

University of Alberta

The Use of the ENNI to Assess Narrative Abilities of Young Korean Children.

by

Jung Yoon Lee

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Education
in
Special Education

Department of Educational Psychology

©Jung Yoon Lee
Spring 2013
Edmonton, Alberta

Permission is hereby granted to the University of Alberta Libraries to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only. Where the thesis is converted to, or otherwise made available in digital form, the University of Alberta will advise potential users of the thesis of these terms.

The author reserves all other publication and other rights in association with the copyright in the thesis and, except as herein before provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatsoever without the author's prior written permission.



Library and Archives
Canada

Published Heritage
Branch

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque et
Archives Canada

Direction du
Patrimoine de l'édition

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

ISBN: 978-0-494-92472-3

Our file Notre référence

ISBN: 978-0-494-92472-3

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.

Canada

Abstract

The present research was a pilot study to determine the feasibility of using the Edmonton Narrative Norms Instrument (ENNI) to assess Korean children's narrative abilities. In this study inclusion of Story Grammar (SG) units (i.e., total number and type) in Korean children's narratives was examined. Participants comprised 60 typically developing Korean children aged 4, 5, and 6. Each child produced two stories from sets of pictures from the ENNI: a simple story (A1) and a complex story (A3). The results revealed that inclusion of SG units increased with age and showed significant linear trends for both the simple and complex stories. Additionally Korean children more frequently included core SG units than noncore SG units. These findings suggest that the ENNI has the potential to be adapted and used to assess Korean children's narrative abilities.

TABLE OF CONTENTS

Introduction.....	1
Literature Review.....	2
Personal and Fictional Narratives	3
Personal narrative assessment	3
Fictional narrative assessment.....	4
<i>Story retelling</i>	4
<i>Story formulation</i>	5
Narrative Analysis	5
<i>Microstructure</i>	5
<i>Macrostructure</i>	6
<i>Story Grammar model</i>	6
<i>Core story grammar units</i>	9
<i>Developmental trends</i>	10
Cultural and Linguistic Features of Narratives.....	12
Korean Children's Narratives	15
Narrative assessment in Korea	16
Methods	21
Participants	21
Inclusion criteria.....	21
Materials.....	22
Procedure.....	25
ENNI testing.....	25
Data Analysis	26

Statistical analysis	27
Reliability	27
Transcript reliability	27
Inter-scorer reliability	28
Results.....	29
Developmental Changes in Story Grammar Scores	29
Trend Analysis	30
ENNI story grammar scores of Korean and Canadian children	32
Analysis of Story Grammar Units	34
Simple story.....	34
<i>Core story grammar units</i>	34
<i>Noncore story grammar units</i>	35
Complex story	36
<i>Core story grammar units</i>	36
<i>Noncore story grammar units</i>	37
Discussion.....	41
Developmental Changes in Story Grammar Scores of Korean Children.....	41
Type of Story Grammar Units included in Korean Children's Narratives	45
Core story grammar units	45
Noncore story grammar units	46
Limitations of Research	48
ENNI Potential	49
Conclusion	49
References.....	51

Appendix A: Comparisons between the Pae and Lee's Story Test and the ENNI	60
Appendix B: Parent Information /Consent Letter (English version)	61
Appendix C: ENNI Simple Story (A1) Illustrations.....	64
Appendix D: ENNI Complex Story (A3) Illustrations	65
Appendix E: ENNI Training Story Illustrations	68
Appendix F: Instructions and Allowed Prompts for the ENNI Training Story	69
Appendix G: Instruction and Allowed Prompts for the ENNI Test Stories	71
Appendix H: Story Grammar Scoring Sheet for the Simple Story.....	73
Appendix I: Story Grammar Scoring Sheet for the Complex Story	74
Appendix J Korean Child's Scoring Example for the Simple Story	76
Appendix K Korean Child's Scoring Example for the Complex Story.....	79

LIST OF TABLES

<i>Table 1.</i> Story Grammar Units with a Description of the Function of each Unit....	8
<i>Table 2.</i> Participants' Characteristics	22
<i>Table 3.</i> Structures and Characteristic of ENNI Stories: Simple and Complex stories	24
<i>Table 4.</i> Information for Typically Developing Children in the ENNI Narrative Sample	25
<i>Table 5.</i> Descriptive Statistics for ENNI Story Grammar Scores for the Simple and Complex stories by Age Group.....	30

LIST OF FIGURES

<i>Figure 1.</i> A Comparison of Swing Story and ENNI Simple Story Illustrations ..	19
<i>Figure 2.</i> Means of ENNI Raw Scores for the Simple Story.....	31
<i>Figure 3.</i> Means of ENNI Raw Scores for the Complex Story	31
<i>Figure 4.</i> Means of ENNI Raw Scores of Korean and Canadian Children for the Simple Story.....	33
<i>Figure 5.</i> Means of ENNI Raw scores of Korean and Canadian children for the Complex Story.....	33
<i>Figure 6.</i> Frequencies for Story Grammar Units included by Children in their Simple Story	36
<i>Figure 7.</i> Frequencies of Story Grammar Units included by Children in their Complex Story.....	40

Introduction

My study examined narrative abilities of young Korean children. Several factors have led researchers and educators to recommend evaluating children's narrative abilities. First, oral narratives are considered to be a form of literate language that serves as "a bridge between oral and written language styles" (Schneider, Hayward, & Dubé, 2006, p. 224). Second, oral narratives provide information about children's use of language in context (Hughes, McGillivray, & Schmidek, 1997; Schneider, 1996; Schneider et al., 2006). Third, oral narratives are produced and heard frequently in children's natural environments, and are thus, an ecologically valid way to investigate children's language development across many cultures (Hughes et al., 1997; Koutsoubou, 2010).

These factors have led to the development of standardized tests of narrative language abilities. However, the currently available tests are normed on English speaking children. The Edmonton Narrative Norms Instrument (ENNI) although normed on English speaking children, has been adapted and used with children speaking other languages (e.g., Gagné & Crago, 2010; Hayward, Padakannaya, Rao, & Schneider, 2007).

The present research was a pilot study to examine the feasibility of using the ENNI to assess Korean children's narrative abilities. In this study, I specifically examined whether the ENNI captured developmental changes in inclusion of Story Grammar units (i.e., total number and type) in narratives produced by typically developing 4, 5, and 6 year old Korean children.

Literature Review

Oral narratives have been defined as “an account of experiences or events that are temporally sequenced and convey some meaning” (Engel, 1995, p. 19). In recent years, experts from various disciplines have focused on examining oral narratives produced by children because narratives serve as a rich source for studying children’s language abilities (Hughes et al., 1997; Schneider, 1996; Schneider et al., 2006; Westby, 2012). Oral narratives are produced and heard frequently in everyday life; thus, oral narratives are considered an ecologically valid means to investigate children’s language development (Hughes et al., 1997; Koutsoubou, 2010). Assessment of oral narratives also provides information about children’s use of language in context (Hughes et al., 1997; Schneider et al., 2006). Most language tests assess language skills in isolation (e.g., vocabulary, grammar), whereas assessment of narratives requires children to integrate a variety of language skills (Hughes et al., 1997; Schneider et al., 2006).

Achievement in oral narrative skills also supports children’s mastery of formal written language skills (Hayward, Schneider, & Gillam, 2009), because oral narratives are considered “a bridge between oral and written language styles” (Schneider et al., 2006, p. 224). Further, oral narratives have an important contribution to academic success. Several researchers have found an association between oral narrative abilities and reading comprehension, where the ability to produce a well-developed story is positively correlated with reading comprehension abilities (Feagans & Appelbaum, 1986; Griffin, Hemphill, Camp, & Wolf, 2004; Hayward et al., 2007; Hughes et al., 1997; Westby, 2012).

These combined factors indicate that narrative assessment may reveal strengths and needs in children's oral language development that supports both social and academic success. The present study considers the feasibility of adapting a standardized test, the Edmonton Norms Narrative Instrument (ENNI), to assess Korean children's narrative abilities. The literature review will offer further background regarding narrative assessments and narrative analysis; and findings of research that examines narrative abilities of children from different cultures, including Korea. The literature review concludes by comparing currently used narrative assessment tools in Korea to the ENNI.

Personal and Fictional Narratives

The two most common types of narratives in children's discourse are *personal* and *fictional* narratives (Hughes et al., 1997). Personal narratives are descriptions of past experiences and occur frequently in everyday discourse (Hudson & Shapiro, 1991; Hughes et al., 1997); examples may include telling about what happened at a birthday party, on a vacation, or at Christmas. Fictional narratives are stories that are made up, such as bedtime stories, fairytales, and fables (Stein & Glenn, 1979; Hughes et al., 1997). Both of these types of narrative have been extensively studied, and used to assess children's narrative abilities and development (Hudson & Shapiro, 1991; Hughes et al., 1997; McCabe & Rollins, 1994).

Personal narrative assessment. Typically, in a personal narrative assessment task, children tell what happened in a specific event from their past; for example, a child is asked whether he or she has ever been to see the doctor. If

the child responds “yes,” the child is then asked to tell what happened during a visit to the doctor’s office (e.g., Hudson & Shapiro, 1991; Lai, Lee, & Lee, 2010). One drawback of personal narrative assessment tasks is that children may have vastly disparate experiences that they recount, and some children may not have any experiences to recount. Thus, it is difficult to compare children’s narrative abilities within a particular age group, examine developmental growth, or develop standardized assessment instruments (Hughes et al., 1997).

Fictional narrative assessment. Fictional narrative assessment typically involves retelling or formulating a story. For instance, a child may be asked to formulate a story from a series of pictures (e.g., Gillam & Pearson, 2004; Schneider et al., 2006), or a child may first hear a story, and then be asked to retell it (e.g., Gillam & Pearson, 2004; Stein & Glenn, 1979). In fictional narrative assessment tasks, all children see or hear the same story, thus their stories have a high degree of similarity, allowing for comparisons within and across age groups, and make it feasible to develop standardized assessment tools.

For these reasons, fictional narrative assessment tasks have been used in the development of the currently used standardized tests to evaluate children’s oral narrative abilities (Hughes et al., 1997). Story retelling and story formulation are the two primary methods used to elicit fictional narratives from children in research studies and in standardized assessment contexts (Hughes et al., 1997).

Story retelling. A story retelling task involves first telling a child a story and then asking the child to retell the story he or she has just heard (Hughes et al., 1997; Liles, 1993). For example, an examiner says, “*I will tell you a story. Please*

listen carefully because when I finish the story, you will tell the story exactly you have heard it" (Gillam & Pearson, 2004). The child then listens to the story which may or may not be accompanied by pictures, and then retells the story.

Story formulation. In a story formulation task, a child makes up a story following instructions given by an examiner. For example, a child may be shown a series of pictures and told, "*I want you to look at the pictures and tell me the story that you see in the pictures*" (Schneider et al., 2006). Some tasks involve a single picture, "*I am going to show you a picture. I want you to look at it carefully and think of a story to tell*" (Gillam & Pearson, 2004), and some tasks have no picture stimuli, "*I want you to make up a story and tell it to me*" (Lee, Lee, & Schickedanz, 2006).

Narrative analysis. Children's narratives are primarily analyzed at the *macrostructure* and *microstructure levels*. Macrostructure analysis focuses on the overall organization and the types of elements contained in a story. Microstructure analysis, on the other hand, focuses on the internal linguistic structure of a narrative. Since the focus of the present study is on the macrostructure level of analysis, I will first briefly describe microstructure analysis, and then describe macrostructure analysis in detail.

Microstructure. Microstructure represents the "small units within the narrative, consisting of the underlying network of ideas put into sequences of sentences" (Hugh et al., 1997, p. 111). Microstructure level analysis involves examining the linguistic organization and linguistic features of narratives such as cohesiveness and sentence structures. Linguistic cohesiveness is examined

through use of cohesive devices, such as conjunctions (e.g., and, then) and anaphoric references (e.g., Mary is a girl. *Her* hair is black) (Epstein & Phillips, 2009; Shapiro & Hudson, 1991). Sentence structure may be examined in narratives in a variety of ways; frequency of grammatical utterances; use of subordinate clauses; lexical diversity; or length of utterances (Liles et al., 1995).

Macrostructure. The macrostructure represents the “organizational pattern of story elements that is independent of specific content” (Hayward et al., 2009, p. 56). Macrostructure knowledge supports both comprehension and production of stories. From a very early age, children have heard many stories that have a similar organizational pattern (Hudson & Shapiro, 1991; Stein & Glenn, 1979; Stein & Policastro, 1984). As children internalize this organizational pattern, it serves as a scaffolding to assimilate information in stories (Hayward et al., 2009; Hughes et al., 1997; Westby, 2012), and provides a framework for children to produce a well-constructed story (Hughes et al., 1997).

Story Grammar model. ‘Story Grammar’ is a model that describes the basic organizational pattern and necessary elements that make up a narrative (Hayward et al., 2009; Hughes et al., 1997). Although several researchers have suggested somewhat varied Story Grammar models (Mandler & Johnson, 1977; Stein & Glenn, 1979; Rumelhart, 1975; Thorndyke, 1977), researchers agree on the basic story components or units. Stein and Glenn (1979) identified seven story grammar (SG) units: Setting, Initiating Event, Internal Response, Internal Plan, Attempt, Outcome and Reaction. SG units and their functions in a story are described in Table 1. Furthermore, Hayward et al. (2009) explained that an ideal

story contains all seven SG units (see also Schneider et al., 2006; Stein & Glenn, 1979; Stein & Policastro, 1984). Stories that are heard or told generally begin by introducing characters and describing the setting, followed by an event or action performed by the characters. The action or event then motivates the characters to establish a goal to deal with the event. To attain the goal, the characters perform a series of actions that end in an outcome, and an emotional response to the outcome (Schneider et al., 2006).

Table 1

Story Grammar Units with a Description of the Function of Each Unit.

