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Developing a Written Language Inventory for Deaf and Hard of Hearing Students: A Systemic Functional Grammar Approach

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I am submitting herewith a dissertation written by Jennifer Renée Kilpatrick entitled "Developing a Written Language Inventory for Deaf and Hard of Hearing Students: A Systemic Functional Grammar Approach." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

Kimberly A. Wolbers, Major Professor

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Developing a Written Language Inventory for Deaf and Hard of Hearing Students: A Systemic
Functional Grammar Approach

A Dissertation Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Jennifer Renée Kilpatrick

August 2015

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ABSTRACT

Deaf and hard of hearing (d/hh) students are extremely diverse in language development due to vast differences in residual hearing, response to hearing technologies, and exposure to American Sign Language. Writing is a struggle for these students who have delayed and limited access to English. Studies have found that d/hh students continue to lag behind their hearing peers in syntactic development. Unfortunately, current methods of writing assessment do not provide teachers with sufficient information regarding the syntactic development of d/hh students. This dissertation responds to the need for an assessment that is able to provide this information that is necessary for setting sentence-level objectives and planning developmentally-appropriate instruction.

This project began when I conducted a small pilot study to determine how Systemic Functional Grammar (SFG) analysis could impact teachers ability to set instructional objectives. I conducted a SFG analysis to identify the syntactic structures used by a small group (N=26) of d/hh and hearing 3rd-5th graders. The students were divided into low, mid, and high language proficiency groups and a hearing peer group (N=9) was added. I used the findings of the analysis to construct syntactic structure progression charts to guide teachers in SFG analysis, and four teachers field-tested these charts. The study findings indicated that while SFG analysis can provide teachers with insight into their students' present level of syntactic development and assist them in setting individual objectives, the time requirements associated with SFG analysis make it an unlikely choice for written language assessment.

The purpose of the current study was to construct a written language inventory that could allow teachers to benefit from the advantages of SFG analysis, without requiring extensive time for training and analysis of samples. Using the pilot study findings, I constructed a draft of the written language inventory. The draft was field tested by 8 teachers of d/hh students in a variety of settings, and a second SFG analysis was conducted to examine the syntactic structures used by a larger, more diverse group of students (N=98). Findings were used to make revisions to the structure and content of the written language inventory.

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CHAPTER 1: INTRODUCTION

Deaf and hard of hearing (d/hh) children make up a small population (0.1%) of students who are served in a variety of educational settings throughout the United States (United States Department of Education, 2014). Language development is extremely complex for this diverse group. For most children, language development begins at a young age with the development of spoken language. Children with normal hearing acquire spoken language skills naturally through authentic communication in their environment. However, d/hh children are unable to access spoken language in the same way. Their exposure to language is often delayed and their access is limited. Factors such as age of hearing loss identification, age of intervention, use of hearing technologies, and chosen mode of communication all impact access to and development of language for these students (Antia, Ree, & Kreimeyer, 2005).

While sign language allows d/hh children uninhibited access to language through a visual pathway, there are additional challenges for these children as they develop sign language skills. Although most infants can begin acquiring language from interactions with their parents immediately after birth, this is not the case for most children who use sign language. According to the Gallaudet Research Institute (2013), sign language is used in the home of 22.9% of the d/hh students in the United States. However, less than 5% of d/hh children are born to d/hh parents (Mitchell & Karchmer, 2002). This means that even when d/hh children are raised in homes where sign language is used, their families are typically still learning the language and are, therefore, unable to serve as language models. As a result, regardless of their chosen mode of communication, d/hh children have limited access to language models.

It is not surprising that research has found that language deficits often exist for children learning American Sign Language (ASL; Schick & Hoffmeister, 2001; Strong & Prinz, 1997),

English-based sign language (Geers, Moog, & Schick, 1984; Schick & Moeller, 1992), and spoken English (P. deVilliers, 2003; Geers et al., 1984). The most challenging aspect of deafness is not the hearing loss, but the language deficits that result from insufficient visual or auditory input (Easterbrooks & Baker, 2002). These deficits in expressive and receptive language development have major implications for school learning (Hartmann, 1996), which occurs “through the medium of language” (p. 34, Bransford, Darling-Hammond, & LePage, 2005).

Statement of the Problem

Early language access and development are essential to later literacy development (Cunningham & Stanovich, 1997; Hart & Risley 1995, 2003; Tabors, Snow, & Dickenson, 2001). As a result, reading and writing is a struggle for most d/hh students (Schirmir, 2000). Reading proficiency deficits of d/hh students have been well documented (Allen, 1986; Dew, 1999; Traxler, 2000). There is evidence that d/hh students continue to graduate with reading levels below those of their hearing peers (Commission on Education of the Deaf, 1988; Johnson, Liddell & Erting, 1989; Quigley & Paul, 1990; National Agenda, 2005). Notable delays and differences in the written language development of d/hh students have also been well documented (Ivimey & Lachterman, 1980; Kretschmer & Kretschmer, 1986; Moores & Sweet, 1990; Quigley; Yoshinaga-Itano et al., 1996).

The problem addressed in this dissertation is the paucity of information related to syntactic development of d/hh students. Studies have found that deaf and hard of hearing (d/hh) students lag behind their hearing peers in syntactic development (Antia, Ree, & Kreimeyer, 2005; Musselman & Santo, 1998). Their writing contains more basic structures, less advanced structures (Koutsoubou, 2010; Rose et al., 2004), and more syntactic errors (Van Beijsterveldt &

van Hell, 2009; Yoshinaga-Itano & Snyder, 1985) than their hearing peers. Research has not yet comprehensively examined or described the syntactic development of d/hh students.

Furthermore, there is no assessment available that is capable of providing detailed information regarding the syntactic development of d/hh students.

Developmentally appropriate instruction must be informed by assessment (Coffin, 2010; Bredekamp, 1987; deOliviera & Schleppegrell, 2015; Vygotsky, 1978), yet current assessments provide insufficient information for guiding the construction of sentence-level, or syntax, objectives (French, 1999; Mayer, 2010; Musselman & Szanto, 1998; Yarger, 1996). An assessment that is capable of providing specific information regarding the syntactic development of d/hh students is needed. Teachers of d/hh students need to know more about the syntactic development of their students. They need both an understanding of how d/hh students in general progress in acquisition of syntactic structures and also a way to determine where their students are in that progression.

Systemic Functional Grammar

The traditional formal approach to written language assessment and instruction has focused on learning and applying a system of rules and labels for individual words (i.e. parts of speech). A Systemic Functional Grammar (SFG) approach provides a different lens for both writing assessment and writing instruction. SFG can act as both a theoretical framework, a view of how language works, and a model of analysis, a tool for describing language. SFG, originated by Michael Halliday (1985), is a theory that views language as a meaning-making resource. SFG is concerned both with the function of language (i.e., how language is used) and the system of language (i.e., what semantic options are available) (Fontaine, 2013). An SFG perspective views language as a social resource for constructing meaning (de Oliveira &

Schleppegrell, 2015). Instead of labeling individual words, it looks first at groups of words and labels them according to function. There are three functional groups: participants, processes, and circumstances. These labels will be further explained in chapters 2 and 3. I have chosen SFG as a framework and a method of analysis for this dissertation study because it allows me to acknowledge the importance of both form and function and to consider how words are used in context to construct meaning.

