of T-units that featured maze behaviors or disfluencies did not differentiate between groups. However, they did not calculate the total number of disfluencies per each narrative sample.

Though it is true that all three participants in this study produced disfluencies, Sy, our struggling ELL, produced a greater percentage of disfluencies than his TD peers in Vietnamese at both time points. In addition, his rate of speech was consistently slower in both languages and at both time points, which contributed to the overall halting and disfluent quality of his narrative, perhaps reflecting an increased cognitive burden while completing the task, compared to his TD peers. Typically developing ELL children also produce more maze and nonfluent behaviors in their L2 while they are gaining proficiency in English. However, the fact that Sy's narrative was similarly disfluent in Vietnamese (L1) indicates that factors beyond limited experience with the test language may be influencing performance. Children tend to be more disfluent when their language systems are being pushed to the limits (Fiestas et al, 2005). Sy's disfluencies are

especially problematic when in conjunction with the limited complexity demonstrated in his narrative. His degree of disfluency was increased during narratives that generally featured less lexical diversity and lower syntactic complexity than the TD peers, which further indicates a weakened language system.

### **Less Sensitive Dependent Measures**

At first, it would seem that MLU is also a sensitive feature for Sy; however, upon closer inspection, this did not seem to be the case. When compared to Dai, a child with high English language skills, Sy definitely lagged behind. However, when compared to Hoc, a child with more average English language skills, his MLU was similar. Restrepo and Kruth (2000) studied two Spanish-English bilingual children, one with LLI and one with TD language. They found clear marked differences between the MLU of the LLI child and the TD child in their study on nearly all variables. Our findings are congruent with these in that the difference between Sy and Dai were equally remarkable. Dai consistently produced an MLU that was significantly higher than that of Sy. This was true at both time points and in both languages. Dai is similar to the TD child in the study by Restrepo and Kruth (2000) because he is demonstrating above average English abilities compared to his peers. It would have been expected that there should be marked differences between his performance and Sy's performance. However, there is a wide range of normal variation in English learning abilities and rates among typically developing ELL students (Paradis, 2005). When we compared Sy's performance to Hoc's, a peer who is demonstrating average English learning abilities, Sy does not appear to be at a disadvantage on MLU. At T1, Sy actually produced an MLU

that was higher than that of Hoc's in English at T1 and MLUs that were comparable to Hoc's in Vietnamese. When parsing between LLI and TD, MLU may not be as useful an indicator as previously thought, at least in the case of Vietnamese and English learners. These results also reinforce the need for careful attention to the criteria used to select TD peers when conducting peer-based comparisons for the purposes of developing clinical profiles.

Monolingual English-speaking children with LLI have been shown to produce narratives that feature fewer C-units, fewer total words, a more restricted range of words, and lower syntactic complexity (Fey et al., 2006; Scott & Windsor, 2000, Paul & Smith, 1996). In contrast to this previous work, Sy was generally not distinguishable from his peers on these dependent measures. In his narratives, Sy consistently produced more C-units and more TNW than either Hoc or Dai at both time points. This is contradictory to other findings in the literature. However, other studies have found that in older children, gross measures of productivity, which measure quantity of information, rather than quality of information, can blur the lines between LLI and TD. Miles and Chapman (2002) compared the narratives produced by children with Down's syndrome (DS) to those of mental age-matched, syntax comprehension-matched, and MLU matched peers. The children with DS ranged in age from 12;2 to 26;10 years, considerably older than any set of matched peers. The DS group produced more thematic content and more quantity of content despite limited complexity in their narratives. They performed more similarly to the syntactic comprehension matched peers than the MLU matched peers. Children with expressive and syntactic language delay may be able to defer to experience as they

mature. They are able to compensate for expressive language weakness by filling in with their conceptual knowledge of stories and their experience with telling stories. This may be an explanation of Sy's performance in English at T2. His narrative greatly exceeded that of the TD peers in sheer quantity of C-units and words. However he performed poorly in regard to measures of complexity, his MLU remained the lowest of the three participants, and his lexical diversity in NDW was only slightly higher than his peers.

Conversely, Dai, the peer with the highest English scores on the study inclusionary measures, consistently produced the shortest narratives with fewer C-units and fewer TNW across both languages. This was unexpected because Dai demonstrated exceptional language skills in both English and Vietnamese. Other findings in the literature would have predicted that he would exceed the other participants in productivity. However, productivity may not be sensitive for language ability in children who are older. A study by Justice, Bowles, Kaderavek, Ukrainetz, Eisenberg and Gilliam (2006) found similar findings while investigating the efficacy of an assessment instrument in evaluating the quality of school-aged children's narratives. They found that older children in the later elementary school ages, 10 to 12 years, tended to produce shorter narratives that resembled those produced by the 8-year old group. The 10 to 12 year old groups underperformed the 9-year old group. They attributed this phenomenon to decreased motivation and interest on part of the child to complete such a simple task. Dai was exhibiting advanced language learning skills that are beyond that of his peers. Though he was matched for age to the other peers, his motivation in completing the task may have been decreased due to the task's simplicity given his sophisticated language

abilities. Justice et al. (2006) suggested that children with advanced language skills may be better assessed using more sophisticated tasks such as expository language tasks. It would appear that number of C-units and TNW become less sensitive to LLI as children age and language abilities advance. This seemed to be the case in our data.