Unit	Description
Settings	Introduce the main characters and describe the social, physical, or temporal context of the story.
Initiating Events	Cause a response in the main character. Initiating events includes a change of state in the physical environment, an action performed by characters, a character's perception of an external event and changes in internal physiological states.
Internal Responses	Motivate the character to formulate a plan sequences. Internal Responses refer to the psychological state of a character after an event, such as a character's emotional responses, desires, intentions or thoughts.
Internal Plans	Direct the character's subsequent behaviour. Internal Plans consist of statements that define a character's strategy for obtaining a change in the situation.
Attempts	Cause or lead to the resolution. The Attempt includes characters overt actions to obtain a goal.
Outcomes	Express the attainment or nonattainment of the character's goal, mark any other changes in the sequence of events caused by the character's action, and initiate or cause a character's reaction to the Outcome.
Reactions	Refer to how a character felt, thought or acted in response to the Outcome.

Note. Adapted from Stein and Glenn (1979)

Core story grammar units. Stein and Glenn (1979) suggested that while not all SG units need to be included in a story, certain SG units were essential and had to be present. These SG units are referred to as *core* SG units and include: Settings, Initiating Events, Attempts, and Outcomes. Stein and Glenn found that these SG units were not only frequently included in children's stories, but when children were asked to indicate the most important SG units in their stories, they selected core SG units. Stein and Glenn proposed that core SG units appear to convey essential story information.

Stein and Policastro (1984) validated Stein and Glenn's supposition that Settings, Initiating Events, Attempts, and Outcomes are essential SG units in a story. Stein and Policastro investigated what types of information should be contained in a story in order for a text to be labeled as a "story" by asking children and teachers to classify a "story" from a variety of passages. Passages consisted of different combinations of SG units. For example, one passage contained a Setting-Initiating Event-Attempt-Outcome , while others contained a Setting-Internal Response-Attempt-Outcome, a Setting-Initiating Event-Internal Response-Outcome, or a Setting-Initiating Event-Internal Response-Attempt. Stein and Policastro found that both children and teachers frequently defined a passage as a "story" when it contained a Setting-Initiating Event-Attempt-Outcome. Internal Responses, Internal Plans, and Reactions were not considered necessary for a passage to be classified as a "story".

Since the SG model appears to be a valid representation of how individuals encode, understand, and recall or formulate stories (Schneider et al., 2006), inclusion of SG units is commonly analyzed in the narrative productions of children.

Developmental trends. Studies have also revealed that children's SG knowledge increases with age, and that children more frequently include core rather than noncore SG units in their stories (Gagné & Crago, 2010; Hudson & Shapiro, 1991; Stein & Glenn, 1979; Schneider et al., 2006). Stein and Glenn (1979) analyzed the fictional narratives of 48 6- and 10-year-olds on the basis of their knowledge of SG units. Children first heard four short stories and were asked to retell the stories. Statements in each of the four stories were parsed into the appropriate SG categories (see Table 1) specified by the SG model.

Both groups of children, 6- and 10-year-olds, more frequently included core SG units (i.e., Settings, Initiating Events, Attempts, Outcomes) in their stories rather than noncore SG units (i.e., Internal Responses, Internal Plans, Reactions), and the total number of SG units included differed for groups. Older children included a greater number of SG units in their stories than did younger children, revealing an increase in SG knowledge as a function of age. A particularly interesting finding was that older children also included more Internal Responses in their stories than did younger children. Stein and Glenn proposed that the increase in inclusion of Internal Responses, a noncore SG unit, indicated that older children were more aware of the intentions or motivations of characters than younger children.

Similar to Stein and Glenn's (1979) findings, Hudson and Shapiro (1991) also revealed developmental trends with respect to inclusion of SG units in children's narratives. Hudson and Shapiro (1991) asked 4-, 6-, and 8-year-olds to tell make-believe stories about particular events (i.e., a birthday party, the doctor's office, Halloween) without providing any picture stimuli. Children's stories were analyzed for inclusion of SG units. The results showed that the number of SG units in children' stories increased with age: 4-year-olds included the fewest SG units in their stories; 6-year-olds included more SG units than 4-year-olds; and 8-year-olds included the most SG units. Similar to Stein and Glenn (1979), Hudson and Shapiro suggested that the increase in inclusion of SG units indicated that children's SG knowledge improved as a function of age.

Based on Stein and Glenn's SG model, Schneider, Hayward, and Dubé (2005) developed a narrative assessment test for children with and without language impairment aged 4 to 9: the Edmonton Narrative Norms Instrument (ENNI). Children formulate stories based on two sets of pictures which comprise different levels of complexity depending on the number of episodes and characters contained in a story: the simple story (i.e., a one-episode story with two characters), and complex story (i.e., a three-episode story with four characters). The inclusion of SG units in children's stories is one of the measures. The SG scores in the children's stories revealed developmental trends up to age 7 for the simple story and up to age 8 for the complex story.

Schneider et al. (2006) also used the ENNI to evaluate inclusion of SG units in stories generated by children with and without language impairment (LI).

The LI group's SG scores increased with age, similar to those of the typically developing (TD) group, however, LI group scores were significantly lower than TD group scores, with the exception of children aged 9. Gagné and Crago (2010) compared children with and without LI and similar to Schneider et al. (2006), and found that the SG scores of children with LI were significantly lower than those of same-aged TD children, and older children received higher SG scores than younger children. Kim and Pea (2004) also revealed that SG scores of children with LI were significantly lower than those of same aged TD children.

These results converge to suggest that analysis of SG units children include when retelling or generating a story can provide useful information about the development of children's narratives, and can help identify children with and without LI.

Cultural and Linguistic Features of Narratives

A number of researchers have examined the narratives produced by children from other cultures (e.g., Germany, France, China, India, Korea) in an attempt to identify universal and culturally specific features of narratives (e.g., Gagné & Crago, 2010; Gorman et al., 2010; Han, Leichtman, & Wang, 1998; Hayward et al., 2007; Hickmann et al., 1996; Hickmann & Hendriks, 1999; Lee et al., 2006; Mandler, Scribner, Cole, & Deforest, 1980; Soodla & Kikas, 2010).

Linguistic feature differences, that is, features related to microstructure analysis, have been consistently found in narratives produced by children from other cultures. Differences include variations in connectivity and rhetorical style (Berman & Slobin, 1994); anaphoric reference (Han et al., 1998; Hickmann &

Hendriks, 1999; Lee et al., 2006); verb tense (Lee, Lee, Han & Schickedanz, 2011); and grammaticality (Fiestas & Peña, 2004).

Most researchers agree, however, that macrostructure features (i.e., SG units) appear to be universal across cultures (Gorman, Fiestas, Peña, & Clark, 2010; Hickmann & Hendriks, 1999; Mandler et al., 1980). For example, Mandler, Scribner, Cole, and DeForest (1980) analyzed fictional narratives produced by speakers of Vai, a Mande language spoken in Liberia and Sierra Leone. Vai speakers were divided into four groups according to their age, schooling, and literacy abilities: non-schooled children (including both older and younger children); schooled literate adults; non-schooled literate adults; and non-schooled non-literate adults. The participants were told short folktales and then asked to retell the story. Mandler et al. compared the SG units included in Vai speakers' stories to those included in English speakers' stories from a previous study conducted by Mandler and Johnson (1977). Their results showed similarities in the inclusion of SG units between stories of Vai speakers and those of English speakers. Both Vai and English speaking children frequently included core SG units in their stories and did not include noncore SG units as frequently. Additionally, the total number of SG units included in Vai speakers' stories differed according to age of participants. Adults included a greater number of SG units in their stories than did children, and older children included a greater number of SG units in their stories than younger children. Mandler and colleagues concluded that the SG units included in stories retold by both English and Vai speakers were similar across cultures making it a universal feature of narratives.

Additionally, similar to the studies of English-speaking children, inclusion of SG units in Vai speakers' stories increased with age for adults and children.

Soodla and Kikas (2010) arrived at similar conclusions in their study of the macrostructure in Estonian children's narratives. Estonian children aged 6 and 7 were asked to produce a single episode story from a five-picture sequence designed according to Stein and Glenn's (1979) SG model. The structural patterns of Estonian children's narratives were very similar to those found for English-speaking children (e.g., Schneider et al., 2006; Stein & Glenn, 1979), in which Estonian children more frequently included core versus noncore SG units in their story. Age comparisons between the 6- and 7-year-olds revealed that the total number of SG units included in the children's stories did not significantly differ, although Settings were more frequently included in older children's stories than in those of younger children.

Gagné and Crago (2010) analyzed fictional narratives produced by French-speaking children aged 7 and 9 while Hayward et al. (2007) examined Indian children aged 7 to 9, who spoke Kannada, a language spoken in India. The ENNI was used to assess French-speaking and Kannada-speaking children's SG knowledge. Procedures for the elicitation of narratives in both studies were identical to the one described in Schneider et al. (2006). ENNI SG scores (i.e., total number of SG units included in children's story) of French and Indian children were compared to those of English-speaking children from Schneider et al. (2005). Both French and Indian children's SG scores increased with age,

similar to those of English-speaking children although their SG scores were lower than those of English-speaking children.

These results showed that inclusion of SG units in children's and adults' stories appear to be similar across cultures. Children and adults from other cultures more frequently included core SG units in their stories than noncore SG units (Mandler et al., 1980; Soodla & Kikas, 2010; Stein & Glenn, 1979). Additionally, developmental trends for inclusion of SG units in stories were also similar to studies conducted in English. Adults and older children included a greater number of SG units than did younger children (Gagné & Crago, 2010; Hayward, et al., 2007; Hudson & Shapiro, 1991; Mandler et al., 1980; Schneider et al., 2006; Soodla & Kikas, 2010; Stein & Glenn, 1979).

Of particular interest for the current study were the Gagné and Crago (2010) and Hayward et al. (2007) findings. These researchers revealed developmental trends for inclusion of SG units in French-speaking and Kannada-speaking children's narratives using the ENNI. Their finding showed that the ENNI captured developmental changes for inclusion of SG units of children speaking different languages. Thus, these results lend support to the possibility that the ENNI may be an appropriate instrument for assessing Korean children's narrative abilities.

Korean Children's Narratives

At the present time, there are very few studies examining young Korean children's narrative skills. However, results from the few studies that have been conducted show that Korean children's narrative development appears very

similar to that of children from other cultures with respect to macrostructure analysis. For example, Pae and Lee (1996) analyzed fictional narratives produced by Korean children aged 3 to 7. Children formulated a two episode story from a five picture sequence designed according to the Story Grammar model. The number of SG units included in Korean children's stories increased with age, and children in all age groups more frequently included core SG units than noncore SG units. Kim and Pae (2004) examined inclusion of SG units across two narrative tasks (i.e., story formulation, story retelling) with 5 and 6 year old Korean children. Children first formulated a story from a five picture sequence, after which the picture sequence was used in the story retelling task. Similar to Pae and Lee (1996), Kim and Pae (2004) also found that Korean children included core SG units more frequently than noncore units in both narrative tasks.

These results suggested that Korean children's pattern of development and knowledge of SG units appear to be similar to those of children from other cultures (i.e., Gagné & Crago, 2010; Hayward et al., 2007; Hudson & Shapiro, 1991; Mandler et al., 1980; Schneider et al., 2006; Soodla & Kikas, 2010; Stein & Glenn, 1979).

Narrative assessment in Korea. An issue with current narrative assessment formats used in Korea relates to the testing instruments. For example, Lee and Lee (2005) and Lee and Oh (2006) assessed narrative abilities of 3 to 6 year old Korean children by asking them to make up a story. The children were not provided any stimuli, because these researchers stated that their goal was to observe children's natural narratives without support of topic or picture stimuli

scaffolds. Hughes et al. (1997), however, explains that young children may have difficulties formulating a fictional story without picture stimuli supports because they may not know how to begin their stories. Thus, this type of narrative context may not reveal young children's full SG knowledge.

Pae and Lee (1996) developed a test (i.e., Pae and Lee's Story Test) to assess narratives produced by Korean children aged 3 to 6. Despite the fact that it is an informal instrument and does not provide any information about the reliability and/or validity of the instrument, it is widely used to assess children's narratives in Korea (e.g., Kim & Pae, 2004; Pae, Seoh, & Chung, 2009; Yun, 2008; Yeom, 2012). A significant concern in using the Story Test in the current study related to the picture stimuli used to elicit stories from children. Pae and Lee's Story Test consists of two stories. Each story is depicted in a series of five pictures, "*The Swing Story*" which consists of two episodes connected temporally, and "*The Ball Story*" which consists of two episodes connected causally. However, some pictures are difficult to interpret. Other pictures require children to generate multiple SG units (e.g., Initiating Event, Internal Response, Attempt), yet. Unfortunately, the picture stimuli do not provide sufficient information to enable young children to interpret and include all of the SG units evaluated in their story formulations from the particular picture. Thus, even though picture stimuli are provided, if young children may experience difficulty interpreting the pictures in the Story Test, this may lead to underestimates of their SG knowledge.

A narrative assessment instrument should not only reveal developmental changes in children's knowledge of SG but as accurately as possible reflect their

level of knowledge. Schneider et al. (2005) assert that a story formulation task from pictures that is designed according to a model of story knowledge appeared to be a useful and reliable approach to assess young children's independent understanding of a story.

The ENNI is a story formulation task with picture stimuli similar to Pae and Lee's Story Test. However, ENNI picture stimuli were specifically developed to incorporate Stein and Glenn's (1979) SG model, and in most instances each picture matches only one core SG unit. A comparison of the first episode of Pae and Lee's The Swing Story and ENNI simple story, also a single episode, illustrations used to elicit SG information is shown in Figure 1. Additional comparisons (e.g., age ranges, reliability, validity etc.) are shown in Appendix A.