Context & Motivation

This dissertation study developed out of a larger three-year grant-funded research project to more fully develop Strategic and Interactive Writing Instruction (SIWI; Wolbers, 2008), an approach to writing instruction designed for use with d/hh students. I have been employed as a Research Associate on the project since it began in the fall of 2012. During the first year of the project, we worked with 6 teacher participants who were using SIWI in their classrooms. One of the primary responsibilities of the teachers was setting writing objectives, both discourse- and sentence-level, for their students. We found they struggled most with setting appropriate sentence-level objectives. They tended to choose skills like verb tense, capitalization, punctuation, etc. The skills they chose were things they were able to easily measure and address through mini-lessons; however, they were rarely aimed at helping students understand how words function together in groups and phrases. The teachers reported that it was difficult to set objectives because their students' writing contained so many errors and that they were not sure of the best way to determine if an objective was appropriate for a student's current level of development. In the second year of the project, the research team decided to investigate the use of an SFG approach to examining d/hh student writing. During that year, I conducted a pilot study in which I used an SFG analysis and created a tool based on the findings that allowed the

teachers to set sentence-level objectives. The outcomes of that study led to the motivation for this dissertation study.

Purpose of the Study

The purpose of this dissertation study was to develop a written language inventory that can help teachers to identify the syntactic structures that d/hh students are using, using but confusing, and not yet using. I developed a written language inventory draft based on the findings of a pilot study. The draft consisted of a list of syntactic structures ordered from simple to complex, an individual student checklist, and a class objective setting guide. First, I asked teachers to field test the inventory and made revisions to the format (i.e. the structure and design) based on their feedback. Next, I used an SFG analysis to examine the writing of a sample of deaf and hard of hearing (d/hh) students and hearing peers to gain a better understanding of the linguistic resources used by students to construct meaning. The findings of this analysis were used to make revisions to the content (i.e. the order of syntactic structures) of the inventory.

Research Questions

The following research questions will be examined in this study:

1. What feedback do teachers have regarding the format of the written language inventory draft?
 - a. Which features of the inventory do they find beneficial?
 - b. What suggestions do they have for improvement?
2. How do the syntactic structures used by students differ between groups of varying levels of language proficiency?
 - a. How do participants vary?
 - b. How do processes vary?

- c. How do circumstances vary?

Significance of the Study

The development of this written language inventory is inspired by literacy development inventories used by classroom teachers. (See, for example, *Qualitative Reading Inventory-5*, *Bader Reading and Language Inventory (7th edition)*, and the spelling inventories found in *Words Their Way*.) These inventories provide teachers with a way to take inventory of the skills their students have mastered, as well as a way to use “miscue analysis” (Goodman, 1969) to inform their understanding of the ways in which students are approaching literacy processes (i.e., decoding and encoding). The objective of this written language inventory is the same. It will provide teachers with a way to identify the linguistic structures students are using, using but confusing, and not yet using. A further miscue analysis of structures they are using with confusion can provide insight into the process through which a student is constructing meaning and illuminate areas of need for targeted instruction. In this way, the inventory will be able to guide written language instruction, allowing it to be more “developmentally appropriate” (Bredekamp, 1987). The findings from the analysis will fill a gap in the research base of the syntactic development of d/hh students and the inventory has the potential to impact written language instruction with d/hh students.

Definitions of Terms

The following definitions are given to provide clarity for terms and abbreviations used throughout this dissertation. The definitions for the SFG terms come from *Halliday’s Introduction to Functional Grammar* (Halliday & Matthiessen, 2014).

General Terms

deaf and hard of hearing (d/hh) – an inclusive term used to refer to students with any amount of hearing loss, from mild to profound

discourse-level – a term used to describe skills and objectives related to text construction, including those referred to as higher-level or writing skills and objectives

form – the structure of language

function – the action of language

hearing – an inclusive term used to refer to students who have not been identified with having a hearing loss, also referred to as students with normal hearing

sentence-level – a term used to describe skills and objectives related to sentence construction, including those referred to as lower-level or language skills and objectives

syntactic – a descriptive term used to refer to the principles that govern the structuring of words into phrases, clauses, and sentences

syntactic structure – a combination of words

through-the-air – a term used to refer to spoken and/or signed language

SFG Terms

clause – the smallest grammatical unit that can express a complete proposition or thought, contains both a subject and predicate

circumstance – the manner, location, and time in which processes occur, are realized by adverbial groups and prepositional phrases

experiential metafunction – the message, or how language is organized to fit a particular context

interpersonal metafunction– the exchange, or how language is used to interact with others

meta-function – layer of meaning

meta-language – language used to describe or analyze language

participant – the persons or things involved, are realized by nominal groups

phrase – words that function as one unit, including noun phrases, verb phrases, adjective phrases, and adverb

process – the ways of happening, doing, sensing, saying, being, or having, are realized by verbal groups

Systemic Functional Grammar (SFG) – a theory and description of grammar, which defines language as a resource for making meaning and text as a process of making meaning in context

textual metafunction– the representation, or how language is used to talk about the world

Organization of the Dissertation

Following this introduction chapter, there are four additional chapters. In the next chapter, I present a review of the literature on topics which support this study—written language instructional approaches for d/hh children, the written language development of d/hh children, syntactic development of hearing children, assessments used with d/hh children, and SFG in writing instruction and research. In chapter three, I describe the methodology of the study, including a summary of the previous pilot study, a description of the participants and data sources, data collection procedures, and data analysis procedures. In the fourth chapter, I present the findings of the study. In the final chapter, I conclude the dissertation by describing how the

findings were used to guide revisions to the inventory, as well as discussing the broader implications of the findings.

CHAPTER 2: REVIEW OF THE LITERATURE

The purpose of this dissertation was to develop a written language inventory for use with d/hh students using an SFG approach. In this chapter, I present a review of the literature in several areas relevant to this research. This review is presented in five sections. First, I consider what is known about the syntactic development of students with normal hearing. Second, I discuss what is known about the writing development of d/hh students. Third, I describe the instructional approaches that have been used with d/hh students. Fourth, I describe the writing assessments that have been used with d/hh students. Finally, I discuss the ways in which SFG has contributed to writing instruction and research.

Section 1: Hearing Student Syntactic Development

Spoken language serves as the foundation upon which written language is developed (Ferreiro & Teberosky, 1982); therefore, this review begins by considering the syntactic development of spoken language. Children with normal hearing enter Kindergarten with a spoken language repertoire that uses adult-like grammar (Brown, 1973; Menyuk, 1969). They are already able to express complex ideas through complete, and sometimes compound or complex, sentences (Easterbrooks & Baker, 2002). For these students, language acquisition has occurred before they begin to learn to read and write.

Brown (1973) describes (spoken) language acquisition in 5 stages that begin after a child has acquired a 50-60 word vocabulary. Students in Stage 1 have begun to combine words. These word combinations (e.g. “dad go”, “shirt wet”, “more milk”, “no sit”) carry meaning, but are often not combinations that contain both a subject and a verb. In other words, while they represent a complete thought, they are not necessarily what one would consider a complete sentence, or an independent clause. Brown identified 14 morphemes (i.e. units of meaning) that

become part of a child's spoken language repertoire in Stages 2-5. Each of these morphemes is added through the use of a newly acquired syntactic structure. Brown found that the developmental order of these syntactic structures was quite consistent among the students in his study. Although the age at which the children begin to use the structures varies, it is consistent with the mean length of utterance (i.e. MLU, the average number of morphemes in an utterance). Therefore, the stages are determined not by chronological age, but by MLU, which increases with each stage from 1.75 at Stage 1 to 4 at Stage 5.