Though he outperformed in other variables of productivity, Sy performed below his TD peers in NDW with the exception of his narrative in English at T2. Even though he greatly exceeded his peers in length at T2 in English, he only produced 17 more unique words than Hoc, and 27 more unique words than Dai. This indicates that Sy was generally using proportionately fewer unique words in his narratives. The words that he did use were more likely to be repeated during the narrative. This may indicate that Sy's lexical development was behind that of his peers, which is consistent with other findings for LLI (Fey et al. 2004; Paul & Smith, 1996; Scott & Windsor, 2000).

There was little variation in the density of clauses in the three study participants. All of the participants used complex C-units at least once during each of their narratives with the exception of Sy in Vietnamese at T2. It is apparent that Dai more consistently produced narratives with higher clausal density than the other two participants. Though Sy's narratives in English at T1 and Vietnamese at T2 were of higher clausal density than Hoc, their performances were generally comparable.

Sample length may have played a role in the reduced sensitivity of these variables. The samples used in this study varied from 19 to 49 C-units in length. Other studies have utilized much longer language samples from varied contexts. Restrepo and Kruth (2000) found that the child with LLI produced a less diverse repertoire of

grammatical forms in both English and Spanish. This was based on data corpora that consisted of 3 language samples: a narrative sample, a structured play sample and a conversational sample. A large and varied language sample will reveal a more accurate portrayal of a child's language development, especially grammatical development, because there are some forms that are not readily able to be used in certain tasks (Stalnaker & Creaghead, 1982).

Another illuminating method of measuring grammatical developmental is by utilizing a developmental syntactic checklist such as the Index of Productive Syntax (IPSyn: Scarborough, 1990) or The Developmental Sentence Scoring (DSS: Lee & Canter, 1971), but these are reserved for samples upward of 100 utterances in length, much longer than any sample collected in this study. Thus, we were reluctant to venture along this route, because these measures are only relevant in English.

The analysis of story quality findings did not reveal any clear differences between Sy and the two TD peers. All participants produced similar numbers of episodes, coherence, sequence and perspective elements. In some areas, Sy outperformed his TD peers, especially in English at T2. Measures of story quality may indicate that Sy was able to compensate for reduced linguistic skills using his experience with narrative structure and thematic knowledge (c.f. Miles & Chapman, 2002). This was apparent in English at T2 where Sy was quite productive in terms of narrative length. The added productivity bolstered the inclusion of perspective, action sequences and coherence elements, but not necessarily more episodic elements. Producing sufficient information in a narrative may be an area of relative strength for Sy, which is important to note

because children with LLI have varying strengths and weaknesses in different areas (Leonard, 1998). Once LLI is identified, this profile of relative strengths and weaknesses guides intervention planning.

### **Complications and Implications Related To Vietnamese**

Identifying and inventorying grammatical errors in Vietnamese was a very difficult task, despite the assistance of highly skilled and trained native speakers. There are many factors contributing to this difficulty. First, the lack of research on typical Vietnamese acquisition by monolingual speakers made it difficult to identify developmental errors. Our Vietnamese rater was unable to anticipate the kinds of errors a child would produce and where these errors would occur. On the other hand, the English rater, being trained in Speech Language Pathology, was able to anticipate errors in morphological endings, which assisted in identifying these errors. Our Vietnamese rater deferred mainly to their intuition and experience in order to judge the grammaticality of a C-unit. Classifying the errors was also very difficult because of this. The rater was often able to identify that a particular C-unit sounded ungrammatical, but had greater difficulty pinpointing the exact reason why. This may have also caused the breadth of grammatical errors in Vietnamese to be inflated.

Because grammaticality in Vietnamese has less to do with morphologic markers and syntax, more emphasis was put onto semantics. The bulk of errors in Vietnamese involved the imprecise use of vocabulary, imprecise use of pronouns, and imprecise use of prepositions.

It is important to note that despite the difficulty identifying errors in Vietnamese, there was a clear perceivable difference between the performances of the three participants. The number of errors produced by Sy in Vietnamese was clearly higher than either of his TD peers. Raters often commented on the poor quality of Sy's narrative compared to the other participants. When judging the narrative of Dai, the E-ELL child, raters had difficulty identifying any errors at all, especially at T1, because his narrative was very close to the adult standard. These findings point to "listener judgment" as a potential complementary diagnostic tool for Vietnamese or other languages in which there are few clinical resources. Though the Vietnamese grammatical analysis was not as thorough as the English analysis, it is important to note that native speakers were able to make a judgment as to the grammaticality of a narrative. In the context of the TD peers, the rater was able to identify Sy's narrative as weaker than his peers. This may prove to be useful tactic for a SLP who has access to an interpreter during assessment; however, the reliability of this strategy would need to be further explored.

No measure of syntactic complexity in Vietnamese exists. In addition, word order in Vietnamese is more flexible than in English and verbs tenses are not inflected (Nguyen, 1997). An instrument, translated from those available English would not have been valid. Also, there has not been much research as to the grammatical development of Vietnamese speaking children, which impeded the creation of an ad hoc instrument given time constraints. Perhaps these are worthwhile avenues to pursue in future research.

### **Clinical Implications and Study Limitations**

Overall, Sy experienced greater increased difficulty with language than his peers.

The narrative analysis revealed that his performance on some dependent measures in both L1 and L2 was well below the performance by two peers with similar language background. Sy's difficulty on key aspects of language, in particular grammar, fluency, and rate of speech, are consistent with a diagnosis of LLI, which would be consistent with his poor academic achievement. At the same time, results from the narrative analyses presented here are very limited and constitute only part of a full assessment. The American Speech, Language, and Hearing Association (ASHA, 2004) recommends a varied assessment battery that bridges many language domains and contexts in order to arrive at a diagnosis with culturally and linguistically diverse learners. Our conclusions were drawn from a narrative language sample, which was very short in length. It would be important to assess Sy's performance in other domains as well, in English and/or Vietnamese, using measures of learning (e.g. dynamic assessment) in order to have a clearer picture of his language skills.