A comparison of the Swing Story and ENNI Simple Story illustrations

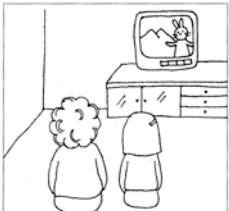
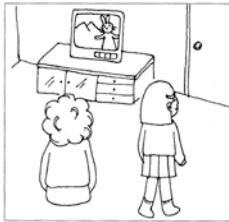
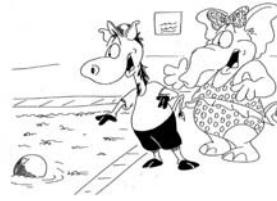
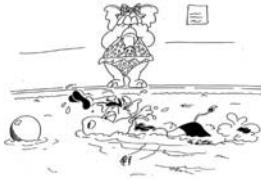
Swing Story (1996)	ENNI Simple Story (2006)
 1	Setting* 
 2	Initiating Event* Internal Response Attempt* 
	Attempt* 
 3	Outcome* 
	Reaction 

Figure 1. Adapted from Pae and Lee (1996) and Schneider et al. (2005). To compare across episodes, only the first episode of the Swing Story's illustrations are included.

*Denotes core story grammar units.

It can be seen that the ENNI provides a greater number of pictures for an episode than the Swing Story, 5 versus 3, to elicit SG information. Further, each core SG unit is elicited in a separate illustration in the ENNI, whereas in the Swing Story, separate illustrations are provided for only two of the core SG units. Finally, the ENNI illustrations more clearly depict the characters, actions, and character's facial expressions. In the Swing Story, characters are seen from behind in two of the three illustrations. This is problematic in the second illustration in particular where children are expected to interpret the Initiating Event (i.e., Min is not interested in watching TV), the Internal Response (i.e., Min wants to play on the swing) and the Attempt (i.e., Min goes out). Thus, I felt that the ENNI was more likely to elicit more of young children's knowledge about SG than Pae and Lee's Story Test illustrations.

To determine the feasibility of using the Edmonton Narrative Norms Instrument (ENNI), my study addresses two research questions:

1. Does the ENNI capture developmental changes in story grammar scores in narratives produced by typically developing Korean children ages 4, 5, and 6?
2. What story grammar units do 4-, 5- and 6-year-old Korean children included in their narratives?

Methods

Participants

A total of 60 children—three groups of 20, typically developing, Korean children aged 4, 5, and 6—were recruited for this study. Each age group was gender balanced. Thirty-four children were recruited from a preschool and 26 from a daycare centre in Gyeonggi-do, South Korea. A ‘Parent Information/Consent’ letter was sent to the parents of the children in classes for 4- and 5-year-olds at these institutions (the letter—English version—is provided in Appendix B). Many of the children in the 5-year-old classrooms turned 6 during the school year, so the 5- and 6-year-old participants were recruited from these classes. A total of 119 consent forms were sent, and 62 were returned. Two children dropped out of the study—one left the daycare and another child in a preschool class did not want to participate in the testing session.

Inclusion criteria. All participants’ language skills were screened using the Preschool Receptive–Expressive Language Scale (PRES) (Kim, Sung, & Lee, 2007). The PRES is a language assessment tool used to analyze receptive and expressive language skills of Korean children aged 2 through 6. The PRES was chosen because it is very commonly used in Korea to identify young children with language delays. The PRES manual defines a child with typically developing language as showing less than a 12-month difference between the Combined Language Age score (CLA; average of receptive and expressive language scores) and the child’s chronological age. All 60 children achieved CLA scores on the

PRES within the range defined as “typically developing.” Participant characteristics are summarized in Table 2.

Table 2
Participants' Characteristics

		Chronological Age ^a		PRES Language Development Age ^a		
Age Group	N ^b	Mean (SD)	Range	Mean (SD)		CLA ^c
		R	E			
4	20	55.40 (2.25)	52-59	61.80 (4.78)	61.25 (3.54)	61.53 (3.67)
5	20	65.75 (3.64)	60-71	70.40 (3.97)	69.45 (4.84)	69.93 (3.72)
6	20	73.80 (1.70)	72-77	71.75 (5.36)	71.65 (5.28)	71.7 (5.00)

Note. SD=Standard deviations; R=Receptive language; E=Expressive language;
CLA=Combined Language Age.

^a Age is expressed in months.

^b Each age group is gender balanced.

^c Average of Receptive and Expressive Language Development Age

Materials

The Edmonton Narrative Norms Instrument (ENNI) was used to assess children's narrative abilities. The ENNI is a narrative assessment tool that provides normative data for English-speaking children aged 4 to 9 years. The ENNI assesses children's narrative abilities using a story formulation format. As discussed in my literature review, story retelling and story formulating tasks are

the two primary methods used to elicit fictional narratives from children in standardized assessment contexts (Hughes et al., 1997). In a story retelling task children's memory skills may influence their retelling performance because children are required to remember and retell the story that they have just heard. Additionally, story retelling tasks do not reflect children's independent narrative abilities. In a story formulation task children make up stories based on pictures which reduces the influence of memory skills and evaluates their independent narrative abilities (Schneider et al., 2005).

The ENNI consists of two sets of three picture stories. The pictures are black-and-white line drawings of animal characters drawn by a professional cartoonist to match a script. The scripts were written by Dubé (2000) as a part of her doctoral research and incorporate Stein and Glenn's (1979) descriptions of story grammar (SG) units and episodic structure. A panel of narrative experts reviewed the adequacy of the pictures and scripts for eliciting SG units, and the stories were revised based on their comments. Five of the six stories met the preset criterion of 80% agreement among the panelists on depiction of SG units and episodic structure. Two stories in Set A (A1 and A3) were selected for this study because the rate of agreement on the SG units present in these two stories was the highest among the six stories: agreement on A1 was 100% and on A3, 98.2% (Schneider et al., 2005).

Story A1 is a simple story consisting of a single episode with two characters, while story A3 is a complex story consisting of three episodes with four characters. The pictures for the simple story (A1) and the complex story (A3)

are provided in Appendix C and D. Table 3 summarizes the characteristics of stories A1 and A3.

Table 3

Structure and Characteristics of ENNI stories: Simple and Complex Stories

Story	Number of Episodes	Setting	Number of Characters	Character Description	Number of Pictures
A1	1	Swimming pool	2	-Young female elephant -Young male giraffe	5
A3	3	Swimming pool	4	-Young female elephant -Young male giraffe -Adult male elephant -Adult female elephant	13

Note. From “Storytelling from pictures using the Edmonton Narrative Norms Instrument,” by Schneider, Hayward and Dubé, 2006, *Journal of Speech-Language Pathology and Audiology*, 30(4), p. 231.

Schneider et al. (2005) developed local English oral narrative norms by collecting narratives from 377 children aged 4 to 9 in the city of Edmonton, Alberta. The normative sample included children with and without language impairments. Information for typically developing children in the ENNI narrative sample is provided in Table 4.

Table 4

Information for Typically Developing Children in the ENNI Narrative Sample

Age Group	Language Group	Total N	N Boys	Mean Age ^a	Age ^a SD	Age ^a Range
4	TD	50	25	55.20	2.88	48-59
5	TD	50	25	66.12	3.12	60-71
6	TD	50	25	78.72	3.48	72-83

Note. Adapted from Schneider, Dubé & Hayward (2005). TD=children with typically developing language, SD=standard deviation.

^aAge is expressed in months.

Procedure

Prior to completing testing sessions with each child, the researcher participated in classroom activities for two hours to establish rapport. Testing sessions took place in a separate room of the daycare centre or preschool where the child was enrolled. Children were seen individually by the researcher. Each child first completed the PRES, and if he or she met the inclusion criteria, a second testing session was scheduled to complete the ENNI.

ENNI testing. Procedures outlined in the ENNI website (<http://www.rehabresearch.ualberta.ca/enni/>) were followed in the present study. Children first completed the training story, followed by the simple story (A1), and the complex story (A3). The purpose of the training story is to familiarize children with the story generation task. Pictures of the training story are provided in Appendix E. The researcher held the story binder in such a way that she could not see the pictures as the child viewed them or told the story. The ENNI instructions

emphasize that the examiner should not be able to see the pictures because children might omit essential story information if they think that the examiner has knowledge of the story (Schneider et al., 2005).

Administration instructions and permitted prompts for the training story are provided in Appendix F, and for the test stories in Appendix G. For all stories, the researcher first showed all of the pictures so that the child could preview the story, then went back to the beginning of the series of pictures, and the child began formulating their story; the researcher turned the page when the child appeared to be finished formulating the part of the story that related to that page. Children's story formulations for the simple and complex stories were audio-recorded using an Apple iPod and an Edirol r-09hr recorder.

Data Analysis

All audio-recorded stories were first transcribed in Korean by the researcher. Transcripts were then translated into English, and the translated transcripts were scored with respect to the inclusion of the seven SG units: Setting (Characters and Setting), Initiating Event, Internal Response, Internal Plan, Attempt, Outcome, and Reaction. The story grammar (SG) scoring sheets provided on the ENNI website for the simple story and complex story were used to score each child's stories. The SG scoring sheets specify allowable scoring possibilities for each SG unit in the children's stories. The three core SG units in each story (i.e., Initiating Event, Attempt, Outcome) received a score of 2 points, while the remaining SG units (i.e., Internal Response, Internal Plan, Reaction) received a score of 1 point (Schneider et al., 2005). Additionally each component

of the Setting (i.e., Character, Setting) received one point each. The maximum possible SG score was 13 for the simple story and 37 for the complex story. Acceptable response examples for each SG unit are provided on the scoring sheets, and detailed scoring conventions for particular SG units are provided on the ENNI website. Score sheets for the simple story and the complex story are provided in Appendix H and I. Examples of SG scoring of a 4-year-old Korean child for the simple and complex stories are provided in Appendix J and K.

Statistical analysis. All analyses were computed using SPSS 20. Analyses of variance (ANOVA) were calculated to determine main effects and interactions among the variables. Tukey's honestly significant difference (HSD) test was used for post hoc analyses.

Reliability

Twelve transcripts (20% of the total)—four from each age group —were randomly selected to confirm the completeness and accuracy of the Korean and English transcripts, and SG scoring. A Korean teacher proficient in both English and Korean, who has a degree in early child education, performed the reliability checks.

Transcript reliability. The teacher checked the audio-recorded stories against Korean transcripts and Korean–English translations. Word-by-word reliability for the audio-recorded Korean transcripts was calculated to be 97.5%, and for the Korean–English translation, 98%. Instances in which audio-recorded transcripts or Korean–English translations differed were resolved through discussion.

Inter-scorer reliability. The teacher was trained to complete SG scoring by the researcher using the scoring examples provided on the ENNI website. The teacher then scored the English version of the simple and complex story transcripts for inclusion of SG units. Cohen's kappa was computed for inter-scorer agreement on the simple story and the complex story between the researcher and the teacher. The kappa for the simple story was 1.0, and for the complex story .81, at $p < .001$. A kappa of .70 or above indicates adequate inter-scorer agreement (Brennan & Prediger, 1981).

Results

The present research was a pilot study to determine the feasibility of using the ENNI to assess Korean children's narrative abilities. In this study, inclusion of SG units in Korean children's narratives was examined.

Developmental Changes in Story Grammar Scores

The first research question addressed whether the ENNI captured developmental changes in story grammar (SG) scores in narratives produced by typically developing Korean children aged 4, 5, and 6. That is, did SG scores increase with age?

An ANOVA was conducted for the independent variable, Age Group (4-, 5-, and 6-year-olds), and total SG scores for the simple story (A1), and for the complex story (A3) as the dependent variables. A main effect was found with large effect sizes¹, $F(2, 57)=6.04$, partial $\eta^2=.18$, $p=.04$, for the simple story, and $F(2, 57)=6.90$, partial $\eta^2=.20$, $p=.002$ for the complex story. Post hoc analysis using Tukey's HSD revealed that there were significant differences in the simple and complex stories. For the simple story, 6-year-olds achieved significantly higher scores than 4-year-olds. However, there were no significant differences between the 4- and 5-year-olds, or between the 5- and 6-year-olds. For the complex story, 5- and 6-year-olds received significantly higher scores than 4-year-olds, but there was no significant difference between 5- and 6-year-olds.

Table 5 presents means and standard deviations of ENNI SG scores for the simple and complex stories by Age Group.

¹ An effect size for partial η^2 of .01 or less is considered small; .06, medium; and .14 or greater, large (Cohen, 1988).

Table 5

Descriptive Statistics for ENNI Story Grammar scores for the Simple and Complex Stories by Age Group

Age Group	N	Simple Story (A1)	Complex Story (A3)
		Mean (SD)	Mean (SD)
4	20	6.20 (2.86)	20.70 (4.68)
5	20	7.65 (2.06)	25.35 (3.30)
6	20	8.65 (1.63)	24.30 (4.34)

Note. Each age group is gender balanced.

Trend Analysis

Trend analysis was also completed to determine developmental changes in SG scores, which might not have been captured by the ANOVA model. As pointed out by Schneider et al. (2006), trend analysis can reveal a gradual change, that is, increases, decreases, and stabilization in group data that examination of main effects and group differences may not. The trend analysis revealed significant linear trends for the simple story, $F(1, 57)=11.95, p=.001$, and for the complex story, $F(1, 57)=7.53, p=.008$. Figures 2 and Figure 3 present these increases in SG scores by Age Group for the simple and complex stories respectively.