In Stage 2, students begin using present progressive verbs (e.g. running) and the prepositions 'in' and 'on' (e.g. in car, on floor), and adding -s for regular plurals (e.g. dogs). In Stage 3, they begin to use irregular past tense verbs (e.g. ran), add -'s to make nouns possessive (e.g. boy's), and use forms of 'to be' as linking verbs (e.g. I am happy). Students in Stage 4 begin using articles (e.g. a, an, the) and regular past tense verbs (e.g. asked) and adding -s for 3rd person regular present tense verbs (e.g. runs). In Stage 5, students begin to use 3rd person irregular present tense verbs (e.g. kisses, carries), forms of 'to be' as helping verbs (e.g. is running), and contractions of forms of 'to be' as both linking and helping verbs (e.g. She's tall. We're running.) Children reach Stage 5 by the time they are 5 years old. At this point, they use adult-like grammar (Menyuk, 1969; Brown, 1973). By the time children enter Kindergarten, they have a strong language foundation. This is when they begin to read and write the language they already know (Easterbrooks & Baker, 2002).

As students begin to write, their written language develops quickly. They begin to add labels to their drawings, and by the end of first grade, their writing has become quite complex. Marilyn Chapman (1996) analyzed the writing of 6 first graders from the beginning to the end of the school year. She looked specifically at three areas of the students' writing: topics, functions,

and structures. Vocabulary and syntax both impact these 3 areas. Chapman discovered that the genres, or ways of organizing ideas, changed over time quantitatively and qualitatively. She found that over the course of the school year the students' genre repertoire increased from 4 genres to 14 genres. At the beginning of the year, their writing consisted mostly of labeling pictures. At the end of the year, their writing consisted mostly of expanded records. Chapman (1996) explained that their writing became more complex through listing and elaborating. Her work does not describe their syntactic development, but the examples do show how students progressed from one-word sentences (i.e. labeling) to adult-like grammar in their expanded records, recounts, and narratives. Although I was unable to find literature that documents the order in which students begin to use syntactic structures during the earliest stages of writing, emergent written language development seems to be similar to spoken language development in this way.

As children continue to mature in writing, they produce more words, their sentences increase in length, and the percentage of subordinate clauses they use increases (McCarthy, 1954). Initially, students use the coordinating conjunction 'and' to combine ideas, or link independent clauses. However, the overuse of 'and' limits their ability to express ideas. As a result, students must begin to use more complex strategies to combine ideas, such as "deleting excess verb parts, embedding clauses, and transforming many ideas into one sentence" (Perron, 1976, p. 652). Each of these strategies is a way to combine sentences.

One of the ways in which students begin to combine sentences is through the use of subordinate clauses. Hunt (1966) studied the use of subordinate clauses in the writing of 4th, 8th, and 12th graders. He found that the use of subordinate clauses increases as age increases. His analysis looked at the types of subordinate clauses used by the students. He concluded that

adjective clauses are the best indication of maturity because they are the only clauses that steadily increase in frequency of use with age. Movable adverbial phrases do increase with maturity, but only in earlier grades; in later grades, frequency is related to topic and genre. The frequency of noun clauses is determined by topic and genre at all ages.

In addition to using coordinating and subordinating conjunctions to combine ideas by linking clauses, one can also combine ideas, or sentences, by reducing clauses to phrases. Hunt (1966) examined syntax at the phrasal level and found additional indicators of maturity. His examination of noun phrases demonstrates that older students are more likely to expand both before and after nouns. He found that 8th graders use 150% as many noun phrases with single word adjectives preceding the noun (e.g. a banana popsicle) as 4th graders do. He also found that 8th graders use noun phrases with a prepositional phrase following the noun 170% more often than 4th graders, and 12th graders use this type of syntactic structure 240% more often. Additionally, Hunt discovered that 8th graders used more genitives (i.e. structures which show a relationship, such as possession or composition, between nouns), appositives, and non-finite verb modifiers than 4th graders. These findings led Hunt (1966,1970) to conclude, that while number of words, sentence length, and use of subordinate clauses all increase with age, these are not the best measures of syntactic maturity. Clause length is a better measure, because it is able to reflect the sentence combining that happens at the phrasal level.

This section has provided a broad overview of what is known about the syntactic development of children with normal hearing. In the next section, I consider how this may or may not be similar to that of d/hh students as I discuss what is known about their written language development.

Section 2: D/HH Student Written Language Development

There is a qualitative similarity hypothesis in deaf education that states that the development of d/hh children is similar to the development of children with normal hearing (Paul & Lee, 2010). While there are some studies that may indicate similar emergent development (See Mayer, 2007; Paul, 2009; Williams, 2004, 2011), there is a paucity of recent longitudinal research studies that can answer questions about if, how, and when d/hh student literacy development differs from that of children with normal hearing. As I mentioned in the previous section, typically developing children are already using expanded grammar or adult-like language by the time they enter formal schooling (Brown, 1973; Easterbrooks & Baker, 2002; Menyuk, 1969). They are able to use noun, verb, adverbial, and adjective phrases to compose sentences by the time they are five years of age (Menyuk, 1969). As a result, spoken language is able to easily serve as the foundation upon which written language is developed (Ferreiro & Teberosky, 1982). However, for many d/hh children, through-the-air and written language are being developed simultaneously. Because of this difference, it is quite possible that written language develops differently for d/hh children.

Most research on the writing development of d/hh students has focused on comparing their achievement to hearing children, especially in the area of syntax. Findings have indicated that most d/hh children use more basic syntactic structures, including nouns, verbs, and determiners while using fewer adverbs, auxiliaries, and conjunctions (Rose et al., 2004). Musselman and Szanto (1998) administered the spontaneous writing section of the Test of Written Language-2 (TOWL-2; Hammil & Larsen, 1988) to 69 d/hh adolescents and found that the mean of the syntactic maturity scores was more than one standard deviation below the mean for hearing students of the same age. Antia and colleagues (Antia, Ree, & Kreimeyer, 2005)

administered the spontaneous writing section of the Test of Written Language-3 (TOWL-3; Hammil & Larson, 1996) to 110 d/hh students between 3rd and 12th grades. They found that 45% of the students scored below average in contextual language, a sub-score that includes an evaluation of sentence structure, grammatical conventions, and vocabulary. Both of these studies demonstrate that the syntactic achievement of d/hh students is below that of their hearing peers.