In this investigation, I also found that a number of our variables did not distinguish Sy, the struggling ELL, from his typical peers, who were learning English with less difficulty. This does not necessarily rule out LLI in Sy's case, but rather serves as a reminder of the variable clinical profile presented by children with LLI. Children with LLI vary significantly in severity and demonstrate a wide combination of skills and weaknesses in different areas; however, the universal factor is that they have an underlying weakness in "doing language" in some or many domains (Kohnert, 2007; Leonard, 1998). It is also the case that different measures may be more sensitive to the

LLI profile at different ages (e.g. school age vs. preschool age) or in different languages. For example, I found here that grammaticality seemed more vulnerable to Sy's underlying language struggles than story quality. Sy may be a case of a child who is "on the bubble." He possesses a LLI; however, his problems are not completely obvious, and in some language areas, he may be on par with his peers. Regardless, based on narrative analyses combined with his educational history, a full assessment with additional academic support seems warranted in order to prevent academic failure in the future.

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## Appendix A

## Grammatical Error Inventories

Grammatical Error Inventory - Sy					
Time 1					
English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>			<u>Verb Errors</u>		
-Inflection errors	12	"The big frog jump in the boat."	-Imprecise Vocabulary	2	"Con trai coi con ếch" <i>The boy watches the frog. (Picture shows boy looking for a frog)</i>
-Omitted copula	4	"Frog lost."	-Extraneous Verb	1	"Thì con trai không có bắt được." <i>So the boy could not able to catch it.</i>
-Incorrect use of infinitive	1	"The boy to open a present."			
-Incorrect use of auxilliary	1	"The big frog is don't"			
-Omitted auxillary	1	"The turtle told the boy (what) the frog doing."			
-Incorrect past tense	2	"Then the frog was kick the little frog."			
<u>Noun Errors</u>			<u>Noun Errors</u>		
-Omitted possessive 's	1	"Frog (jump) on the turtle shell."	-Imprecise Vocabulary	1	"Con ếch thấy cái chân đó." <i>The frog sees that foot. (Picture depicts footprints)</i>
			-Missing numerator	1	"Con ếch thấy cái [vết] chân đó." <i>The frog sees that footprint (Picture depicts many footprints)</i>
			-Missing object	2	"Con ếch không có chơi với" <i>The frog doesn't have (missing object) to play with.</i>
<u>Miscellaneous Errors</u>			<u>Miscellaneous Errors</u>		

-Incorrect preposition	4	“The boy look in the little frog.”	-Imprecise preposition	3	“Con ếch nhảy ở bồn tắm.” <i>The frog jumped at the tub.</i>
-Omission of preposition	1	“The boy say ‘stay’ the frog.”	-Imprecise conjunction	6	“Thì con trai đi tắm/ Thì con thấy con trai.” <i>So the boy took a bath. So the frog sees the boy. (No causal relationships)</i>
-Misuse reflexive form	1	“The boy go home and cry himself.”	-Wrong classifier	2	“Cái ốc ở đâu?” <i>Where is the (implying inanimacy) snail?</i>
-Omitted of “what”	1	“The turtle told the boy the frog (was) doing.”	-Missing classifier	1	“Con ếch lại nhà trai.” <i>The frog went to the house of boy.</i>
			-Wrong use of kinship term	1	“Con trai kêu con chó đi bên phải thì con đi bên trái.” <i>The boy told the dog to go the right then I (implying inferiority to dog) will go to the left.</i>
<b>Total</b>	<b>29</b>		<b>Total</b>	<b>20</b>	

Time 2

English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>			<u>Verb Errors</u>		
-Inflection errors	16	“The boy (was) surprise.”	-Imprecise Vocabulary	5	“Thì con trai coi ở dưới nước.” <i>So the boy watched under the water.</i>
-Omitted copula	4	“And the frog mad.”	- Wrong word order	1	“Con trai đi chạy để mà bắt con ếch” <i>The boy went to run in order to catch the frog.</i>
-Incorrect use of auxillary	2	“The boy and the dog does pick up the frog.”	-Extraneous verb	1	“Con cóc không có thích được.” <i>The frog couldn't able to like it.</i>
-Incorrect use past tense	1	“He were be a pirate.”			
-Inaccurate verb use	1	“They keep finding at him.”			
<u>Noun Errors</u>			<u>Noun Errors</u>		
-Omitted	1	“Got a present and	-Imprecise	6	“Con trai với con đó

subject		read a sign.”	Vocabulary		đi.” <i>The boy and that animal go. (Picture depicted boy and dog)</i>
-Omitted possessive ‘s	2	“...and then landed (on) the frog head.”	-Missing Object	1	“Con trai với con chó bắt.” <i>The boy and the frog catch.</i>
-Omitted plural s	1	“And all the pet were glad.”			
-Incorrect irreg past tense	3	“The little frog were crying.”			
<u>Miscellaneous Errors</u>			<u>Miscellaneous Errors</u>		
-Incorrect preposition	4	“The boy was disappointed on the big frog.”	-Imprecise preposition	2	“Cóc đi ở nhà.” <i>The frog go at home.</i>
-Omitted preposition	2	“The frog hop on the tip turtle shell.”	-Extraneous Preposition	3	“Con trai với con chó té ở trong vòng nước.” <i>The boy and the dog fell inside the pond.</i>
			-Imprecise conjunction	4	“Con trai với con chó đi tắm. Thì con ếch thấy con trai với con chó.” <i>The boy and the dog take the bath, so the frog sees the boy and the dog. (No causal relationship)</i>
			-Imprecise locative	1	“Con trai biểu con chó đi ở đây.” <i>The boy tells the dog to go to here. (Picture depicts boy pointing to over there)</i>
<b>Total</b>	<b>37</b>		<b>Total</b>	<b>24</b>	