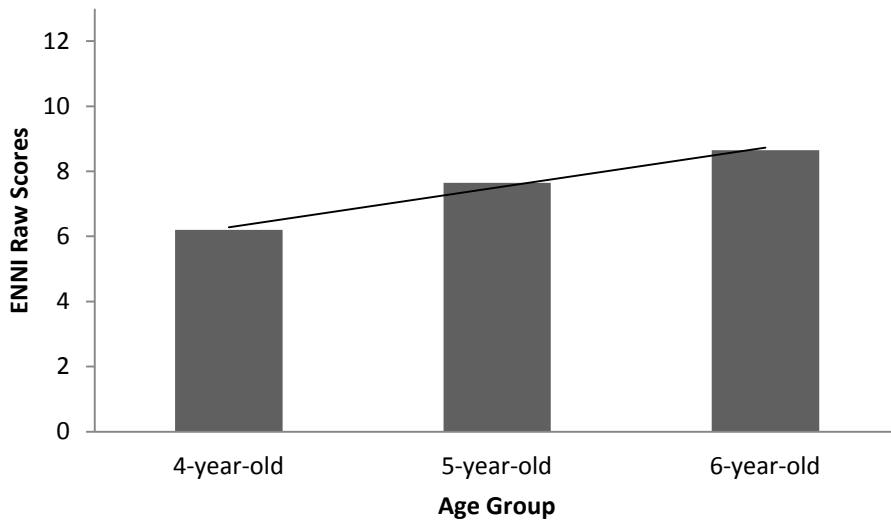


Figure 2. Mean of ENNI raw scores for the simple story. The line on the top of bars indicated a linear trend.

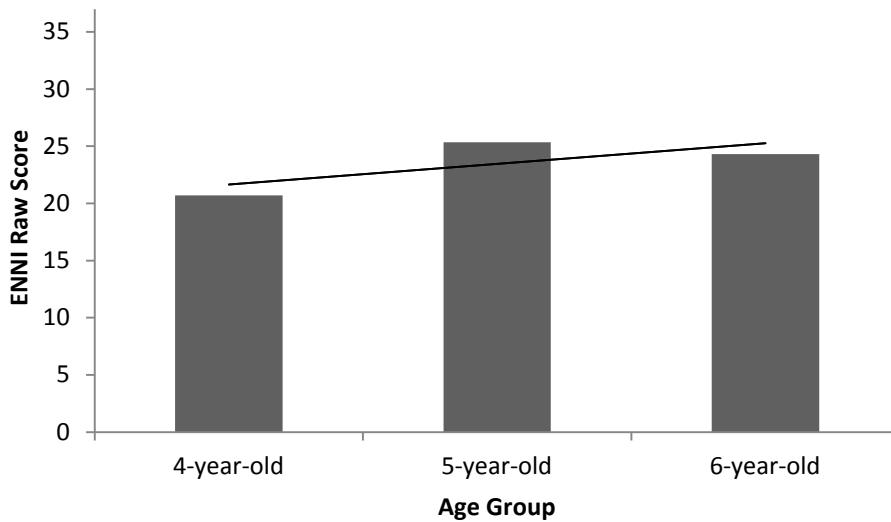


Figure 3. Mean of ENNI raw scores for the complex story. The line on the top of bars indicated a linear trend.

ENNI story grammar scores of Korean and Canadian children.

Although not a specific research question of the present study, similar to previous studies that examined SG scores for children from other cultures against the ENNI normative data (see Gagné & Crago, 2010; Hayward et al., 2007), I was also interested in examining the SG scores of Korean children to the ENNI normative data.

ENNI SG scores for English-speaking Canadian children's narrative are provided on the ENNI website (<http://www.rehabresearch.ualberta.ca/enni/>). For the simple story, Korean children showed lower SG scores than did same-aged Canadian children, but achieved higher SG scores on the complex story. The effect sizes for SG score differences between Korean and Canadian children were calculated using Cohen's d .² For the simple story, the effect sizes for 4- and 5-year-olds were small (.13 and .16), and for 6-year-olds, medium (.52). For the complex story, the effect size for 4-year-olds approached a medium effect (.43); for 5-year-olds was large (.78); and for 6-year-olds, small (.15). The SG score comparisons of Korean to Canadian children are shown in Figure 4 for the simple story and Figure 5 for the complex story.

² Cohen (1988) suggested that an effect size of .2 to .3 might be considered a small effect, around .5 a medium effect, and .8 to infinity a large effect.

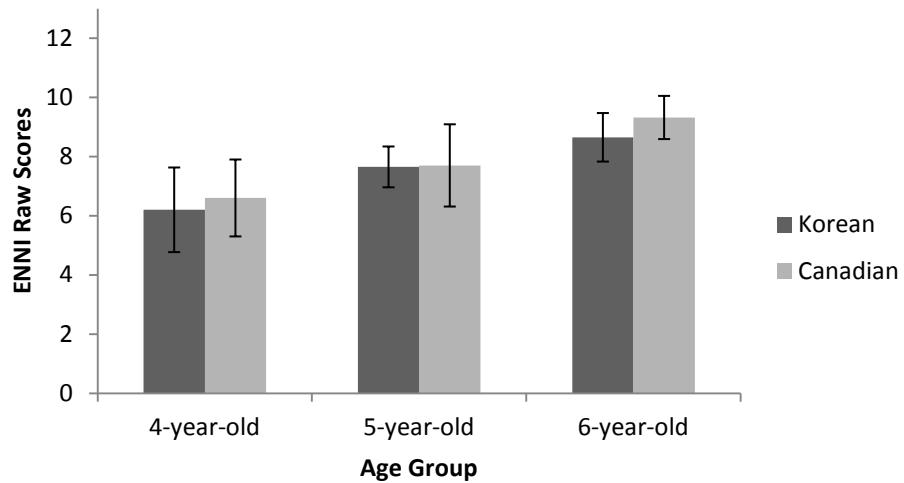


Figure 4. Mean of ENNI raw scores of Korean and Canadian children for the simple story. The lines on the each bar indicate the standard deviation for that bar.

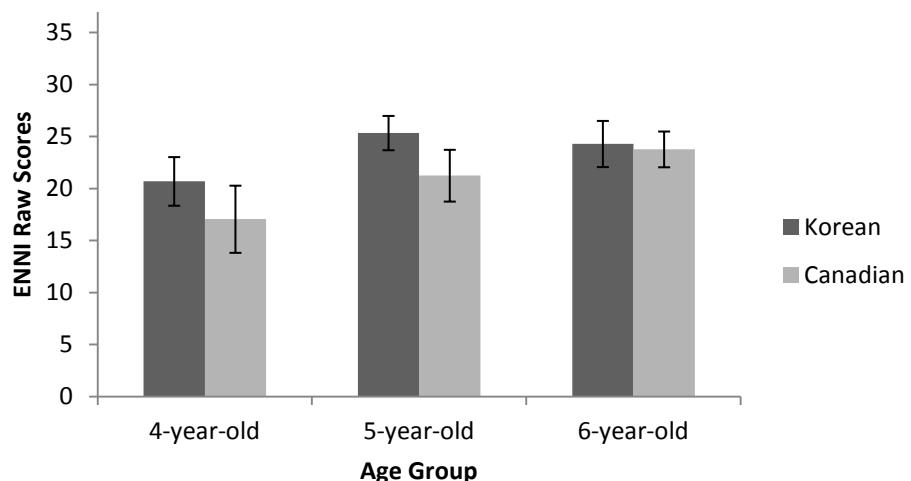


Figure 5. Mean of ENNI raw scores of Korean and Canadian children for the complex story. The lines on the each bar indicate the standard deviation for that bar.

Analysis of Story Grammar Units

My second research question examined the type of SG units Korean children included in their narratives across the three age groups. In particular, I was interested in determining if Korean children included more core SG units (i.e., Setting, Initiating Event, Attempt, Outcome) than noncore SG units (i.e., Internal Response, Internal Plan, Reaction) similar to findings in previous studies (i.e., Mandler et al., 1980; Schneider et al., 2006; Soodlar & Kikas, 2010; Stein & Glenn, 1979).

Simple story. The overall pattern of SG units included in children' stories was similar across age groups. Children in all age groups more frequently included core SG units as described by Stein and Glenn (1979) and Stein and Policastro (1984) than noncore SG units. Age differences were also noted, where fewer 4-year-olds included core SG units compared to 5- and 6-year-olds in their simple story formulations.

Core story grammar units. While all children included core SG units in their stories, there were some differences noted across the core SG units.

- *Settings (Characters and Setting):* An average of 90% of children in all age groups included the main characters (giraffe and girl elephant) in their simple story. In terms of the Setting, almost 90% of 5- and 6-year-olds included a Setting (e.g., swimming pool) in their story, whereas only 60% of 4-year-olds included Setting information.
- *Initiating Event:* Ninety five percent of children aged 5 and 6 and 85% of aged 4 included an Initiating Event in their simple story.

- *Attempt and Outcome*: The Attempt and Outcome of the simple story showed identical results and a clear age trend. The number of children including an Attempt and an Outcome increased with age (e.g., 40%, 70%, 75%) for 4-, 5- and 6-year-olds respectively.

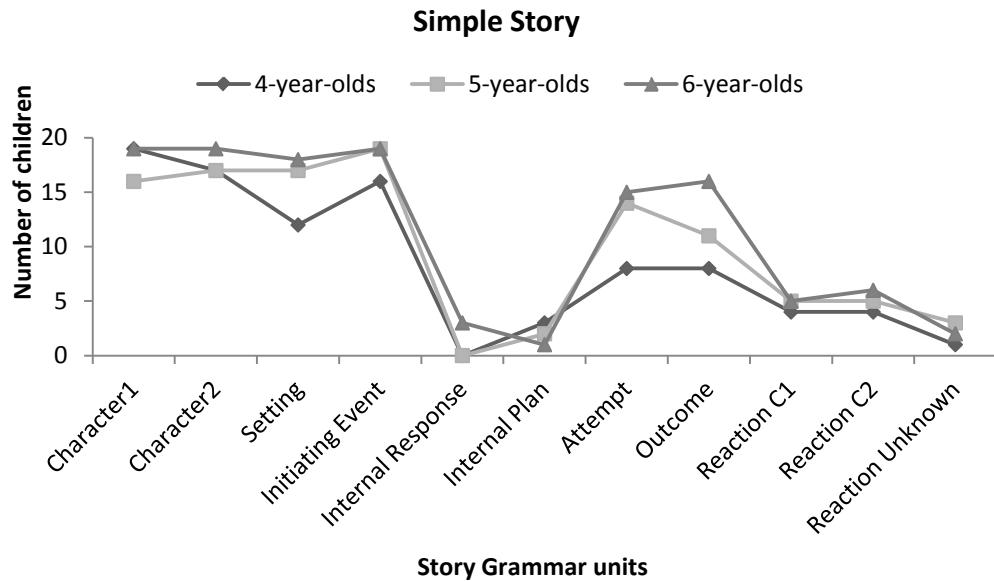
Noncore story grammar units. Noncore SG units were less frequently included in children's simple story across all age groups, but there were also differences noted with respect to inclusion of specific noncore SG units.

- *Internal Response*: The Internal Response was the least included SG unit in the simple story. None of 4- and 5-year-olds, and only 15% of 6-year-olds included an Internal Response in their stories.

- *Internal Plan*: Similar to the Internal Response, few children in any age group included an Internal Plan. However, for the children who did include an Internal Plan, a reversed age trend was noted. Fifteen percent of 4-year-olds included an Internal Plan, followed by 10% of 5-year-olds, and 5% of 6-year-olds.

- *Reaction*: Reactions in the simple story were included for the Giraffe, Elephant, and Unknown. The 'Unknown' designate is used when the characters are not specified by the child (e.g., *they* are happy). Approximately 50% of all children included a Reaction of one of the characters in the simple story. Further, 20% to 30% of children in all age groups included Reactions for both the giraffe and elephant.

Frequencies for SG units children included in their simple story are shown in Figure 6 across the three Age Groups.



*Figure 6.*Frequencies for Story Grammar Units included by Children in the Simple Story (A1). C1= Character 1 (giraffe); C2= Character 2 (girl elephant).

Complex story. As in the simple story, the general pattern of SG units inclusion in the children' story remained similar, whereby children across all age groups included core SG units more frequently than noncore units. Some of the differences observed for specific SG units follow typical age trends whereby the number of children including the SG units increased with age. However, similar to the simple story, this did not apply to all SG unit inclusions.

Core story grammar units. All children included core SG units more frequently than noncore SG units.

- *Settings (Characters and Setting):* Almost 90% of children in all age groups included the two main characters (giraffe and girl elephant), Character 3 (adult male elephant), and a Setting (e.g., swimming pool) in their stories. With respect

to Character 4 (adult female elephant), 55% of children aged 4 specifically introduced the female elephant in their story, increasing to 75% for children aged 5 and 6.

- *Initiating Events*: Approximately 80% of children in all age groups included the Initiating Events for episode 1 (ep1) and episode 2 (ep2). Similarly, 85% of the 5- and 6-year-olds included the Initiating Event for episode 3 (ep3), but only 60% of 4-year-olds included the Initiating Event.

- *Attempts*: There was a variant on the inclusion of Attempts across episodes. For ep1, almost all 5- and 6-year-olds (95% -100%) included an Attempt, whereas only 65% of 4-year-olds did so. For ep2, 100% of 5-year-olds, 90% of 6-year-olds and 75% of 4-year-olds included the Attempt in their story. For ep3, all children (100%) included the Attempt.

- *Outcomes*: Generally, a greater number of children in all age groups included the Outcomes for ep1 and ep2. In particular, 100% of children in all age groups included the Outcome for ep1. For ep2, approximately 85% of all children included an Outcome. However, children in all age groups less frequently included the Outcome for ep3: 65% of 4-, and 6-year-olds, and 80% of 5-year-olds.

Noncore story grammar units. As in the simple story, noncore SG units were less frequently included in the complex story than core SG units. However, several noncore SG units were more frequently observed in the complex story than in the simple story.

- *Internal Response*: Children in all age groups rarely included Internal Responses in their stories. For ep2 and ep3, less than 15% of the children included Internal Responses. For ep1, however, 45% of 5-year-olds included an Internal Response in their story, while only 25% of 4-and 6-year-olds included an Internal Response.

- *Internal Plan*: Fifteen percent of 6-year-olds included an Internal Plan for ep1 in their story, whereas none of 4- and 5-year-olds did so. However, there were increases in the number of children who included Internal Plans for ep2 and ep3. For ep2, 25% of 4-year-olds, 60% of 5-year-olds, and 45% of 6-year-olds included the Internal Plan in their story. For ep3, 55% of 5-year-olds included an Internal Plan, but fewer 6-year-olds (25%) included an Internal Plan than even 4-year-olds (35%).