Antia and colleagues (Antia, Ree, & Kreimeyer, 2005) also found that grade level had the greatest effect on contextual language sub-scores, indicating that age has a positive impact on syntactic achievement. Similarly, Yoshinaga-Itano and Snyder (1985) found that in examinations of the written language samples of both d/hh and hearing students the appearance of syntactic errors decreases as age increases. The findings of these studies indicate that while d/hh students are delayed in syntactic development, they do continue to mature in their understanding and application of English syntax rules in their writing as they age. However, Yoshinaga-Itano and Snyder (1985) found that while the syntactic errors of both groups decreased over time, the rate of decrease was much faster for students with normal hearing, indicating that syntactic development is slower for d/hh students. While it is known that d/hh students are delayed in syntactic development, research has not yet provided descriptive data regarding this development. There are no studies that follow the syntactic development of d/hh students over time or that document the syntactic structures used by d/hh students at different stages of written language development.

Syntactic development is just one piece of written language development. Studies have also looked at morphologic, semantic, and pragmatic development. While each of these areas is interrelated, they are often examined separately. Musselman and Szanto (1998) found that

unlike the average syntactic maturity scores on the TOWL-2, the average thematic maturity scores of d/hh adolescents fell in the average range for hearing peers of the same age. Likewise, Antia and colleagues (Antia, Ree, & Kreimeyer, 2005) found that only 32% of the students in their sample received below average scores on the TOWL-3 for story construction, a sub-score that includes an evaluation of the structure, sequence, plot, and interest level. This sub-score had the highest percentage of students scoring average and above average. The findings of each of these studies seem to indicate semantic skills may develop faster than syntactic skills. Still, there is evidence that d/hh students may lag behind hearing peers in some areas of semantic development. Maxwell and Falick (1992) found that the writing of 4th through 8th grade d/hh students was less frequently conceptually linked than the writing of hearing students. Furthermore, they found that the lexical cohesions used in the essays consisted mainly of word repetition. In an analysis of d/hh students' writing, Yoshinaga-Itano and her colleagues (Yoshinaga-Itano, Snyder, & Mayberry, 1996) found that while students were able to clearly communicate their main ideas, they provided few details and rarely used cohesive devices to tie their ideas together. These findings indicate that even when delays in syntactic development do not impede d/hh students' ability to communicate their ideas, they do limit the complexity of their writing.

I began this section by mentioning the qualitative similarity hypothesis and noted that one factor in considering whether written language develops differently for d/hh students was the acknowledgement that through-the-air and written language are being developed simultaneously in the majority of d/hh students. This difference makes it important to discuss how through-the-air language influences written language. One perspective that is relevant to this discussion is that of James Moffet. Moffet (1979, 1983) defined writing as revision of inner speech. His view

of language development explains that inner dialogue becomes conversation, which then becomes written correspondence.

Wolbers and colleagues (Wolbers, Bowers, Dostal, & Graham, 2013) examined the writing of d/hh students with a variety of L1 experiences (e.g. students with severe language delays, students who use ASL, students who use English-based sign language, students who use contact sign language, students who used spoken English) and found that the majority of students used some ASL linguistic features in their English writing. This is interesting because although the students had all been exposed to ASL, it was not the primary mode of expressive communication for the majority of the students in the study. According to their teachers, the 7 students who did not use ASL features in their writing were highly proficient communicators in ASL, English, or both ASL and English. The authors concluded that these findings suggest that linguistic competence and metalinguistic knowledge of language (i.e., English and/or ASL) contribute to English writing proficiency. This study demonstrates that written language syntactic development is related to through-the-air language development. It supports Moffet's perspectives on written language development and instruction.

Moffett (1979, 1983) suggested that instruction concentrated on the development of inner speech; he believed that for students to become better writers, they must first become better communicators. This perspective is relevant to understanding the written language development of d/hh students. D/hh students whose primary language is spoken English are likely beginning to write before they have an inner dialogue that uses adult-like grammar. For these students, concentrating on the development of inner speech could be crucial. D/hh students whose primary language is ASL likely have an inner dialogue that is not English. For these students, it may be necessary to view writing as a translation of inner speech, concentrating instruction on

the developing ASL and written English and emphasizing the similarities and differences between the two languages.

In this section, I discussed how the syntactic development of d/hh students compares to that of students with normal hearing and discussed additional areas of written language development that might be related and relevant to syntactic development. I also considered how viewing writing as the development of inner speech (Moffett, 1979, 1983) could help to explain how through-the-air language development is relevant and related to written language development and instruction. In the next section, I describe written language instruction with d/hh students.

Section 3: Instructional Approaches

Written language development is complex. It is impacted by a number of factors, many of which are unable to be controlled by schools and teachers. However, it is likely that instructional variables, which can be controlled by schools and teachers, greatly impact written language development. One study (Antia et al., 2005) found that gender, socioeconomic status, grade, degree of hearing loss, and interpreter use all had some relationship to writing performance on the TOWL-3, yet only 18% of the overall writing score was explained by these demographic variables. The researchers concluded that the remaining, unexplained variance indicates that “there are other variables, most likely instructional variables, that impact writing achievement” (p. 253). In other words, writing instruction impacts written language development. Unfortunately, examinations of literacy research in deaf education (Luckner, Sebald, Cooney, Young, & Muir, 2005/2006; Schirmer & McGough, 2005; Strassman & Schirmer, 2012; Williams & Mayer, 2015) have found that there are few well-designed studies to support evidence-based instruction.

When Strassman and Schirmer (2012) conducted a recent review and meta-analysis of the research studies examining writing instruction over a period of 25 years, they found only 16 writing intervention studies with d/hh students. Similarly, Williams and Mayer (2015) conducted a review of the research literature on writing development and instruction of d/hh children in preschool through third grade that was published since 1990. They found only 17 studies that met their criteria. These findings support Luckner's assertion that "The field of deaf education has always been fueled by strong emotion rather than efficacy" (2006, p. 50). Given the scarcity of research supporting effective instructional strategies for use with d/hh children, I turn to the history of written language instructional approaches to contextualize this dissertation in the field of deaf education. In this section, I use the term "approach" to refer to an instructional framework that guides the instruction and the term "strategy" to refer to a technique used to teach or practice a particular skill.

Throughout the history of field, there have been three major types of approaches to written language instruction: structured, natural, and combined. As is common in education, the pendulum has swung back and forth to opposite ends of the spectrum (i.e., structured and natural approaches) throughout the history of deaf education in the United States, before settling in the middle. Easterbrooks and Baker (2002, p. 176) outline seven major principles of all good written language instruction. Advocating for a combined approach to language instruction, they say that effective language instruction considers the following principles:

- Comprehension and production are separate issues.
- The communication needs of the child provide the semantic and pragmatic base for instruction in grammar.

- Normal language development forms the scope and sequence of instruction in the grammatical aspects of language.
- Teachers need to help students generalize language skills to novel situations.
- To impart language in its richness and usefulness, there must be two-way communication.
- The child must experience the meaning of language in many ways.
- Input must be comprehensible.

Before exploring combined approaches, I begin by describing the structured and natural approaches that were once very prevalent in the field of deaf education.