<i>Grammatical Error Inventory – Hoc</i>					
Time 1					
English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>			<u>Verb Errors</u>		
-Inflection	5	“And he fall in the	-Imprecise	2	“Rồi ảnh vọt con đó.”

errors		pond”	Vocabulary		<i>Then he handnetted that animal. (Using noun to act as verb)</i>
-Omitted copula	2	“He so mad.”	-Contradictory verb phrase	1	Ảnh đó lỡ bắt được con chó.” <i>He mistakenly successfully caught the dog.</i>
<u>Noun Errors</u>			<u>Noun Errors</u>		
-Omitted possessive ‘s	1	“He landed on big frog head.”	-Imprecise vocabulary	1	“Rồi nó đi theo cái bước đó.” <i>Then they followed that step. (Picture depicted footprints)</i>
-Omitted plural s	1	“They went outside to catch frog.”	-Imprecise pronoun	5	“Và hai người leo lên cây.” <i>And the two people climbed up the tree. (Picture depicts boy and dog climbing up tree)</i>
-Omitted object	1	“He got a present (and) open up.”			
			<u>Miscellaneous Errors</u>		
			- Missing preposition	1	“Đi nhà của họ.” (He) goes their house.
			-Missing numerator	1	“Rồi nó đi theo cái bước của họ” <i>Then he followed their footprint. (Picture depicts many footprints)</i>
			-Misuse of kinship terms	2	“Có ngày em bé đi bắt ếch và anh thấy một con ếch.” <i>One day, the little boy went to catch frogs and he (implying little boy has older status) saw a frog.</i>
<b>Total</b>	<b>10</b>		<b>Total</b>	<b>12</b>	
Time 2					
English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>			<u>Verb Errors</u>		
-Inflection errors	2	“The frog kick the little frog into the pond.”	-Imprecise Vocabulary	2	“Rồi đứa nhỏ vọt trúng con chó.” <i>Then the little boy handnetted the dog. (Noun used as verb)</i>
-Incorrect irreg.	1	“He was sad when he	-Missing verb	1	“Con cóc cười với hai

past tense		done that.”			đứa nhỏ và nhảy vô chung. “ <i>The frog laughed with the two kids and jumped in together.</i>
<u>Noun Errors</u>			<u>Noun Errors</u>		
-Omitted subject	1	“Was really happy.”	- Missing object	1	“Nó muốn bắt.” <i>He wants to catch.</i>
-Omitted plurals	3	“...they catch flies for the two frog.”	-Imprecise pronoun	2	“Con cóc cười với hai đứa nhỏ...” <i>The frog laughed with the two boys. (Picture depicts only one boy)</i>
<u>Miscellaneous Errors</u>			<u>Miscellaneous Errors</u>		
-Incorrect preposition	1	“The boy was mad of the bad frog.”	- Imprecise preposition	1	“Mà nó trượt lên cái nhánh cây” <i>But he tripped up a branch.</i>
			-Missing Numerator	1	“Rồi nó đi theo về cái bước chân” <i>Then he followed the footprint. (Picture depicted many footprints)</i>
<b>Total</b>	<b>8</b>		<b>Total</b>	<b>8</b>	

<i>Grammatical Error Inventory – Dai</i>					
Time 1					
English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>			<u>Miscellaneous Errors</u>		
-Inflection errors	6	“He open up the box.”	-Misused phrase	1	“Khi cậu bé lên mặt nó...” <i>When the boy came up face...</i>
-Incorrect irreg. past tense	1	“The rest of them was mad...”	-Imprecise Conjunction	1	“Lúc mà con chó định nhảy tới để chụp con ếch con ếch nhảy xuống nước. Mà cậu bé lỡ chụp con chó.” <i>When the boy was about to jump to catch the frog the jumped down. Where the boy accidentally caught the dog.</i>
<u>Noun Errors</u>					
-Omitted possessive ‘s	1	“The little frog jump on the turtle			

		shell.”			
<b>Total</b>	<b>8</b>		<b>Total</b>	<b>2</b>	
Time 2					
English			Vietnamese		
Error Type	Number	Example	Error Type	Number	Example
<u>Verb Errors</u>					
-Inflection errors 2	2	“The frog jumped and kick the little frog off.”			
-Incorrect irreg. past tense	1	“The big frog and little frog was sitting.”			
<u>Noun Errors</u>					
-Omitted possessive ‘s	1	“The little frog landed on the big frog head.”	-Imprecise Vocabulary	2	“Đứa con trai và con gấu về nhà.” <i>The boy and the bear went home. (Picture depicted boy and dog going home.)</i>
			<u>Miscellaneous Errors</u>		
			-Incorrect conjunction	1	“Con ếch đi vô phòng vệ sinh còn nhảy vô trong phòng tắm.” <i>The frog went into the bathroom still he jumps into the bathroom.</i>
<b>Total</b>	<b>4</b>		<b>Total</b>	<b>3</b>	