- *Reaction*: Children in all age groups rarely included Reactions in their complex story, with exception of Reactions for Character 1 (giraffe). Less than 15% of children in all age groups included Reactions of Character 2 (girl elephant). None of 4-and 6-year-olds and only 10% of 5-year-olds included the Reactions of Character 3 (adult male elephant) and Reactions of Character 4 (female adult elephant) was included by 5% of 4- and 6-year-olds and none of 5-year-olds. The Reactions of Character 1 (giraffe) were frequently included in the stories across all episodes for all age groups. In ep1, 65% of 4-year-olds and 85% of 5- and 6-year-olds included a Reaction of Character 1. In ep2, 15% of 4-year-olds, and almost 60% of 5-, and 6-year-olds included a Reaction. In ep3, 35% of 4-year-olds, 55% of 6-year-olds, 75% of 5-year-olds included a Reaction.

Frequencies for the SG units children included in their complex story are shown in Figure 7 across three Age Groups and episodes.

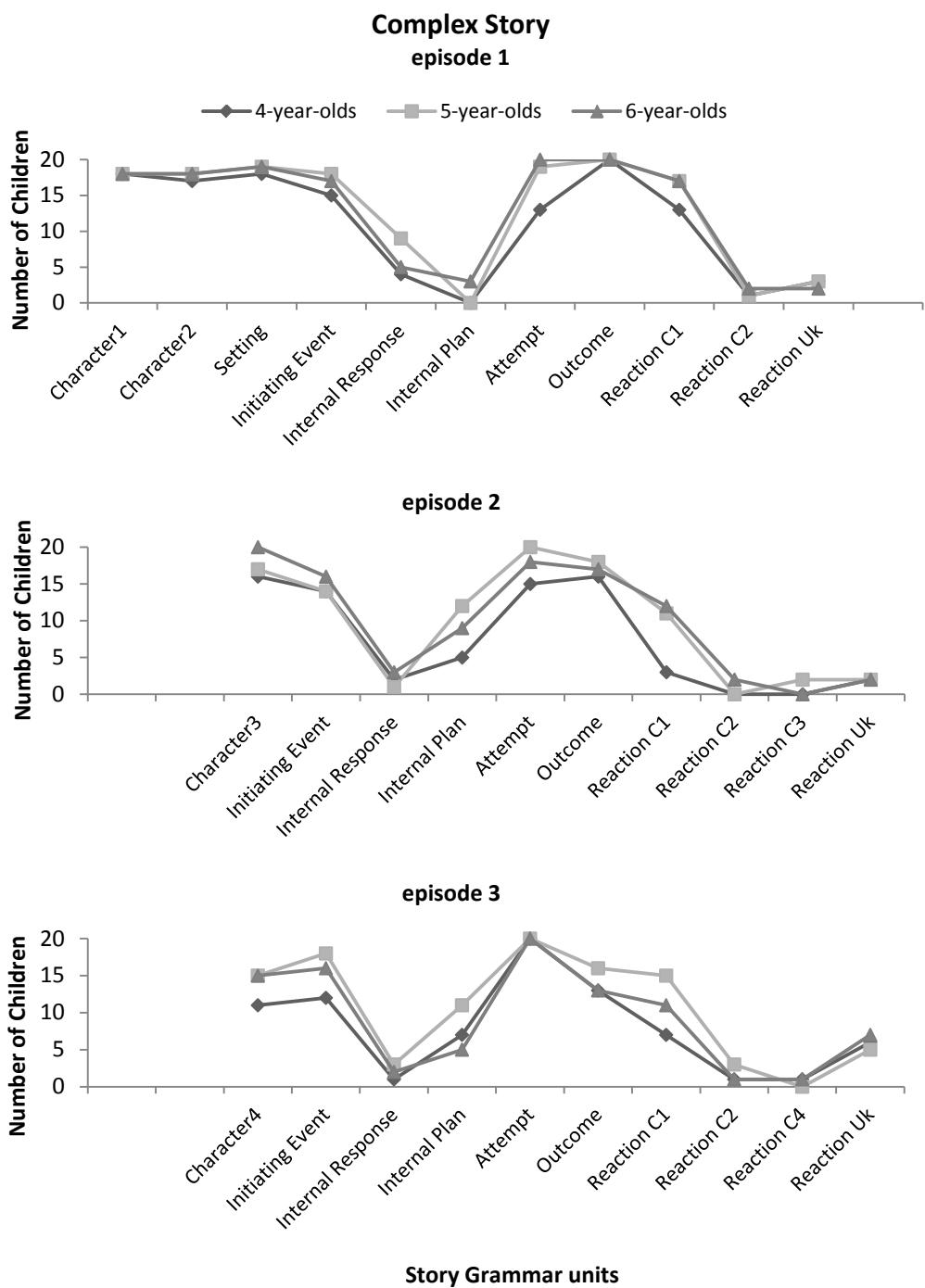


Figure 7. Frequencies for Story Grammar units included by Children in the Complex Story. C1= Character 1 (giraffe); C2= Character 2 (girl elephant); C3= Character 3 (male adult elephant); C4= Character 4 (female adult elephant); Reaction of Uk=Reaction of Unknown.

Discussion

Developmental Changes in Story Grammar Scores of Korean Children

I first examined whether ENNI story grammar (SG) scores would reveal developmental increases in the narratives formulated by Korean children aged 4, 5, and 6. The results of the present study revealed developmental changes for SG scores across the three age groups. ENNI SG scores increased with age for the simple and complex stories. For the simple story, children's ENNI scores increased with age, but a significant difference was observed only between 4- and 6-year-olds. For the complex story, both 5- and 6-year-olds showed significantly higher ENNI scores than 4-year-olds, but there was no significant difference between 5- and 6-year-olds, and in fact, 5 year old group had slightly higher scores for inclusion of SG units than did the 6 year old group.

Trend analysis indicated that children's SG scores showed significant linear developmental trends in both the simple and complex stories revealing gradual changes that were not captured by the ANOVA model. These results suggested that the ENNI captured developmental changes in Korean children's SG knowledge similar to that of children from other cultures (see Gagné & Crago, 2010; Hayward et al. 2007; Schneider et al., 2006).

An unexpected result was the lower mean scores for 6 year olds than 5 year olds on the complex story. This result was not expected in light of the ENNI showing developmental changes in English speaking children between 4 and 8 years of age for this story. Two possible explanations for this result emerged. First, the result may have been influenced by the characteristics of the participants.

For the complex story, the mean and standard deviation for 5-year-olds was 25.35 (3.30), and for 6-year-olds, 24.30 (4.34), revealing greater variance in the 6-year-old group. Closer examination of individual participants revealed four outliers in the 6-year-old group compared to only one outlier in the 5-year-old group. The four outliers in the 6-year-old group received very low scores (16, 17, 18, and 18 out of 37) compared to other 6 year olds, impacting the mean for this age group, whereas the one 5-year-old outlier who received a SG score of 19 out of 37 did not impact the group mean as significantly. Second, recall that the 6-year-old participants were recruited from children enrolled in a preschool class for 5-year-olds, but had turned 6 during the year. The age range of my 6-year-old participants was 6;0 to 6;5 whereas the 5-year-old participants age range was 5;0 to 5;11. Thus, the lower scores for 6-year-olds may be impacted by the fact I did not have children in my sample representing the full range of ages for 6 year olds (i.e., 6;0 - 6;11).

Although it was not a formal research question, comparisons of Korean children's ENNI scores to those of Canadian children for whom the ENNI was normed revealed similarities and differences. Although both Korean and English speaking children's SG scores increased with age, Korean children achieved slightly lower scores on the simple story, but achieved higher scores on the complex story compared to English speaking children. The result for the complex story was also opposite to the Hayward et al. (2007) and Gagné and Crago (2010) findings. Both French and Indian children's SG scores were lower than those of English speaking children for the complex story. Thus, Korean children achieved

higher SG scores than children from other cultures (i.e., French, English, Indian) for the complex story. Differences in SG scores between the youngest age groups (4 and 5 year olds) of Korean and English speaking children were considered large, but small for 6-year-olds. The small difference between 6-year-olds may again be due to the different range of ages for these groups (i.e., Korean children: ages 6;0 to 6;5, Canadian children: ages 6;0 to 6;11).

Given the results of previous studies, this was an unexpected finding. One explanation for this finding may be related to the status of early literacy education in Korea. Many Korean children begin formal literacy education in preschool or daycares at the age of 3 or 4. In Korea, daycares as well as preschools provide literacy education due to parents demands (Choi, 2006; Hyun, Lee, & Lee, 2003; Kim & Kim, 2007). According to the Organization for Economic Co-operation and Development (OECD, 2011), in 2008, 79.8% of Korean children aged three to five were enrolled in preschool, which is slightly higher than the OECD average (77.3%) and much higher than the Canadian average (56.8%). In addition to early preschool or daycare literacy education, Korean parents also enroll their children private education in unusually high numbers. More than 80% of the children begin private education at age 3. The highest form of private education received was literacy education (30.6%), followed by English (11.6%), physical education (9.8%) (Woo, Kim, Lee & Kim, 2010). On this basis, it may be surmised that more young Korean children may be exposed to literacy education at a younger age than many Canadian children. Thus, young Korean children may have a lot more experience in education activities related to narratives which may

stimulate narrative development at an earlier age and positively impact Korean children's oral narrative development, at least in the preschool years.

However, this interpretation needs to be considered speculative at this time because this finding may also be due to differences in the samples within each of the studies. Sample demographics such as family socioeconomic status, parent education or classroom environment are known to influence children's language development (Lai et al., 2010; Lee et al., 2011; Schneider et al., 2006). The English-speaking children in the ENNI sample were recruited from preschools, daycares, kindergartens, and elementary schools across a large city. Demographic information such as socioeconomic status and ethnic composition were also collected. French speaking children in the Gagné and Crago (2010) study were recruited from a large, predominately French speaking, city and demographic information related to parental employment status (i.e., employed, not employed) and parent education. Similar to the Hayward et al. (2007) study of Kannada speaking children, I did not collect demographic information for my Korean sample.

While the finding that Korean children obtained higher Story Grammar scores on the ENNI complex story than children from other cultures was interesting and intriguing, the fact that samples were not matched on factors known to impact language development must be considered. A thorough investigation of possible cross-cultural age differences in performance in Story Grammar on the ENNI is needed.

Type of Story Grammar Units Included in Korean Children's Narratives

The second research question considered in this study was the type of story grammar (SG) units (i.e., core versus noncore) included in narratives produced by typically developing Korean children aged 4, 5 and 6.

Core story grammar units. The Korean children frequently included core SG units (i.e., Settings, Initiating Events, Attempts, Outcomes) more frequently than noncore SG units in their simple and complex stories. This result was very similar to findings of previous studies, which examined narratives of children from other cultures (i.e., Mandler et al., 1980; Soodlar & Kikas, 2010; Stein & Glenn, 1979). However, there were some differences noted for inclusion across core SG units that have also been reported in previous studies.

- *Settings (Character and Setting):* Korean children usually conveyed information on Settings, including the two main characters (giraffe and girl elephant) and a Setting (e.g., swimming pool) in their complex story (i.e., an average of 90%), but differences were observed in their simple story formulations. With respect to characters, more than 90% of all children introduced both characters (giraffe and elephant). However, the Setting showed a different pattern of inclusion. Almost 90% of 5- and 6-year-olds described a Setting (e.g., swimming pool) in their story, but only 60% of 4-year-olds described a Setting. Stein and Glenn (1979) described ‘characters,’ which are almost always included in children’s stories, as the “major setting,” and the setting as the “minor setting” which was often omitted by younger children in their study. However, Korean children in all age groups included both major and minor settings in their complex

story, as did 5- and 6-year-olds in their simple story. Half of 4-year-olds, however, included only a major setting in their simple story. It appeared that older Korean children were more aware of the need to include both major and minor setting information to provide the listener with a clear picture of the story setting than did the youngest children in my study.

▪ *Initiating Event, Attempt, and Outcome:* The children also frequently included Initiating Events, Attempts, and Outcomes in their stories. Stein and Glenn (1979) explain that these three SG units explicitly relate to characters' actions, or visible changes in physical situation, and thus convey essential story information (see also Stein & Policastro, 1984). Additionally, the ENNI illustrations not only clearly depict these SG units but provide separate illustrations for each of these SG units, which may also support the young children telling stories including these SG units. However, there was an interesting result for inclusion of the Outcome in ep3 of the complex story. Children less frequently included an Outcome for ep3 than for ep1 and ep2. Even though the illustration (see illustration #12, Appendix D) clearly shows the female elephant giving the airplane to the giraffe some children did not mention this in their story. It is possible that for some children the elephant getting the airplane out of the water is being done for the giraffe, and therefore they do not explicitly include an Outcome in their story.

Noncore story grammar units. Internal Responses, Internal Plans and Reactions were rarely included in Korean children's stories which were also very similar to findings from previous studies (i.e., Mandler et al., 1980; Soodlar

&Kikas, 2010; Stein & Glenn, 1979). Similarly, the differences observed for inclusion across noncore SG units in the present study have also been reported in previous studies.

▪ *Internal Responses and Internal Plans:* Children in all age groups rarely included an Internal Response and Internal Plan in their simple story. In the complex story, a greater number of the 5- and 6 year olds included these units than 4-year-olds, although the number of children was still small. Stein and Glenn (1979) and Stein and Policastro (1984) explained that SG units related to characters' internal actions, thoughts, or emotions, are difficult to explicitly show in story pictures. Additionally, Stein and Glenn (1979) suggested that older children may include these SG units because they are more able to interpret the intentions or motivations of the characters even if the picture stimuli do not explicitly convey these aspects. Thus, the results in the present study appear to follow the pattern suggested by Stein and Glenn.