Structured Approaches

Structured approaches to language instruction involve explicit or direct instruction in the 5 components of language (i.e. phonology, morphology, syntax, semantics, pragmatics). These approaches were popular in the early 1900s and experienced revivals in the 70s and again at the beginning of the 21st century (Rose, McAnally, & Quigley, 2004). According to Schirmer (2000), a structured approach is based on the notion that the language of d/hh students must be fixed or repaired. One of the basic tenets of structured approaches is that language should be taught systematically and consistently (Paul, 2009). These approaches are formal and consist of prescriptive methods of teaching language through grammar analysis, imitation and memorization. They rely on careful selection and sequencing of examples. Representative approaches include the Fitzgerald Key (Fitzgerald, 1949), Apple Tree (Anderson, Boren, Kilgore, Howard, and Krohn, 1980, 1999), Patterned Approach (D'Arc, 1958; Buckler, 1968), and Teaching Competence in Written Language (Phelps-Teraski & Phelps-Gunn, 2000). The

Fitzgerald Key and Apple Tree are described below, along with strategies commonly used in classrooms with a structured approach to written language instruction.

The Fitzgerald Key. The most widely known structured method is The Fitzgerald Key (Fitzgerald, 1949). Edith Fitzgerald, a deaf teacher at the Wisconsin School for the Deaf, developed the method. Used by more than two-thirds of schools for the deaf at one point, The Fitzgerald Key, or the Key, was the most popular strategy for language instruction until the 1960s (Rose et al., 2004). The purpose of this approach is to provide children with visual access to language rules. The complete Key consists of six columns with labels for the major functions in a sentence. Table 1.1 illustrates possible labels for the columns. These labels can be adapted to match the needs of the students. Students are introduced to the labels first and later asked to use the labels to compose sentences following English syntax rules or to correct errors in previously composed sentences. As the students progress in their knowledge of English syntax, the labels increase in complexity and columns are added.

The Apple Tree. The Apple Tree, A Patterned Approach for Linguistic Expansion Through Reinforced Experiences and Evaluations (Anderson, Boren, Kilgore, Howard, and Krohn, 1980, 1999) is another systematic approach to learning syntax. The Apple Tree focuses instruction on ten basic sentence patterns, illustrated in Table 2.2. The system requires that students first have a working vocabulary consisting of common nouns, verbs, and adjectives. Then, the sentence patterns are presented through a sequential, spiraling system from easiest to most difficult.

Anderson et al. (1999) describe the five fundamental steps of Apple Tree as follows (also cited in Rose et al., 2004, p. 123; Paul, 2009, p. 413):

Table 2.1 Fitzgerald Key Sample Headings

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Who:		What:	Where:	How much:	When:
Whose:		Whom:		How often:	
What:		Whose:		How long:	
		() Whom:		For:	
		() What:		From:	
				How:	

- Column 1—Contains subjects (i.e. noun phrases)
- Column 2—Contains verb phrases along with subject complements, predicate nouns, predicate pronouns, and predicate adjectives. Instead of having a heading it uses symbols.
- Column 3—Contains direct and indirect objects.
- Columns 4, 5, and 6—Contain adverbial phrases modifying the main verb.

Adapted from Paul (2009, p. 410)

Table 2.2 Apple Tree Program Sentence Patterns

Sentence Pattern	Example
N1 + V (be) + Adjective	The apple is red.
N1 + V (be) + Where	The book is on the table.
N1 + V (be) + N1	The carrot is a vegetable.
N1 + V	The girl is jumping.
N1 + V + Where	The boys are running to the corner.
N1 + V + Where + When	I went to school today.
N1 + V + N2	He wrote a book.
N1 + V + N2 + Where	She hit the ball over the fence.
N1 + V + N2 + Where + When	I ate ice cream at Friendly's last night.
N1 + V + N3 + N2	My mom gave me lunch money.

Note: N1 = noun phrase (i.e., subject or predicate nominative); N2 = noun phrase 2 (i.e., direct object); N3 = noun phrase 3 (i.e., indirect object); Adjective = word(s) that describes the subject; V = verb phrase; B (be) = to be verb; Where = adverbial phrase describing place; When = adverbial phrase describing time.

1. Comprehension—A procedure to develop the child’s understanding of the vocabulary, concepts, and form of the structure.
2. Manipulation—A procedure to help the child understand the structure of the language.
3. Substitution—An instructional strategy that allows the child to use the known to explore the unknown.
4. Production—A procedure to help the child reproduce the structure spontaneously.
5. Transformation—A strategy to help the child make rearrangements in the simple sentence patterns.

These steps are designed to help students develop an understanding of the relationships of words and phrases both within and across sentences. The goal is for them to understand when specific words can be used in specific structures and when they cannot be used in specific structures (Paul, 2009).

Structured approach strategies. Classrooms that use a structured approach to written language instruction rely on strategies that emphasize grammar drill and practice. These classrooms tend to use grammar books, workbooks, and worksheets. The following popular instructional strategies identified by Muma (1971), Wig and Semel (1984), and Deschler and Schumaker (1986) are examples of activities that are prevalent in programs using a structured approach.

1. *Correct-Incorrect Model.* The student is provided with sentences and asked to determine if they are correct or incorrect.

2. *Completion Model.* This activity is often referred to as the cloze procedure and is used for morphology and syntax instruction. It requires students to apply form rules to supply single words and phrases.
3. *Replacement Model.* For this task, the student is provided with a complete syntactic pattern. Then, the student is given the opportunity to select any part of the pattern for modification. As a result, the student has the opportunity to determine the semantic message.
4. *Combination Model.* The student combines sentences into one sentence. While the newly written sentences may be compound, often the task is to combine several semantic messages into one simple sentence.
5. *Scrambled Sentences Model.* The student is given words and phrases and asked to order them into basic sentence patterns.
6. *Revision Model.* Like the combination model, the student is asked to combine sentences. However, the task requires more manipulation and revision of the provided grammatical structures to combine complex ideas into one sentence.

Natural Approaches

Natural approaches to language instruction use implicit methods to facilitate language development through naturally occurring interactions throughout daily routines. In other words, natural approaches take advantage of opportunities to develop language through conversation. Instruction is indirect and experience based. Natural approaches began to command attention with the publication of *Natural Language for Deaf Children* by Mildred Groht (1958). Groht argued against the structured approach to language, saying language should not be taught “through the use of extraneous materials, drill sentences, or artificial exercises devoid of

personal interest and entirely outside the child's need for the language being taught" (p. 22). One of the major tenets of this approach is that language should be acquired in a natural, meaningful, holistic matter. The natural approach allows children to discover language rules on their own. For this reason, the natural approach aligns well with constructivism. Activities focus on pragmatics instead of morphology and syntax in isolated situations (Paul, 2009). Instead of the goal being to correctly use language, the goal is to effectively use language.

Rose et al. (2004, p.89) describe the natural approach to language instruction by identifying the following four underlying principles:

1. Language involves interactions among the components of content, form, and use.
2. Information about normal language development is the basis for determining language goals and intervention strategies.
3. Language is learned through communication.
4. Communicative competence is the ultimate goal of language development.

Four approaches that are based on these principles include the whole language approach, the inquiry model, the project or unit approach, and Language Experience Approach. The whole language approach and Language Experience Approach are described below, followed by a description of strategies often used in classrooms using a natural approach to written language instruction.

Whole language approach. Perhaps the most well-known natural approach to language instruction is the whole language approach, which became the driving force behind the "whole language" movement in the 1990s. The whole language approach emphasizes acquiring language and literacy skills naturally through curriculum topics based on the students' interests. In the whole language approach, communicative competence is a primary goal. Language is not

broken down into parts. Students learn language through using language. They learn to read by reading. And they learn to write by writing. In other words, students learn language through authentic opportunities to engage in language use. Little emphasis is placed on spelling and grammar. Instead, the emphasis is conveying a clear message as students make use of language in context.