## Appendix B

### Story Quality Rubric (from Pham, 2011)

Story Episodes	Criteria	Points
	0 – 1 complete episodes	0
	2 – 3 complete episodes	1
	4 complete episodes	2
	5 complete episodes	3
	6 complete episodes	4
	7 ore more complete episodes	5
Sequence		
	No marked beginning, end or action sequence	0
	1 action sequence, beginning or end	1
	2 action sequences; or beginning + 1 action sequence; or end + 1 action sequence; or beginning + end	2
	3 action sequences; or beginning + end + 1 action sequence; or beginning + 2 action sequences; or end + 2 action sequences	3
	4 action sequences; or beginning + 3 action sequence; or end + 3 action sequences; or beginning + end + 2 action sequences	4
	5 action sequences; or beginning + 4 action sequences; or end + 4 action sequences; or beginning + end + 3 action sequences	5
Perspective/ Affect		
	No Described observable actions in pictures	0
	No dialogue; 1 or more emotion or intention words	1
	Used dialogue	2
	Used dialogue and 1 – 2 emotion or intention words	3
	Used dialogue and 3 – 4 emotion or intention words	4
	Used dialogue and 5 or more emotion or intention words	5
Coherence		
	Sentence subjects <25% clear	0
	Sentence subjects 26-50% clear	1
	Sentence subjects 51-84% clear	2
	Sentence subjects >85% clear	3
	Subjects include 1 – 2 different pronouns and subjects >85% clear	4
	Subjects include 3 or more different pronouns and subjects >85% clear	5
	<b>Total</b>	<b>20</b>

## Appendix C

### Narrative Transcripts

#### Sy – English Time 1

- 1 the boy got a present.
- 2 the boy to open the present.
- 3 and the boy got <a> [x 2] little frog.
- 4 and then the frog is mad at the little frog.
- 5 <the boy> [x 2] said here play with the little frog.
- 6 and <the> [x 2] big frog is don't.
- 7 <the> [x 3] big frog is bother him.
- 8 and <the> [x 2] big frog bite the little frog.
- 9 then the boy take the <frog> [//] little frog up.
- 10 and the big frog mad.
- 11 <<then> [x 2] the> [//] then the <big> [x 2] frog on the turtle <shell> [x 2].
- 12 then the big frog was kick the <little> [x 2] frog down.
- 13 then the boy said <don't> [x 2] push him down.
- 14 and the little frog was crying.
- 15 then <the big boy> [x 2] says stay the frog.
- 16 stay here.
- 17 sorry +...
- 18 and <the frog> [//] the big frog jump in <the 0um> [//] the boat.
- 19 and the big frog look in the <little> [x 2] frog.
- 20 then he kick the little frog <in the down> [//] in the water.
- 21 the turtle was telling the boy the big frog doing.
- 22 and <the 0um> [//] then <the boy where> [//] the boy say where to the little frog?
- 23 and the turtle mad at the <big> [x 2] frog.
- 24 the boy was looking for the little frog because they lost the little frog.
- 25 frog lost.
- 26 and the big frog 0um was looking for the +...
- 27 <<the> [x 3] big boy go> [//] the boy go home and cry himself.
- 28 and <the> [x 2] frog will stay here.
- 29 <and the 0um> [//] and the big frog was sad.
- 30 and then the boy was crying in the bed.
- 31 <and> [x 2] <the boy> [x 2] look in the little frog.
- 32 the little frog was jump in his bed.

#### Sy – Vietnamese Time 1

- 1 con trai đang bắt con ếch [^c] để con trai chơi với con ếch.
- 2 con trai đang kiếm con ếch.
- 3 cái con trai thấy con ếch rồi.
- 4 con trai <chạy> [x 2] bắt con ếch.

- 5 con trai té [x 3] xuống dưới nước.
- 6 con trai ở <nước> [//] dưới nước.
- 7 con trai coi con ếch.
- 8 con ếch cười con trai.
- 9 con trai <bắt con> [x 2] ếch.
- 10 thì con trai không có bắt được.
- 11 <con> [x 2] ếch <ở trong> [//] <ở> [x 2] cây.
- 12 con trai kêu con chó <đi> [x 2] bên trái.
- 13 <con> [//] thì con đi bên phải.
- 14 thì con trai đi lên.
- 15 và con chó và con trai <0yell lên> [x 2].
- 16 thì con trai bắt <con> [x 2] chó.
- 17 <thì con> [x 2] ếch rớt xuống.
- 18 <con> [x 2] trai +...
- 19 cái óc ở đâu?
- 20 thì con óc giận.
- 21 con trai <không> [x 2] biết ở đâu.
- 22 con ếch ở đâu?
- 23 thì con ếch buồn.
- 24 thì con trai đi.
- 25 <con> [x 3] trai đi về nhà.
- 26 thì con ếch không có chơi với.
- 27 con ếch thấy cái <chân đó> [//] chân.
- 28 thì con ếch lại nhà của con trai.
- 29 thì con trai đi tắm.
- 30 thì con <ếch> [x 2] thấy con trai.
- 31 <con> [//] <con trai> [x 2] +...
- 32 con ếch lại nhà <của> [x 2] trai.
- 33 con ếch nhảy ở bồn\_tắm.
- 34 con trai +...
- 35 <con> [x 2] ếch thích <con> [x 2] trai.

### Sy – English Time 2

- 1 there is a boy.
- 2 got a present and read a sign.
- 3 it's for the boy.
- 4 and all the pet were glad.
- 5 and the boy open it.
- 6 and the dog <and> [x 3] the boy surprise.
- 7 but the frog's not.
- 8 so the boy and dog does pick up a frog.
- 9 and the dog left.
- 10 <and the frog just> [//] and the frog mad.
- 11 the boy and the dog was surprise.
- 12 and the boy <put the> [x 2] baby frog down.
- 13 <and the> [x 2] big frog was staring at him.