In the complex story, there was an interesting result with respect to the number of children who included Internal Plans across episodes. Children in all age groups rarely included an Internal Plan for ep1. However, the number of children who included Internal Plans increased for ep2 and ep3 across all age groups. Almost 50% of 5- and 6-year-olds and 25% of 4-year-olds included Internal Plans in ep2 and ep3. This may be due in part to the illustrations (see illustration #7 and #10, Appendix D) that more explicitly show characters' intentions or motivations than the picture for ep1 (see illustration #2, Appendix D). Another factor that may have led to higher numbers of children including an

Internal Plan for ep2 and ep3 was that a wider range of acceptable responses for Internal Plan in ep2 and ep3 than for ep1 (see SG score sheet Appendix I).

- *Reactions*: Korean children in all age groups rarely included Reactions in their stories, with an exception of the Reactions for the main character, the giraffe. Korean children focused more on the main characters' actions, emotions, and thoughts than on those of the other characters, which was a similar finding to previous studies (Schneider et al., 2006; Soodla & Kikas, 2010).

Limitations of the Research

All of the children in this study attended a preschool or a daycare centre in a major urban area of the South Korea province of Gyeonggi-do, which might have biased the sample. Further, information on family socioeconomic status, and parent education; factors known to impact children's language development was not collected, thus limiting the generalizability of the results.

In future studies, children should be recruited from a wide range of geographical locations, and information collected on relevant social factors. Additionally, due the fact that this study was a pilot study, the sample size was small. Finally, an unforeseen problem was encountered with the 6-year-old group where the full age range of children (i.e., 6;0 - 6;11) was not sampled. Thus, at the present time, it is uncertain if the lack of significant differences in ENNI scores for children aged 5 and 6 may have been due to the small sample size I used in my pilot study, the limited age range within the 6-year-old group, or possibly represent a developmental pattern specific to Korean children when using the ENNI to assess narrative abilities.

ENNI Potential

Nevertheless, the findings of the present pilot study are meaningful in terms of showing that the developmental patterns of story grammar (SG) in Korean children are similar to findings of earlier studies indicating that the ENNI has the potential to be adapted and used to assess Korean children's narrative abilities. In the future, a larger sample size across a wider range of ages will be needed to confirm these findings, and to determine clear developmental patterns in Korean children's narratives. A Korean version of the SG scoring procedure and materials needs to be developed in order to increase their accessibility for Korean teachers, speech-language pathologists, and researchers. Most importantly, the development of Korean norms will be a valuable resource in the assessment of children's narrative abilities and in discriminating children with and without language impairments. Additionally, correlations between ENNI scores and other standardized language tests (e.g., PRES) need to be conducted to estimate concurrent validity. It will be important to analyze Korean children' stories at the microstructure level (e.g., anaphoric references, conjunctions) to determine language specific features.

Conclusion

In recent years, the value of assessing children's oral narratives has increased because oral narratives are considered an ecologically valid way to investigate children's language development (Hughes et al., 1997; Koutsoubou, 2010; Schneider, 1996), and provide information about children's use of language in context (Hughes et al., 1997; Schneider et al., 2006) and predict reading

comprehension abilities (Feagans & Appelbaum, 1986; Griffin et al., 2004; Hayward et al., 2007; Hughes et al., 1997; Westby, 2012).

The ENNI is a standardized test that has been used to assess children's narrative skills in English, French, and Kannada. The present research was a pilot study to determine the feasibility of using the ENNI to assess Korean children's narrative abilities. This study examined developmental patterns for SG units included in Korean children's oral narratives. The results showed that inclusion of SG increased with age and showed linear trends for the simple and complex ENNI stories. Furthermore, Korean children more frequently included core SG units (i.e., Settings, Initiating Events, Attempts, Outcomes) in their stories than noncore SG units (i.e., Internal Responses, Internal Plans, Reactions). These results suggested that the developmental pattern of SG units in Korean children's stories was similar to findings in previous studies with children from other cultures (e.g., French, Estonian, Indian, English) (Gagné & Crago, 2010; Hayward et al., 2007; Schneider et al., 2006; Soodla & Kikas, 2010). Most importantly, the findings of the present study are meaningful in terms of showing that the ENNI has the potential to be adapted and used to assess Korean children's narrative abilities.

References

- Berman, R. A., & Slobin, D. I. (1994). Relating events in narrative: A crosslinguistic developmental study. Hillsdale, NJ: Erlbaum.
- Brennan, R. L., & Prediger, D. J. (1981). Coefficient kappa: Some uses, misuses, and alternatives. *Educational and Psychological Measurement Educational and Psychological Measurement*, 41(3), 687-699.
doi:10.1177/001316448104100307
- Choi, M. (2006). 학부모 측면에서 본 글로벌 시대의 유아교육 트랜드 분석[Study on early childhood education trend in the global world from the parent's perspective]. *국제유아교육학회지*, 15(4), 467-496.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, N.J.: L. Erlbaum Associates.
- Dube, R. V. (2000). *Development of the picture story language instrument for deaf children*. (Doctoral dissertation). Retrieved from Dissertations & Theses @ University of Alberta (304647747)
- Engel, S. (1995). *The stories children tell : Making sense of the narratives of childhood*. New York: W.H. Freeman.

Epstein S.-A., & Phillips J. (2009). Storytelling skills of children with specific language impairment. *Child Language Teaching and Therapy*, 25(3), 285-300.
doi:10.1177/0265659009339819

Feagans, L., & Appelbaum, M. I. (1986). Validation of language subtypes in learning disabled children. *Journal of Educational Psychology*, 78(5), 358-364. doi:10.1037/0022-0663.78.5.358

Fiestas, C. E., & Peña, E. D. (2004). Narrative discourse in bilingual children: Language and task effects. *Language, Speech, and Hearing Services in Schools*, 35, 155–168. doi:10.1044/0161-1461(2004/016)

Gagné, A., & Crago, M. (2010). The use of the ENNI to assess story grammar competency of school-aged French speaking children with and without specific language impairment. *Canadian Journal of Speech-Language Pathology & Audiology*, 34(4), 231-245. Retrieved from
<http://www.caslpa.ca/>

Gillam, R. B., & Pearson, N. A. (2004). *Test of Narrative Language*. Austin, TX: PRO-ED.

Gorman, B., Fiestas, C., Pena, E., & Clark, M. (2010). Creative and stylistic devices employed by children during a storybook narrative task: A cross-cultural study. *Language Speech and Hearing Services in School*, 42(2), 167-181. doi:10.1044/0161-1461(2010/10-0052)

Griffin, T. M., Hemphill, L., Camp, L., & Wolf, D. P. (2004). Oral discourse in the preschool years and later literacy skills. *First Language*, 24(2), 123-147.
doi:10.1177/0142723704042369

Han, J. J., Leichtman, M. D., & Wang, Q. (1998). Autobiographical memory in Korean, Chinese, and American children. *Developmental Psychology*, 34(4), 701-713.

Hayward, D., Padakannaya, P., Rao, R., & Schneider, P. (2007, June). *Exploring the relationship between oral narratives and reading comprehension for children in India with and without language learning disabilities*. Symposium for Research in Child Language Disorders, Madison, Wisconsin.

Hayward, D., Schneider, P., & Gillam, R. B. (2009). Age and task-related effects on young children's understanding of a complex picture story. *Alberta Journal of Educational Research*, 55(1), 54-72. Retrieved from
<http://ajer.synergiesprairies.ca/>

Hickman, M., & Hendriks, H. (1999). Cohesion and anaphora in children's narratives: A comparison of English, French, German, and Mandarin Chinese. *Journal of Child Language*, 26(2), 419-452. doi:10.1017/S030500099003785

Hickmann, M., & Others, A. (1996). The marking of new information in children's narratives: A comparison of English, French, German, and

Mandarin Chinese. *Journal of Child Language*, 23(3), 591-619.

doi:10.1017/S0305000900008965

Hudson, J. A., & Shapiro, L. R. (1991). From knowing to telling: The development of children's scripts, stories, and personal narratives. In A. McCabe, & C. Peterson (Eds.), *Developing narrative structure* (pp. 89-136). Hillsdale, N.J.: L. Erlbaum Associates.

Hughes, D., McGillivray, L., & Schemidek, M. (1997). *Guide to narrative language: Procedures for assessment*. Eau Claire, Wis: Thinking Publications.

Hyun, J., Lee, J. B., & Lee, H. Y. (2003). *A study on the educational fever of Korean parents*. No. RR2003-06 (RR). Seoul: Korean Educational Development Institute.

Kim, K., & Kim, J. A. (2007). 유치원과 어린이집의 종일제 프로그램 운영 실태와 교사 인식 비교 연구[A comparison of the management conditions and teacher's recognition of child care center and kindergarten of full-day programs]. *영유아교육연구*, 10, 55-75.

Kim, Y., & Pae, S. (2004). 학령전 단순언어장애아동과 정상발달아동의 이야기 능력[Narrative abilities of Korean children with and without specific language impairment]. *한국심리학회지: 발달*, 17(1), 41-58.

Kim, Y. T., Sung, T. J., & Lee, Y. K. (2007). *The Preschool Receptive-Expressive Language Scale*. Seoul: Seoul Community Rehabilitation Center.

Koutsoubou, M. (2010). The use of narrative analysis as a research and evaluation method of atypical language: The case of deaf writing. *International Journal of Bilingual Education and Bilingualism*, 13(2), 225-241. doi: 10.1080/13670050903474119

Lai, W., Lee, Y., & Lee, J. (2010). Visiting doctors' offices: A comparison of Korean and Taiwanese preschool children's narrative development. *Early Education & Development*, 21(3), 445-467. doi:10.1080/10409281003775154

Lee , Y., Lee , J., & Schickedanz , J. (2006). 한국과 미국 유아들의 개인적 가상적 내러티브 구조 발달 양상 및 논리적 응집장치 사용의 비교 [A comparative study on the structure development and cohesive devices of personal and fictional narratives between Korean and American children]. *열린유아교육*, 11(2), 361-389.

Lee, Y., & Oh, J. (2006). 소집단 그림책 읽기 활동이 유아의 개인적 가상적 내러티브와 마음이론 발달에 미치는 영향 [The effects of small group picture book reading activities on children's personal and fictional narrative and theory of mind development]. *열린유아교육*, 11(4), 107-133.

Lee, Y., & Lee, J. (2005). 유아의 개인적 내러티브와 가상적 내러티브의 구조발달 양상 및 구성요소에 관한 연구 [A study on the structure development and components of personal and fictional narratives of Korean young children]. *유아교육학회*, 25(5), 173-206.

Lee, Y. J., Lee, J., Han, M., & Schickedanz, J. A. (2011.). Comparison of preschoolers' narratives, the classroom book environment, and teacher attitudes toward literacy practices in Korea and the United States. *Early Education and Development*, 22(2), 234-255.

doi:10.1080/10409281003717867

Liles, B. Z. (1993). Narrative discourse in children with language disorders and children with normal language: A critical review of the literature. *Journal of Speech and Hearing Research*, 36, 5, 868-82. Retrieved from <http://jslhr.asha.org/>

Mandler, J. M., & Johnson, N. S. (1977). Remembrance of things parsed: Story structure and recall. *Cognitive Psychology*, 9, 111-151.

Mandler, J. M., Scribner, S., Cole, M., & Deforest, M. (1980). Cross-cultural invariance in story recall. *Child Development*, 51(1), 19-26. Retrieved from <http://www.jstor.org/>

McCabe, A., & Rollins, P. R. (1994). Assessment of preschool narrative skills. *American Journal of Speech-Language Pathology*, 3(1), 45-56.

OECD. (2011). *PF3.2 enrolment in childcare and pre-schools*. Retrieved from www.oecd.org/els/social/family/database

Pae, S., & Lee, S. (1996). 한국 아동의 이야기 산출 연구 (I) [A study of koran children's story generation ability (I)]. *말-언어장애 연구*, 1, 34-67.

Pae, S., Seoh, K., & Chung, H. (2009). 학령기 인공와우이식아동의 이야기 평가[Narrative assessments of Korean school-aged children with cochlear implantation]. *한국언어청각임상학회*, 14(4), 429-441.

Rumelhart, D. (1975). Notes on a schema for stories. In D. G. Bobrow, & A. Collins (Eds.), *Representation and understanding; studies in cognitive science* (pp. 211-236) New York: Academic Press.

Schneider, P. (1996). Effects of pictures versus orally presented stories on story retellings by children with language impairment. *American Journal of Speech Language Pathology*, 5(1), 86-95. Retrieved from <http://ajslp.asha.org/>

Schneider, P., & Menard, A. (2012, September). *Review of three tests of children's narrative ability*. Narratives, Intervention, and Literacy conference, Paris, France. Retrieved from <http://lewebpedagogique.com/>

Schneider, P., Dubé, R. V. & Hayward, D. (2005). *The Edmonton Narrative Norms Instrument*. Retrieved from University of Alberta Faculty of Rehabilitation Medicine website: <http://www.rehabresearch.ualberta.ca/enni>

- Schneider, P., Hayward, D., & Dubé, R. V. (2006). Storytelling from pictures using the Edmonton Narrative Norms Instrument. *Journal of Speech-Language Pathology and Audiology*, 30(4), 224-238. Retrieved from <http://www.caslpa.ca/>
- Shapiro, L. R., & Hudson, J. A. (1991). Tell me a make-believe story: Coherence and cohesion in young children's picture-elicited narratives. *Developmental Psychology*, 27(6), 960-74. doi:10.1037/0012-1649.27.6.960
- Soodla, P., & Kikas, E. (2010). Macrostructure in the narratives of Estonian children with typical development and language impairment. *Journal of Speech, Language, and Hearing Research*, 53(5), 1321-1333. doi:10.1044/1092-4388(2010/08-0113)
- Stein, N., & Glenn, C. (1979). An analysis of story comprehension in elementary school children. In R. O. Freedle (Ed.), *Discourse processes, advances in research and theory* (Vol. 4 pp. 53-120). Norwood, N. J.: Ablex Pub. Corp.
- Stein, N., & Policastro, M. (1984). The concept of a story: A comparison between children's and teachers' viewpoints. In H. Mandl, N. L. Stein & T. Trabasso (Eds.), *Learning and comprehension of text* (pp. 113-155). Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Thorndyke, P. W. (1977). Cognitive structures in comprehension and memory of narrative discourse. *Cognitive Psychology*, 9, 77-110.