Language Experience Approach. Another natural approach that is still widely used in deaf education classrooms is the Language Experience Approach (LEA). LEA allows children to make connections between through-the-air and written language. First, the teacher introduces a stimulus (e.g., object, game, field trip, movie, activity, experiment). Then the students recount their experiences or relay their thoughts or impressions to the teacher, and the teacher writes the students' message. Next, the class reads the story aloud while the teacher points to each of the words. The students then copy the story or are provided with a copy and can add their own illustration. The story then becomes a model for future writing. LEA is popular in classrooms with young students; however it has also been used in classrooms with adolescent and adult students. Paul (2009) says that this approach allows students to gain confidence in themselves as readers by allowing them to experience success.

Natural approach strategies. Classrooms that use a natural approach to language development focus first on building language through-the-air. The goal is to build a strong foundation for the future development of written language skills. The following strategies are examples of the types of strategies used to target through-the-air communication skills in the natural approach.

1. *Conversational Scenarios.* (Stone, 1988) These are role playing situations planned by the teacher that engage students in a realistic conversation. The teacher's

- objective is for the student to use a specific conversational skill that has not yet been mastered. The teacher plans a conversation around a familiar situation and topic that presents a conversational need for the student to use the targeted skill.
2. *Scripts*. This strategy can allow teachers to introduce targeted conversational skills within a typical scenario. It can also reinforce reading skills and can be done in conjunction with readers' theatre. Once students have used a particular conversational skill while participating in a scripted conversation, that script can then become a model conversation in future lessons.
 3. *Scaffolded Conversations*. This strategy is similar to conversational scenarios in that the teacher plans conversations that provide opportunities for students to use targeted conversational skills. When these opportunities arise the teacher is able to support the child's attempts to use new forms and meanings of language. Skarakis-Doyle and Murphy (1996) found that the use of scaffolded conversations facilitated the language acquisition of a five-year-old deaf child.
 4. *Cooperative Learning Activities*. While many natural approach strategies encourage teacher-student interactions, the purpose of cooperative learning is to encourage student-student interactions. Cooperative learning activities encourage students to work together instead of competing and working alone. Because shared goals are established, students must work together to accomplish them.
 5. *Peer Partnering*. Like cooperative learning activities, students learn language through student-student interactions. Peer partnering can be utilized in a variety of ways. Students can be paired with same-age peers, younger/older peers, or hearing peers. Pairing will depend on the specific goals of the activity. Students are given

shared reading and writing activities, which present authentic opportunities for communication.

Combined Approaches

Today, there is rarely a strict adherence to either a structured or natural approach. Beginning in the second half of the 20th century, deaf educators began to adopt a combined approach. A combined approach, also referred to as balanced, combines the best features of the structured and natural approaches, using structured methods to teach language that is contextualized in natural situations. Students are provided with carefully constructed models of language patterns in a variety of situations. Instead of teaching skills in isolation, there is an effort to base the curriculum in literature and authentic context while teaching skills through mini-lessons. Instruction is responsive to the students' lives and current needs, and does not follow a predetermined sequence. Activities are often collaborative in nature with children working in groups instead of alone.

The underlying principles of combined approaches are as follows (from Fey, 1986; Filmore & Snow, 2000; cited also in Rose et al., 2004):

1. Students are provided with language modeling throughout the day—in language class, in content classes, and in social interactions.
2. Students are provided with frequent examples of targeted sentence patterns or language structures.
3. Students are provided with intentional opportunities to perceive, practice, and later produce patterns of language across a variety of naturally occurring environmental settings.

Maternal reflective method (van Uden, 1977), Test of Syntactic Abilities (TSA) Syntax Program (Quigley & Power; 1979; Russell, Quigley, & Power, 1976), Rhode Island Curriculum (Blackwell, Engen, Fischgrund, & Zarcadoolas, 1978), and Strategic and Interactive Instruction (SIWI; Wolbers, 2008a) are all examples of combined approaches. Below I include descriptions of the Rhode Island Curriculum, Strategic and Interactive Writing Instruction, and strategies commonly used in classrooms using a combined approach to written language instruction.

Rhode Island Curriculum. The Rhode Island Curriculum (Blackwell, Engen, Fischgrund, & Zarcadoolas, 1978) was designed for students at the Rhode Island School for the Deaf. It was based on theories of early transformational generative grammar (Chomsky, 1965) and stages of cognitive development (Piaget, 1955). It places emphasis on linguistic knowledge while also focusing on spontaneous language development. The curriculum has 3 major components: (a) the language framework and instructional procedures; (b) the three-step curriculum; (c) coordination of the language goals with content area goals.

The first component, the language framework and instructional procedures, includes four major procedures: exposure, recognition, comprehension, and production. These procedures are used to slowly apprentice students into the use of targeted language structures. The second component, the three-step curriculum, explains how children progress through the curriculum from simple structures to complex sentences. The first level, designed for children in preschool and kindergarten, consists of activities that expose students to both the structure and function of language through the four major procedures. The second level introduces students to activities focused on the 5 basic sentence patterns illustrated in Table 2.3. These patterns do not represent a specific order of progression. Once students have mastered these basic sentence structures they move on to the third level. The third level consists of activities focused on complex sentences.

Because the program is intended to be a combined approach, instruction does not encourage memorization. Instead, instruction is aimed at providing students opportunities to use the sentence patterns in natural situations. The final component, coordination of the language goals with content area goals, ensures that language is not taught in isolation but is taught in the context of social studies, science, and mathematics.

Table 2.3 Rhode Island Curriculum Basic Sentence Patterns with Examples

Sentence Patterns			
Pattern 1	The boy <i>NP₁</i>	ran. <i>V</i>	
Pattern 2	The boy <i>NP₁</i>	threw <i>V</i>	the football. <i>NP₂</i>
Pattern 3	The boy <i>NP₁</i>	is <i>LV</i>	fast. <i>Adjective</i>
Pattern 4	The boy <i>NP₁</i>	is <i>LV</i>	a football player. <i>NP₂</i>
Pattern 5	The boy <i>NP₁</i>	lives <i>LV</i>	in Tennessee. <i>Adverbial</i>

Note: NP₁ = actor; V = action; LV = linking verb; NP₂ = object or attribute; Adjective = attribute; Adverbial = when, where, how

Strategic and Interactive Writing Instruction. Strategic and Interactive Instruction (SIWI; Wolbers, 2008a, 2008b, 2010; Wolbers et al., 2012) is a combined approach to language instruction specifically designed by Wolbers for use with d/hh students. The approach focuses on the development of both through-the air and written language. As the name suggests, both strategy instruction (Graham, 2006) and interactive writing (Englert & Dunsmore, 2002; Englert, Mariage, and Dunsmore, 2006; Mariage, 1996, 2001) are core components. Daily interactive

writing sessions, during which the students and teacher construct texts collaboratively for authentic purposes and audiences, provide an opportunity for natural communication through both dialogue and writing. SIWI employs the process approach to writing (See Flower & Hayes, 1980, 1981), which emphasizes that no one is expected to write a perfect product on the first attempt. Instead, the writing process involves several components, including but not limited to prewriting, composing, translating, revising, editing, publishing and evaluating. The components are not steps that the writer must complete before moving on to the next; they are a set of recursive activities. In other words, writers move back and forth between the components throughout the writing process. For example, a writer may return to and add to or edit his/her plan while composing.