- 14 <and the> [x 2] big frog <says something> [x 2].  
 15 and the frog bite.  
 16 and <the> [x 2] little frog were crying.  
 17 and he pick him up again <and pick up> [//].  
 18 and he say bad bad froggy.  
 19 <and he> [//] and he were be a pirate.  
 20 <and> [x 2] the big frog and the little frog just hop <on> [x 2] the  
 tip turtle shell and began following the boy.  
 21 and the big frog was kicking him off by the shell.  
 22 and <the> [x 2] little frog was crying.  
 23 and the boy said <no> [x 3] good for you froggy and let him  
 stay in here.  
 24 <and> [x 2] the boy said you will be here until you apologize  
 the little frog.  
 25 <<so he> [x 2] look for no> [//] he go.  
 26 and he look for something.  
 27 and the frog just jump on the rail and look and stare at <her> [//]  
 him again.  
 28 so he kick him off.  
 29 <and his> [//] and the baby frog fell outside.  
 30 and splash in the <0wa> [//] pond.  
 31 <and the turtle> [x 2] saw it.  
 32 and the turtle tell <the to> [//] the boy.  
 33 <the 0um> [//] <and the> [x 2] boy was disappointed on the big frog.  
 34 <so> [//] and they keep <finding> [x 3] at him.  
 35 and the big frog getting <0worr> [//] worried.  
 36 <<and the> [x 2] 0um> [//] and the boy was crying.  
 37 and <the> [x 2] dog was mad at him.  
 38 and the turtle was looking at him.  
 39 so <the> [x 2] frog is sad.  
 40 <the 0um> [//] the boy is crying at his bed.  
 41 and his dog looking.  
 42 it was +...  
 43 and a big frog crying.  
 44 <now the boy hear something> [//] the boy and the dog and the frog  
 and the turtle hear something.  
 45 it was a little frog <come> [x 2] inside of the house.  
 46 and then jump and then landed on the frog head.  
 47 <and then> [//] and the little frog will be friends together.  
 48 and the big frog is happy.  
 49 and everyone is happy.

### Sy – Vietnamese Time 2

- 1 con trai với con đó <đi> [x 2] bắt con cóc.  
 2 thì con <trai> [x 2] <coi> [x 2] <ô> [x 2] dưới nước.  
 3 thì con chó gãi.

- 4 và <con trai> [x 2] thấy con ếch.
- 5 con ếch <ở trên ở cái lá> [//] ở trên lá.
- 6 <con trai> [x 2] đi chạy để mà bắt con cóc.
- 7 <thì> [x 2] con trai với con chó té.
- 8 con trai với con chó té <ở> [x 2] trong vòng nước.
- 9 thì <con> [x 2] óc cười.
- 10 <con> [x 2] trai 0um <bắt con> [x 2] cóc.
- 11 con cóc thì <ở trong> [//] ở trên cái cây gì.
- 12 con trai biểu con chó <đi> [x 3] ở đây.
- 13 thì con trai đi ở đó.
- 14 <thì> [x 2] con trai với con chó lèo <<thì> [x 2] con> [//] để mà bắt con cóc.
- 15 <con> [x 2] trai với con chó bắt.
- 16 thì con trai bắt con chó.
- 17 <con 0um> [//] con óc <không có> [x 2] thích được.
- 18 <thì> [x 2] con trai giận.
- 19 con trai không có muốn con ếch coi nữa.
- 20 thì con trai đi về.
- 21 thì <con> [x 2] óc buồn.
- 22 con trai với con chó đi về.
- 23 thì con óc ở 0alone.
- 24 tiếp tiếp tục.
- 25 thì không có bạn để mà chơi.
- 26 <thì> [x 2] con óc thấy cái chân <chân> [//] thì <để mà> [x 2] đi theo.
- 27 thì <nó> [//] óc đi ở nhà.
- 28 đi theo nữa.
- 29 con trai với con chó <đi> [x 2] tắm.
- 30 thì con ếch thấy con trai với con chó.
- 31 <thì> [x 2] <con> [x 2] trai với con chó <thấy> [x 2] con óc.
- 32 thì con óc nhảy trong bồn.
- 33 <thì> [x 2] con trai với con chó với con ếch vui.

### Hoc – English Time 1

- 1 0um the guy he got a present from his mom.
- 2 he opened up.
- 3 <it was> [x 2] a frog.
- 4 and the big frog was angry.
- 5 and the guy 0um went down <and 0um> [//] inside of 0um the big frog.
- 6 the big frog bite him.
- 7 and the guy said don't ever do that again.
- 8 and then <they> [x 2] went out to 0um catch 0um frog.
- 9 and the turtle's carrying the big frog and small frog.
- 10 and the big frog kick the little frog out.
- 11 and the boy said don't do that.
- 12 and he said stay there.

- 13 don't go anywhere or else.  
 14 and he so mad.  
 15 he jump on.  
 16 and <he> [x 2] saying i hate you little frog.  
 17 and he kicked him out.  
 18 <fall> [//] and he fall in the pond.  
 19 and turtle saw it.  
 20 and the turtle was telling the little guy.  
 21 and the little guy was so sad.  
 22 and they were looking everywhere for him.  
 23 the frog was looking in the bushes.  
 24 and the turtle was looking in a log.  
 25 and the guy was looking in the pond.  
 26 and they were so sad.  
 27 he went home crying.  
 28 and the big frog was sad.  
 29 <and> [x 2] <the> [x 2] guy lay on his bed crying.  
 30 and <the little frog> [//] the big frog Oum was sad because the  
 small frog was gone.  
 31 and then they look in the window.  
 32 they saw the little frog jump.  
 33 and he landed on the big frog head.  
 34 <and they were happy Oum> [//] and they were happy together.