Yeom, J. H. (2012). 학령전기 아동의 이야기 산출 능력 평가 척도 개발 예비 연구[*Story retelling of preschool children pilot study for development of rating*].(Master's thesis) Retrieved from <http://lib.mju.ac.kr/index.jsp>

Yun, M. J. (2008). 시간지연-이야기 다시 말하기가 청각장애 아동의 언어 능력 향상에 미치는 영향[*The Effects of the Time Delay-Story Retelling on Hearing Impaired Children's Improvement of Language Abilities*] (Unpublished master's thesis). Daegu University, Daegu, Korea.

Westby, C. E. (2012). Assessing and remediating text comprehension problems. In A. G. Kamhi, & H. W. Catts (Eds.), *Language and reading disabilities* (pp. 163-220). Boston: Pearson.

Woo, N., Kim, Y., Lee, E., & Kim, H. (2010). 한국 어머니들의 아동 발달에 대한 인식과 자녀 사교육의 실제[Mothers' attitudes toward child development and private education, and the actual state of private education in Korea]. *성태유아교육연구*, 9(2), 81-104.

Appendix A: Comparisons between the Pae and Lee's Story Test and the ENNI

	Pae and Lee's Story Test	Edmonton Narrative Norms Instrument (ENNI)^a
Age range	3;1 – 7;6 / 4;5-19 (SLI)	4;0 – 9;11
Normative sample size	N/A	377 children, 60-67 per age group
Sample representativeness	N/A	Local norms from Edmonton, Alberta Sample corresponds to Edmonton and Canadian demographics Children with language impairment included
Type of task	Generation from pictures and Retell from pictures “ <i>The Swing Story</i> ” consists of two parallel episodes connected in temporal sequence “ <i>The Ball Story</i> ” consists of two episodes connected causally	Generation from pictures – 2 story sets of 3 stories each, increasing in length and complexity within the set (context not shared)
Story pictures (see Figure 1)	Multiple unit per picture Unrecognizable story event	Single unit per picture Recognizable story event
Scores available	Story Grammar Comprehension question	Story Grammar First Mentions Language sample measures: MLCU, Syntactic Complexity Index, No. of Words, No. Different Words
Nature of scores for information	Separate scoring for story elements (Story Grammar)	Separate scoring for story elements (Story Grammar); other aspects evaluated in separate measures
Scoring reliability	N/A	Story Grammar reliability with untrained S-LP scorers: excellent; other reliability for other measures also excellent
Reported validity	N/A	All scores correlated with CELF-P or CELF-3
Discrimination	N/A	All ENNI measures together: sensitivity .80-94; specificity .94-1.0

Note. ^aAdapted from Schneider and Menard (2012).

Appendix B: Parent Information/Consent Letter (English versions)



Department of Educational Psychology
Faculty of Education

6-102 Education North
Edmonton, Alberta, Canada T6G 2G5

www.uofaweb.ualberta.ca/edpsychology Tel: 780.492.5245
Fax: 780.492.1318

Parent Information/Consent Letter For Data Collection

Dear Parent,

We are inviting your child to participate in a research project entitled “A preliminary study using the Edmonton Narrative Norms Instrument (ENNI) to assess narratives produced by Korean children.” I am sponsored by the Korean Government to complete my Master’s degree in Special Education at University of Alberta, in Edmonton, Alberta, Canada. This research is for my Master thesis under the direction of, Dr. Denyse Hayward.

This research is important because literacy education is important in Korea. Most Korean children begin literacy education at daycares or preschools. Children learn to tell stories before they learn to read and write stories. Studies show that how well children tell stories predicts how well they understand stories they read. In North America young children’s storytelling skills are tested, so children can receive extra help because this skill is important to reading success. In spite of the importance of storytelling skills in early childhood, in Korea, we are only just beginning to test children’s storytelling skills. In our study, we will use a storytelling test, the ENNI, which has been developed and used in Canada, to see if it can be used with Korean children.

Our study will involve one-on-one testing with children. The child will complete a language test followed by the ENNI. Children will be audio-recorded so we can score their stories after the testing session. The testing will be completed in two sessions of 30 minutes. We are asking for your consent to work with your child for a total of 60 minutes.

The project will be explained to your child in age appropriate terms. Your child will be given the right to withdraw from this study at any time until the end of data collection. If your child withdraws, any data collected from your child will be removed and not included in the study. Please understand that participation is completely voluntary.

Your child’s participation in this study would be an important contribution. The data to be collected is crucial in helping us investigate if the ENNI can be used as an assessment tool for Korean children. If the ENNI can be adapted into Korean, we will be able to help children who have language difficulties that relate to reading problems.

All evaluations will be identified by number only. No one will have access to the evaluations other than the principal investigator, JungYoon Lee, and her supervisor, Denyse Hayward. Consent Forms and evaluations will be stored in a locked filing cabinet in the researcher's private research office. Electronic data will be password protected. All data will be



Department of Educational Psychology
Faculty of Education

6-102 Education North
Edmonton, Alberta, Canada T6G 2G5

www.uofaweb.ualberta.ca/edpsychology Tel: 780.492.5245
Fax: 780.492.1318

kept for five years following completion of the research project, and then evaluations and Consent Forms will be shredded following confidential shredding procedures in the Dept. of Educational Psychology, University of Alberta. Electronic data will be permanently deleted.

If you are willing to have your child participate, please complete the Consent Form included with this letter. Place one copy of the signed Consent in the enclosed envelope and return to your child's teacher. Thank you for your time and attention to this letter.

If you have any question, concerns, or complaints about this study or about your decision to participate, you may contact: Principal Investigator, Jung Yoon Lee or my supervisor Dr. Denyse V. Hayward, at the University of Alberta.

Please note:

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Sincerely,

Jung Yoon Lee
Principal Investigator, B.Ed., University of Alberta
Email: ju7@ualberta.ca
Tel: 010-3125-5998, +1-780-200-8613

Denyse V. Hayward
Supervisor, Assistant Professor, Educational Psychology, University of Alberta
Email: Dhayward@ualberta.ca
Tel: +1-780-248-2019



Department of Educational Psychology
Faculty of Education

6-102 Education North
Edmonton, Alberta, Canada T6G 2G5

www.uofaweb.ualberta.ca/edpsychology Tel: 780.492.5245
Fax: 780.492.1318

Parent Consent Form

I, _____, have read the attached Information Letter and I consent to my child's participation in the study entitled "**A preliminary study using the Edmonton Narrative Norms Instrument (ENNI) to assess narratives produced by Korean children**"

I understand that any information that my child gives in the testing sessions will remain confidential. I understand that the sessions will be audio-recorded. I understand my child will not be identified in any way in the reporting of results. I understand that my child has the right to withdraw from the study at any time without penalty. I understand that I may withdraw my child's participation up to the end of data collection without prejudice.

Child's Full Name _____

Child's Date of Birth _____
(day – month – year)

Child's School _____

Parent Name (please print) _____

Parent Signature _____ Date _____

Appendix C: ENNI Simple Story (A1) Illustrations



1



2



3



4



5

Appendix D: ENNI Complex Story (A3) Illustrations



1



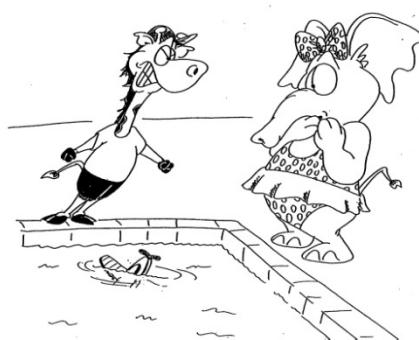
2



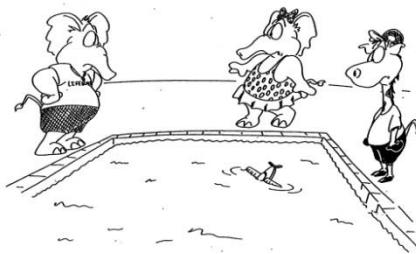
3



4



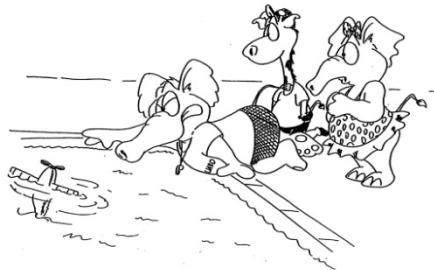
5



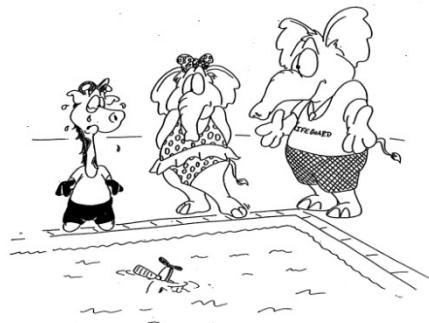
6



7



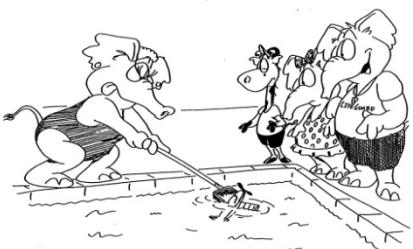
8



9



10



11

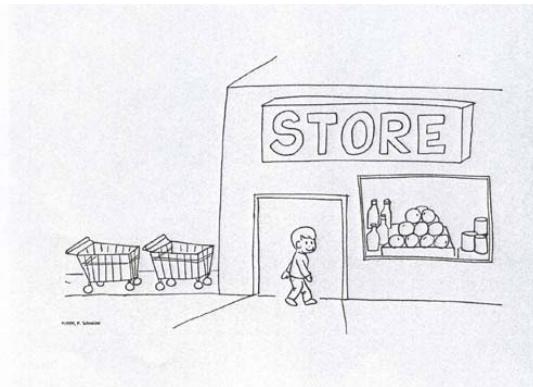


12



13

Appendix E: ENNI Training Story Illustrations



1



2



3



4



5

Appendix F: Instructions and Allowed Prompts for the ENNI Training story

Instructions to child:

I have some pictures that tell a story. First I'll show you all the pictures and we'll go back to the beginning of the story, and then I want you to look at the pictures and tell me the story that you see in the pictures. I won't be able to see the pictures so you need to tell me the story really well so I can understand it. Okay?

If the child tells "a story": Proceed to the first test story.

If the child is inexplicit (e.g., He's going in there):

You say: Remember I can't see the pictures. Can you start again?
(ONLY for the training story – do not use for the test stories)

If the child labels items in the picture rather than telling a story:

You say: You've told me what's in the picture - now can you tell me a **story** about the picture?

If the child again labels or says nothing:

You say: How would you start your story?

If the child has trouble getting started (e.g., says nothing, says "I don't know", continues to label):

You say: Would you start "One day," or "Once upon a time"?

If the child repeats "one day" or "once upon a time" and stops:

You say: That's right, [repeat what child said and pause].

If the child still has difficulty:

Repeat what the child started with and add: ...there was a boy who...
[pause].

If the child still has difficulty:

Complete the sentence for the child: One day there was a boy who went shopping. [Note: this prompt is only for the practice story – don't use it with the test stories.]

If the child has trouble with later pages:

You say: Then what happens in the story?

Appendix G: Instructions and Allowed Prompts for the ENNI Test Stories

Do not ask the child questions or give any prompts other than the ones described below. You can give neutral responses as the child tells the story such as “uh-huh,” “oh,” “okay”.

Instructions to child:

Now I have some more picture stories. First I'll show you all the pictures. Then we'll go back to the beginning of the story, and then I want you to look at the pictures and tell me the story that you see in the pictures. I won't be able to see the pictures so you need to tell me the story really well so I can understand it. Okay?

If the child has trouble getting started:

You say: How would you start your story? [pause]

If that doesn't work:

You say: Would you start “one day”, or “once upon a time?”

If child says “one day/once upon a time” and stops:

You say: “oh”, [repeat what child said]. [pause]

If child still doesn't respond or says “don't know”:

You say: What happens in the story?

If child says nothing or “don't know”:

You say: Look at the pictures – what do you think is happening in the story?

If child still can't get started or go on:

You say: Let's try the next page.

TERMINATE TESTING IF THE CHILD CANNOT GET STARTED AFTER
TWO PAGES OF THE FIRST TEST STORY.

If the child mumbles or says something you don't understand:

You say: I didn't hear that – could you repeat that? [You can also remind the child after s/he repeats to talk in a clear voice so that the microphone can hear the story.]

If child wants you to label something in the picture:

You say: What do YOU think?

If child says nothing or "don't know":

You say: This is your story – you get to decide. [pause]

If the child is still stuck on a label:

You say: Let's not worry about that – tell me the rest of your story.

Any time the child gets stuck in the story:

Look at the child expectantly and wait for the child to continue. Be sure and give the child time to respond. Don't yield to the pressure to fill in the silence. Only give prompts when it appears that the child is not going to say anything. A good strategy is to repeat the last thing the child said rather than giving more explicit help.

Appendix H: ENNI Story Grammar Scoring Sheet for the Simple Story

**Edmonton Narrative Norms Instrument
Story Grammar Scoring Sheet for Story A1**

Child's Name: _____ Age: _____ Date: _____

Please read the section of the Manual on scoring SG units before using this sheet.