SIWI provides an opportunity for students to learn written language through authentic writing; however, there is also a space for strategy instruction and explicit instruction regarding targeted skills. NIP-It (Notice, Instruct, Practice) lessons allow teachers to notice areas of need, provide targeted instruction, and then provide opportunities for contextualized practice during future interactive and independent writing activities. The Language Zone is a space where teachers and students specifically attend to language. This space allows teachers the opportunity to target specific language structures in the context of an authentic writing opportunity. Studies have indicated that SIWI has a significant impact on both lower level and higher level writing skills (Wolbers 2008a, 2008b, 2010; Wolbers et al., 2011; Wolbers et al., 2012; Wolbers et al., 2015).

Combined Approach Strategies. Classrooms that use a combined approach employ activities that provide students with the opportunities to use languages for true communicative purposes. These activities consist of authentic, vicarious, and visual experiences.

1. *Authentic experiences.* Often it is possible for students to learn language through engaging in experiences that provide a context for the targeted language. These types of activities might include field trips, experiments, cooking, or demonstrations. For example, if students were learning about archeology, the teacher might organize a field trip to a dig-site or bring in an archeologist to do a demonstration of techniques used in archeology. These activities would allow students to use archeology terminology for genuine communicative purposes as they interact with their classmates, teacher, and archeologist(s).
2. *Vicarious experiences.* When it is not possible for students to engage in an experience directly, it may be possible for teachers to construct a vicarious experience using toys, manipulatives, role-playing, or storytelling. If it is not possible for students to take a field trip to a historical site, it may be possible to create a similar experience using role-playing. Instead of visiting the site where an event took place, students can act it out. This can still provide them with an opportunity to use language in a contextualized way.
3. *Visual experiences.* Another strategy is to capitalize on the visual strengths of deaf students. While some videos and audio-recordings may not be accessible to them, there are many ways to teach concepts visually. Teachers might use maps, diagrams, games, paper and pencil tasks, and technology to provide students with additional practice using content language.

This section has provided a glimpse into the written language instruction in deaf education classrooms. Specifically, I discussed structured, natural, and combined approaches, provided descriptions of representative approaches, and included explanations of strategies used

in classrooms adhering to each approach. In the next section, I discuss the use of assessments to evaluate the written language development of d/hh students.

Section 4: Writing Assessments

In 2009, the National Council of Teachers of English (NCTE) & the International Reading Association (IRA) co-published a revised edition of *Standards for the Assessment of Reading and Writing*. In this statement, they emphasize the value and intended purpose of assessment. They present 11 core standards intended to guide decisions regarding literacy assessment. One of these standards reads, “The primary purpose of assessment is to improve teaching and learning.” Another says, “Assessment must reflect and allow for critical inquiry into curriculum and instruction.” Assessment is valuable because it helps to evaluate and inform instruction.

The first step in assessment is to determine what type of assessment is appropriate. This begins with identifying the gap between the information needed and the information available. Typically, this involves reviewing the student’s file and speaking with members of the student’s Individualized Education Plan (IEP) team (e.g., deaf education teachers, general education teachers, Speech and Language Pathologists, parents, the student) to gather relevant information. The next step is to select assessments that can provide additional information. In written language assessment, options evaluate one or more areas of language (e.g. syntax, semantics, pragmatics) or constructs of writing (e.g. ideas, cohesion, organization). There are both formal and informal assessment options.

Formal assessments provide a quantitative measure of a student’s performance. The most commonly used formal assessments are norm-referenced tests, often referred to as standardized tests, which compare a child’s performance to a large group of children at the same age or

developmental level. Another type of formal assessments are criterion-referenced assessments, which compare a child's performance to a fixed set of criteria. The primary disadvantage of formal assessments is that they tend to measure comprehension and use of language that is decontextualized or contrived. On the other hand, the primary advantage of formal assessments is that they provide data (e.g. reliability, validity, representativeness, and standard error of measurement) that are useful in determining the accuracy and/or usefulness of test results. Unfortunately, many norm-referenced and criterion-referenced tests of language have poor validity and reliability (McCauley & Swisher, 1984).

Informal assessments can provide a quantitative and/or qualitative measure of student performance. One advantage of informal written language assessments is that they are able to measure comprehension and use of language in context. Another advantage is they are able to provide a direct link between assessment and instruction. On the other hand, the accuracy of these assessments is largely dependent upon the skill of the examiner, and administering assessments to d/hh students requires additional specialized skills. Easterbrooks and Baker (2002) created a list of 12 skills examiners of d/hh students should possess. Among these skills is knowledge of the forms, functions, and uses of English, ASL, and other languages. If teachers do not have the linguistic and metalinguistic understanding of the languages students use, it will be difficult for them to accurately assess the student's language. In written language assessment in the US, this typically means that teachers must have a deep knowledge of English, as well as additional languages the student is using (e.g., ASL, Spanish) which might impact his/her writing of English.

Below I have provided an overview of the formal and informal assessment options available for evaluating the written language development of d/hh students. First, I discuss

formal assessment options, including norm-referenced, criterion-referenced, other formal assessments. Then, I explore the informal options available.

Formal Assessments

Norm-Referenced Assessments. Choosing and administering norm-referenced assessments with d/hh children can be a complex and difficult process. One of the problems with standardized assessments is that most of them have been normed on and developed for hearing children. While comparing d/hh students to their hearing peers has advantages, often the only information revealed by this type of assessment is information that was already known—the student is lagging behind hearing peers. Researchers who have examined the use of standardized writing assessments have found the information is often not meaningful (Musselman & Szanto, 1998) and is inadequate for guiding instruction (French, 1999; Yarger, 1996). In some situations it is preferable to compare d/hh children to other d/hh children. Unfortunately, tests developed for d/hh children have been normed on a small group of children, and they may still provide information that lacks meaning or usefulness. Additionally, norm-referenced assessments are intended to be administered following specific directions and protocols. Yet, there are often accommodations that need to be made for use with d/hh students. Any deviation from the specified protocols impacts the reliability and/or validity of the assessment. As a result, standardized assessment results should be interpreted cautiously and should be used in conjunction with a variety of measures to provide a comprehensive understanding of a student's writing development.

The list below includes descriptions of norm-referenced assessments of written language. With the exception of the Rhode Island Test of Language Structure (RITLS), the tests described were developed for use with hearing students. Additionally, it is important to note that the

majority of the tests use written or oral/signed stimulus items. As a result, these assessments are not only measuring knowledge of written language skills and/or syntactic knowledge, they are also measuring either reading or listening comprehension. Two of the assessments, Test of Early Written Language, 3rd Edition (TEWL-3; Hresko, Herron, Peak, & Hicks, 2012) and the Test of Written Language—4th Edition (TOWL-4; Hammill, & Larsen, 2009), use picture prompts instead. See Table 2.4 for additional information about the assessments.