### Học – Vietnamese Time 1

- 1 có ngày em bé Oum Oum đi bắt ếch.  
 2 và anh thấy một con ếch.  
 3 nó rất là vui.  
 4 và con ếch nhìn thẳng đó.  
 5 nó rất là vui.  
 6 anh chạy xuống.  
 7 mà con ếch giận.  
 8 và hai người té.  
 9 và con ếch rất là giận anh.  
 10 nó cười anh đó.  
 11 và anh đó chụp con ếch.  
 12 con ếch nhảy đi.  
 13 và hai đứa rất giận.  
 14 rồi anh đó nói con chó đi bên kia.  
 15 và tui đi bên này.  
 16 và hai người leo lên cây.  
 17 chuẩn bị bắt.  
 18 rồi <anh> [x 2] <vợt> [//] tính vợt con đó mà chúng được con chó.  
 19 và con ếch nó rớt xuống.  
 20 anh đó lỡ bắt được con chó.

- 21 rất là giận cái con ếch này.  
 22 ảnh chán.  
 23 và ảnh <nói tui sẽ> [//] nói không bao\_lâu tui sẽ bắt người!  
 24 và hai nó đi.  
 25 nó để con ếch đó mình\_ơn.  
 26 con ếch ngồi đó mình\_ơn.  
 27 nó rất là buồn.  
 28 rồi nó đi theo cái bước của họ.  
 29 đi nhà của họ.  
 30 rồi vô ngay trong chỗ của họ đang tắm.  
 31 rồi con ếch nhìn thấy anh đó.  
 32 nhảy vô chơi.  
 33 mai\_một <hai người đó> [//] ba người đó là bạn.

### Hoc – English Time 2

- 1 one day the boy Oum found presents.  
 2 and it was a frog.  
 3 when he opened it a frog came out.  
 4 was really happy.  
 5 <he show the frog to his Oum> [//] he showed the new frog to his friend.  
 6 Oum the boy was very happy.  
 7 the boy was shocked when the other frog bit the little dog.  
 8 the boy was mad <of the> [x 2] <bad dog> [//] bad frog.  
 9 all their friend march through to the lake.  
 10 Oum the big frog kicked the little frog off the turtle.  
 11 the little boy told the big frog not to do that again.  
 12 they were on a trip to catch some flies for the two frog.  
 13 but he told the big frog not to go.  
 14 when he was looking for Oum other things the frog jumped in.  
 15 then the boy saw something.  
 16 then the big frog kick the little frog into the pond.  
 17 then he laughed.  
 18 a turtle told on the kid that the frog kick the little frog out of the boat.  
 19 the boy was shocked when he done that.  
 20 and the turtle was really mad.  
 21 they looked all around all the pond to find the little frog.  
 22 but they couldn't find it anywhere.  
 23 so they sadly came home.  
 24 and all their friend were mad at the <big dog> [//] big frog.  
 25 <they lay the kid> [//] the boy laid in his room by himself.  
 26 then they saw something.  
 27 the little frog came back.  
 28 and they were happy.  
 29 then the little frog landed on the big frog.  
 30 <<they were> [x 2] Oum Oum> [//] both of them <were happily> [//] were happy together.

## Học – Vietnamese Time 2

- 1 một ngày có một đứa nhỏ đi với con chó.
- 2 muốn <cắt > [//] bắt một con cóc.
- 3 0um đứa nhỏ thấy một con cóc.
- 4 rồi nó rất là vui.
- 5 nó muốn bắt.
- 6 thì nó chạy xuống.
- 7 mà nó trượt lên cái nhánh cây.
- 8 rồi nó rớt xuống dưới nước.
- 9 cóc <nó 0um nó cũng> [//] nó cười đứa nhỏ.
- 10 0um đứa nhỏ muốn bắt con cóc.
- 11 mà con cóc nó nhảy.
- 12 0um rồi đứa nhỏ rất là giận.
- 13 0um đứa nhỏ kêu con chó qua bên chỗ kia [^c] để 0um bắt.
- 14 và đứa nhỏ leo lên nhánh cây.
- 15 và lúc con chó đang rượt nó [^c] đứa nhỏ lấy vọt.
- 16 tôi muốn vọt nó.
- 17 mà con cóc nó rớt xuống.
- 18 rồi đứa nhỏ vọt chúng con chó.
- 19 0um <đứa> [//] con cóc rất là giận.
- 20 đứa nhỏ <buồn> [x 2] rồi nói <ta sẽ> [//] một ngày ta sẽ bắt may.
- 21 con cóc rất là buồn.
- 22 0um <đứa> [x 2] 0um nhỏ với con chó về nhà.
- 23 con cóc mình\_on thấy buồn không có ai chơi.
- 24 rồi nó đi theo về cái bước\_chân của con chó với <con 0m> [//] đứa nhỏ.
- 25 đứa nhỏ và con chó đang tắm.
- 26 con cóc cười với hai đứa nhỏ và <nhảy> [x 2] vô chung.
- 27 rồi sau đó 0um đứa nhỏ với con chó với con cóc nó vui.