SG Unit	Acceptable [child need only have one alternative per unit to get credit for that unit]	Score
Character 1	giraffe / male / boy (or any type of animal such as horse) [not acceptable: pronoun]	0 1
Character 2	elephant / female / girl (or any type of animal such as cow) [not pronoun]	0 1
Setting	swimming pool had a ball / playing with ball / want to play ball	0 1
Initiating Event	ball goes in water/pool/sand/mud ball is in water they see a ball	0 2
Internal Response	one / both want to get ball elephant says, e.g., "look what happened," "what am I going to do?" Elephant upset / sad [not: he/she/they want to go swimming]	0 1
Internal Plan	giraffe decides to / thinks he will get the ball	0 1
Attempt	giraffe jumps in pool / swims toward ball / tries to get ball [not: giraffe swimming (without goal); giraffe falls in water]	0 2
Outcome	giraffe gets ball / gives ball to elephant [not: elephant gives ball to giraffe, unless it is noted as unexpected, e.g., 'but instead, Elephant gets it and gives it to him']	0 2
Reaction of Giraffe	giraffe is happy / proud / smiles giraffe says "You're welcome" giraffe's teeth are chattering / giraffe is cold/wet	0 1
Reaction of Elephant	elephant is happy / is grateful / says thank you elephant hugs the ball [not: holds/has the ball]	0 1
Reaction both or unknown	"they" are happy/in love [code only as replacement for Reaction of Character 1 or 2; there should not be more than 2 reactions total]	0 1
Total raw score:		
Standard Score:		

Appendix I: ENNI Story Grammar Scoring Sheet for the Complex Story

**Edmonton Narrative Norms Instrument
Story Grammar Scoring Sheet for Story A3**

Child's Name: _____ Age: _____ Date: _____

Please read the section of the Manual on scoring SG units before using this sheet.

SG Unit	Acceptable [child need only have one alternative per unit to get credit for that unit]	Score
Character 1	giraffe / male / boy (or any type of animal such as horse) (not acceptable: pronoun)	0 1
Character 2	elephant / female / girl (or any type of animal such as cow) [not pronoun]	0 1
Setting	at swimming pool / going swimming / are playing has/is holding airplane / one asks other to play	0 1
Initiating Event	G playing with airplane/making airplane fly G shows/gives E his airplane	0 2
Internal Response	E wants / is interested in airplane	0 1
Internal Plan	E decides to take airplane	0 1
Attempt	E takes airplane / zooms airplane around / makes airplane fly / G gives E a turn	0 2
Outcome	airplane falls in pool / E throws plane in pool	0 2
Reaction of Giraffe	G angry/yells/stares at plane	0 1
Reaction of Elephant	E feels bad/embarrassed/scared / E stares at plane/says oops	0 1
Reaction - both/unknown	"they" are unhappy [code only as replacement for Reaction of Character 1 or 2; there should not be more than 2 reactions total]	0 1
Character 3 (C3)	lifeguard / other elephant /other male / her father / her brother	0 1
Initiating Event	C3 shows up/comes over / E sees C3 / C3 sees plane in water / C3 asks what happened	0 2
Internal Response	E/G hopes C3 can help / C3 wants to help	0 1

Internal Plan	E/G decides to ask for help/explains what happened /asks C3 to get plane / lifeguard decides to try NOT: E talks to C3 (without specifying what about)	0 1
Attempt	C3 tries to get plane / reaches for plane	0 2
Outcome	C3 can't reach plane / plane was too far/sinking	0 2
Reaction C1	G upset / sad / worried / cries / stares at plane	0 1
Reaction C2	E upset / feels bad / feels guilty / looks sheepish / apologizes	0 1
Reaction C3	C3 disappointed / shrugs / says he can't reach it	0 1
Reaction of both/unknown	"they" are disappointed/feels bad [code only as replacement for Reaction of another character; there should not be more than 3 reactions total]	0 1
Character 4 (C4)	other lifeguard / other elephant / other female / her mother / her sister /other person	0 1
Initiating Event	C4 comes over / has net	0 2
Internal Response	C4 wants to help / knows how to get plane / offers to help	0 1
Internal Plan	C4 decides to try / has idea / says she will get it E/G/C3 asks C4 to get it	0 1
Attempt*	C4 reaches for plane / is going to get it / tries to get it C4 gets plane	0 2
Outcome*	C4 gives plane to G / G has plane	0 2
Reaction of Giraffe	G happy / amazed / excited / hugs plane / says thanks	0 1
Reaction of Elephant 1	E happy / relieved / feels better / says thanks	0 1
Reaction C4	female lifeguard relieved / pleased	0 1
Reaction of both/unknown	"they" are happy/excited / say thanks [code only as replacement for Reaction of another character; there should not be more than 3 reactions total]	0 1
Total score:		
Standard Score:		

*For this story and this episode, either her attempt to get the plane or her actually getting it qualify as the Attempt, while the Outcome is her giving the plane to the giraffe, because the goal of the episode is to get the plane back to the giraffe.

Appendix J: Korean Child's Scoring Example for the Simple Story

Korean - English Transcript for the Simple Story (A1) (Male, aged 4;9,)

코끼리하고 기린하고요 놀고 있었어요

Elephant and giraffe are playing.

Character2 Character1

코끼리하고 기린하고 바닷가 어 수영장에 왔어요

Elephant and giraffe go to the (sea uh) swimming pool.

Setting-Loction

그런데 거기 공이 있어서

But there is a ball

공이 빠졌는데요.

And the ball fall in.

Initiating Event

기린이 바다로 풍덩 빠졌어요.

Giraffe falls in the sea.

그래서 코끼리는 공을 주웠구요 기린을 꺼내줬어요.

So elephant picks up the ball and takes out the giraffe.

Outcome

그래서 그런데 코끼리하고 기린이 눈이 이랬어요

(So) but elephant and giraffe's eyes like this

그래서 코끼리하고 기린은 행복하게 살았답니다.

So, elephant and giraffe live happily ever.

Reaction of Reaction of
Character2 Character 1

Note. The child received a raw score of 9 points (see score sheet on the next page).

Transcript is underlined where he received points. He was not given points for the Attempt because he said that “*giraffe fall in the sea*” which is not a goal direct action. He is given credit for Outcome because he said that “*elephant picks up the ball and takes out the giraffe*”, which is logical outcome of both the giraffe and ball that fell in the sea.

Story Grammar Scoring Sample for the Simple Story (A1) (Male, aged 4;9)

Edmonton Narrative Norms Instrument
Story Grammar Scoring Sheet for Story A1

Child's Name: 4 B 10 Age: 4:9 Date: _____

Please read the section of the Manual on scoring SG units before using this sheet.

SG Unit	Acceptable [child need only have one alternative per unit to get credit for that unit]	Score
Character 1	giraffe / male / boy (or any type of animal such as horse) [not acceptable: pronoun]	0 <u>1</u>
Character 2	elephant / female / girl (or any type of animal such as cow) [not pronoun]	0 <u>1</u>
Setting	swimming pool had a ball / playing with ball / want to play ball	0 <u>1</u>
Initiating Event	ball goes in water/pool/sand/mud ball is in water they see a ball	0 <u>2</u>
Internal Response	one / both want to get ball elephant says, e.g., "look what happened," "what am I going to do?" Elephant upset / sad [not: he/she/they want to go swimming]	<u>0</u> 1
Internal Plan	giraffe decides to / thinks he will get the ball	<u>0</u> 1
Attempt	giraffe jumps in pool / swims toward ball / tries to get ball [not: giraffe swimming (without goal); giraffe falls in water]	<u>0</u> 2
Outcome	giraffe gets ball / gives ball to elephant [not: elephant gives ball to giraffe, unless it is noted as unexpected, e.g., 'but instead, Elephant gets it and gives it to him']	0 <u>2</u>
Reaction of Giraffe	giraffe is happy / proud / smiles giraffe says "You're welcome" giraffe's teeth are chattering / giraffe is cold/wet	0 <u>1</u>
Reaction of Elephant	elephant is happy / is grateful / says thank you elephant hugs the ball [not: holds/has the ball]	0 <u>1</u>
Reaction both or unknown	"they" are happy/in love [code only as replacement for Reaction of Character 1 or 2; there should not be more than 2 reactions total]	<u>0</u> 1
Total raw score:		
Standard Score:		

Appendix K: Korean Child's Scoring Example for the Complex Story

Korean - English Transcript for the Complex Story (A3) (Male, aged 4;9)

기린하고 코끼리하고 장난감 비행기를 찾고 있어요.

Giraffe and elephant look for a toy plane.

Character1 Character 2

그런데 기린이 비행기 장난감을 보여줬는대요.

But giraffe shows the toy plane.

Initiating Event

코끼리도 갖고 싶었어요.

And elephant wants that.

Internal Response

그런데 코끼리는 기린장난감을 뺏구요, 바다에 풍덩 빠뜨렸어요.

But elephant takes giraffe's toy and drops it into the sea.

Attempt

Outcome

그래서 기린은 화가 났어요.

So giraffe is angry.

Reaction of

Character 1

근데 아저씨가 왔어요.

And then an uncle comes

Character 3 Initiating Event

그리고 아저씨가 봤어요.

And the uncle sees.

그래서 아저씨는 비행기를 꺼내려고 했어요.

So uncle tries to take out the plane

Attempt

그런데 비행기를 꽉 차려고 했어요.
But the plane becomes full.

그래서 아줌마가 왔어요.

So an aunt comes.

Character 4 Initiating Event

그래서요, 그래서 아줌마는 화가 나서 비행기를 꺼냈어요.

(And then) so the aunt is angry and gets out the plane.

Attempt

근데 아줌마는 기린이 고맙다고 했어요.

(But aunt), giraffe says thanks.

Reaction of

Character 1

그래서 기린은 행복하게 살았대요.

So giraffe lives happily.

Note. The child received a raw score of 21 points (see score sheet on the next page). Transcript is underlined where he received points. He received credit for all Initiating Events and Attempts across all episodes but he did not receive points for Outcome of ep2 and of ep3. In ep2, he said “*the uncle tried to take out the plane (Attempt)*,” but the Outcome was “*the plane becomes full*” which is not logical outcome of the uncle tried. In ep3, he stated that “*the aunt gets out the plane (Attempt)*. ” However, he omitted the Outcome, such as “*the giraffe get back the plane*” or “*the aunt gives plane to Giraffe*”, and directly jumped to Reaction of Giraffe (“*giraffe says thanks*”).

Story Grammar Scoring Sample for the complex story (A3)(Male, aged 4;9)

**Edmonton Narrative Norms Instrument
Story Grammar Scoring Sheet for Story A3**

Child's Name: 4B10 Age: 4;9 Date: _____

Please read the section of the Manual on scoring SG units before using this sheet.

SG Unit	Acceptable [child need only have one alternative per unit to get credit for that unit]	Score
Character 1	giraffe / male / boy (or any type of animal such as horse) (not acceptable: pronoun)	0 <u>1</u>
Character 2	elephant / female / girl (or any type of animal such as cow) [not pronoun]	0 <u>1</u>
Setting	at swimming pool / going swimming / are playing has/is holding airplane / one asks other to play	0 <u>1</u>
Initiating Event	G playing with airplane/making airplane fly G shows/gives E his airplane	0 <u>2</u>
Internal Response	E wants / is interested in airplane	0 <u>1</u>
Internal Plan	E decides to take airplane	0 <u>1</u>
Attempt	E takes airplane / zooms airplane around / makes airplane fly / G gives E a turn	0 <u>2</u>
Outcome	airplane falls in pool / E throws plane in pool	0 <u>2</u>
Reaction of Giraffe	G angry/yells/stares at plane	0 <u>1</u>
Reaction of Elephant	E feels bad/embarrassed/scared / E stares at plane/says oops	0 <u>1</u>
Reaction - both/unknown	"they" are unhappy [code only as replacement for Reaction of Character 1 or 2; there should not be more than 2 reactions total]	0 <u>1</u>
Character 3 (C3)	lifeguard / other elephant /other male / her father / her brother	0 <u>1</u>
Initiating Event	C3 shows up/comes over / E sees C3 / C3 sees plane in water / C3 asks what happened	0 <u>2</u>
Internal Response	E/G hopes C3 can help / C3 wants to help	0 <u>1</u>

Internal Plan	E/G decides to ask for help/explains what happened /asks C3 to get plane / lifeguard decides to try NOT: E talks to C3 (without specifying what about)	0 1
Attempt	C3 tries to get plane / reaches for plane	0 2
Outcome	C3 can't reach plane / plane was too far/sinking	0 2
Reaction C1	G upset / sad / worried / cries / stares at plane	0 1
Reaction C2	E upset / feels bad / feels guilty / looks sheepish / apologizes	0 1
Reaction C3	C3 disappointed / shrugs / says he can't reach it	0 1
Reaction of both/unknown	"they" are disappointed/feels bad [code only as replacement for Reaction of another character; there should not be more than 3 reactions total]	0 1
Character 4 (C4)	other lifeguard / other elephant / other female / her mother / her sister /other person	0 1
Initiating Event	C4 comes over / has net	0 2
Internal Response	C4 wants to help / knows how to get plane / offers to help	0 1
Internal Plan	C4 decides to try / has idea / says she will get it E/G/C3 asks C4 to get it	0 1
Attempt*	C4 reaches for plane / is going to get it / tries to get it C4 gets plane	0 2
Outcome*	C4 gives plane to G / G has plane	0 2
Reaction of Giraffe	G happy / amazed / excited / hugs plane / says thanks	0 1
Reaction of Elephant 1	E happy / relieved / feels better / says thanks	0 1
Reaction C4	female lifeguard relieved / pleased	0 1
Reaction of both/unknown	"they" are happy/excited / say thanks [code only as replacement for Reaction of another character; there should not be more than 3 reactions total]	0 1
Total score:		
Standard Score:		21

*For this story and this episode, either her attempt to get the plane or her actually getting it qualify as the Attempt, while the Outcome is her giving the plane to the giraffe, because the goal of the episode is to get the plane back to the giraffe.