## Dai – English Time 1

- 1 one day the boy found a big box.
- 2 he open up the box.
- 3 and the baby frog jumped out.
- 4 the big frog was jealous.
- 5 the boy let the little frog sat next to the big frog.
- 6 the big frog started laughing at the little frog.
- 7 then he start biting the little frog's leg.
- 8 the boy yelled at the big frog.
- 9 then the boy took his dog his turtle and his two frogs out to the swamp.
- 10 the big frog and the little frog sat on the turtle shell.
- 11 the big frog kick the little frog off.
- 12 the boy was really mad at the big frog.
- 13 <so the boy told> [x 2] the frog to stay at the riverbank while the rest of them <get> [//] got on a boat and sail out to the

- swamp.
- 14 but the big frog jump on the boat and kick the baby frog off.
- 15 <the> [x 2] turtle told the boy about what happened.
- 16 and the boy was shocked.
- 17 <that> [//] the rest of them started looking for the baby frog.
- 18 the rest of them <was mad at the baby> [//] was mad at the big frog.
- 19 so when they went home they were all sad.
- 20 <but then they> [x 2] heard a noise outside the window.
- 21 and the baby frog jumped right through the window and landed on the big frog's head.
- 22 at the end the <two little frog> [//] two frogs became friends.

### Dai – Vietnamese Time 1

- 1 <một ngày nọ> [x 2] một đứa bé dẫn con chó của nó ra ngoài hồ.
- 2 lúc tới hồ [^c] cậu bé thấy một con ếch đang ngồi trên cái lá.
- 3 nó chạy xuống để chụp con ếch.
- 4 cậu bé vấp té trên một cái cây và rớt xuống nước.
- 5 khi cậu bé lên mặt nó [^c] cậu bé thấy con ếch ngay trước mặt của <nó> [//] cậu bé.
- 6 cậu bé dành chụp con ếch.
- 7 nhưng con ếch nhảy trên một cành cây khô.
- 8 <con> [//] cậu bé biểu con chó đứng lên một đầu của cây khô.
- 9 <còn> [x 2] cậu bé đứng bên đầu kia của cây khô.
- 10 lúc mà con chó định nhảy tới [^c] để chụp con ếch [^c] con ếch nhảy xuống nước.
- 11 mà cậu bé lỡ chụp con chó.
- 12 <cậu bé> [//] con chó bực mình leo lên một cục đá.
- 13 cậu bé cũng bực mình <và> [x 2] bỏ về và đi về nhà.
- 14 sau đó con ếch cảm thấy rất buồn.
- 15 cậu bé về nhà và cảm thấy rất bực mình.
- 16 bây giờ con ếch ngồi trên cục đá một mình và cảm thấy cô đơn.
- 17 sau đó con ếch đi theo dấu chân của cậu <bé> [x 2] và con chó vô nhà của cậu bé.
- 18 lúc cậu bé đang tắm [^c] con ếch nhảy vào bồn tắm.
- 19 cuối cùng cậu bé con chó và con ếch làm bạn thân với nhau.

### Dai – English Time 2

- 1 once upon a time a boy received a present.
- 2 he opened it up.
- 3 and a little frog jumped out.
- 4 the boy set the little frog next to his big frog.
- 5 the big frog started biting the little frog's leg.
- 6 the boy picked up the little frog and yelled at the big frog not to do it.
- 7 that afternoon the boy took his pet down to the swamp.

- 8 as the big frog and the little frog was sitting on the turtle the big frog kick the little frog off.
- 9 <the small> [//] the little frog started crying.
- 10 and the boy yelled at the big frog.
- 11 the boy told the frog to stay on the bank while the boy the dog the turtle and the little frog <go Ouh go> [//] went on the raft and went onto the swamp.
- 12 the boy started looking out.
- 13 and then the big frog jumped on the raft and then kick the little frog off.
- 14 the turtle told the boy about what happened.
- 15 when the boy turned around he started yelling at the frog.
- 16 the boy the turtle the dog and the frog looked everywhere for the little frog.
- 17 in the end <the boy the no> [//] the boy and his pet went home and left the big frog in the swamp bank.
- 18 the frog followed the boy home.
- 19 the boy was on his bed crying.
- 20 then the boy heard a sound.
- 21 he looked out the window.
- 22 and the little frog jumped in.
- 23 the little frog landed on the big frog head.
- 24 at the end the little frog and the big frog were best friends.

## Dai -Vietnamese Time 2

- 1 một ngày đứa con trai dẫn con chó ra ngoài hồ [^c] để bắt ếch.
- 2 <con> [//] đứa con trai chạy xuống hồ [^c] để bắt con ếch [^c] nhưng vấp một cành cây khô.
- 3 con trai rớt.
- 4 con trai và con chó rớt xuống nước và thấy con ếch.
- 5 đứa con trai đến chụp con ếch [^c] nhưng không chụp được.
- 6 xong rồi đứa con trai <ngồi đứng> [//] ngồi trên một đầu của cành cây khô và nói [^c] con chó đi lên đầu kia.
- 7 xong rồi <con> [//] đứa con trai với con chó nhảy tới [^c] để chụp con ếch.
- 8 con ếch nhảy xuống nước rồi ngồi lên một cục đá.
- 9 <con> [//] đứa con trai la con ếch và dẫn con chó đi về.
- 10 con trai cảm thấy bực\_mình.
- 11 con ếch ngồi trên cục đá một mình cô\_đơn.
- 12 sau đó con ếch đi theo dấu\_chân của đứa con trai và con gấu về nhà.
- 13 con ếch đi vô trong phòng vệ\_sinh còn nhảy vô trong phòng tắm của đứa con trai.
- 14 sau đó đứa con trai chơi với con ếch.