- *Clinical Evaluation of Language Fundamentals, 5th Edition (CELF-5; Semel, Wiig, & Secord, 2013)*—This assessment can be used to collect evidence about a student’s communication abilities (i.e. language processing and production) in multiple contexts. The 5th edition contains 16 subtests, including a Structured Writing subtest. For this component of the assessment the student writes a short story by reading a provided sentence stem, completing the sentence, and writing one or more additional sentences.
- *Rhode Island Test of Language Structure (RITLS; Engen & Engen, 1983)*. —This assessment was created for use with d/hh students or emergent hearing writers with whom language development may be a concern (e.g., students with intellectual disabilities, students with learning disabilities, English Language Learners) and provides norms for both groups. The goal of the RITLS is to measure student knowledge of

Table 2.4 Written Language Standardized Assessments

Assessment	Administration	Publisher, Year	Age (in years)	Time to Administer
Clinical Evaluation of Language Fundamentals, 5 th Edition (CELF-5)	individual	Pearson, 2013	5-21	varies
Rhode Island Test of Language Structure (RITLS)	individual	Pro Ed, 1983	3-20	30 minutes
Test of Adolescent and Adult Language, 4 th Edition (TOAL-4)	individual/group	Pro Ed, 2007	12-24	60 minutes
Test of Early Written Language, 3 rd Edition (TEWL-3)	individual	Pro Ed, 2012	4-11 (2 levels)	30-50 min
Test of Written Expression (TOWE)	group/individual	Pro Ed, 1995	6.5-14	varies
Test of Written Language, 4 th Edition (TOWL-4)	individual/group	Pro Ed, 2009	9-17	60-90 minutes
Writing Process Test (WPT)	individual	Pro Ed, 1992	8-19	45-75 minutes
Written Language Observation Scale (WLOS)	individual	Pro Ed, 2009	9-17	5-10 minutes
Written Language Assessment (WLA)	individual/group	Academy Therapy Publications, 1989	8-18+	Three 15-20 minute sessions

syntactic structures. Each item consists of a sentence and 3 pictures. Students must read the sentence and select the picture that matches the meaning of the sentence.

- *Test of Adolescent and Adult Language-4th Edition (TOAL-4; Hammill, Brown, Larsen, & Wiederholt, 2007)*—This assessment was designed to measure both spoken and written language abilities of adolescents and young adults, with varying degrees of knowledge of the English language. Of the 6 subtests, 3 are related to written language: Word Similarities, Sentence Combining & Orthographic Usage. These subtests can be combined to provide a Written Language composite score. Each of the subtests contains a stimulus that must be read to complete the task.
- *Test of Early Written Language, 3rd Edition (TEWL-3; Hresko, Herron, Peak, & Hicks, 2012)*—This assessment measures emerging written language skills through 2 subtests: basic writing and contextual writing. The former consists of items that must be read and measures the student's ability to use the writing tools of language. The latter requires the student to construct a story when given a picture prompts and measures various writing constructs (e.g. story format, cohesion, thematic maturity, ideation, story structure).
- *Test of Written Expression (TOWE; McGhee, Bryant, Diane, 1995)*—This test is a comprehensive assessment of writing achievement that consists of 2 subtests. The first involves 76 items that tap different skills associated with writing. The second requires students to read or listen to a prepared story starter and finish the story in a written essay.
- *Test of Written Language—4th Edition (TOWL-4; Hammill, & Larsen, 2009)*—This assessment is intended to assess both contrived and spontaneous writing through 7 subtests: Vocabulary, Spelling, Punctuation, Logical sentences, Sentence Combining, Contextual Conventions, and Story Composition. In the first 5 subtests students are

provided with written or oral/signed stimuli. For the last 2 subtests, students are asked to write a story in response to a picture stimulus.

- *Writing Process Test (WPT; Warden & Hutchinson, 1992)*—The purpose of this assessment is to evaluate both product and process. Students are provided with 4-5 prompts that describe an audience, context, and purpose and are asked to plan, write, and revise an original composition in different genres (e.g., descriptive, informative, narrative, and persuasive writing). Scores are provided for both Development and Fluency Scales. The Development Scales assess Purpose and Focus, Audience, Vocabulary, Style and Tone, Support and Development, and Organization and Coherence. The Fluency Scales assess Sentence Structure and Variety, Grammar and Usage, Capitalization and Punctuation, and Spelling.
- *Written Language Observation Scale (WLOS; Hammill & Larsen, 2009)*—For this assessment teachers or other professionals rate students on items related to specific writing behaviors readily seen in instructional settings (e.g. “enjoys writing,” “uses acceptable grammar”).
- *Written Language Assessment (WLA; Grill & Kirwin, 1989)*—This test assesses written language through evaluation of 3 writing samples (expressive, instructive, and creative) written in response to a stimulus prompt. Scoring involves rating specific features of the samples as well as counting words, sentences, and syllables to provide sub-scores in General Writing Ability, Productivity, Word Complexity, and Readability, as well as an overall Written Language Quotient.

In addition to norm-referenced assessments developed specifically to measure written language development, many academic achievement batteries (e.g. *Woodcock-Johnson—4th*

Edition, Weschler Individualized Achievement Test—3rd Edition, Kaufman Test of Education Achievement—3rd Edition) include subtests that measure written language skills. While most achievement tests are normed on students with normal hearing, the *Stanford Achievement Test-10th Edition (SAT-10; Harcourt Assessment, Inc., 2004)* provides additional norms for d/hh students obtained through Gallaudet University's Office of Research Support and International Affairs. The *SAT-10* measures curriculum commonly taught in grades 1 through 9 in the United States within the areas of reading, math, science, and social studies, as well as writing.

Criterion-Referenced Assessments. Because norm-referenced assessments alone are not an adequate measure of written language, many schools and researchers have worked to develop criterion-referenced assessments to measure written language development. The teachers at the Cleary School for the Deaf found the written language assessments available were unable to address the questions they had about their students' use of language, grammar, and mechanics. To meet their needs, they developed The Cleary Language Assessment, which measures both written and signed communication (Kelly, Bloechle, Esp, Hove, Ingrassia, & Morseon, 1994). The written portion uses a rubric to score students in topic, organization, support, grammar, voice, and mechanics. Kendall Demonstration Elementary School also created their own writing assessment entitled Writing Levels (French, Hallau, & Ewoldt, 1985). This assessment is used to score student writing as emerging, beginning, developing and maturing in four categories: meaning, linguistic features, conventions of writing, and story.

The National Technical Institute for the Deaf (NTID) revamped the existing NTID Writing Test in 2001 (Schley & Albertini, 2005). The NTID Writing Test assigns a score from 0 to 100 based on 4 equally weighted categories: organization, content, language, and vocabulary.

They found the assessment had moderate correlations to both the ACT English Test and the ACT Usage and Mechanics sub-score and have continued to use it for course placement purposes.

Powers and Wilgus (1983) developed a method for assessing the writing of deaf children for research purposes. Their analysis focused on complexity of syntactic pattern use and included the following four levels:

1. Repetitious use of a single pattern.
2. Use of a variety of simple sentence patterns (e.g., Subject–Verb–Object (S–V–O), Subject–Verb–Adjective (S–V–A) or Subject–Verb–Prepositional phrase (S–V–P)).
3. Use of expansions adding an adverbial or gerundial phrase or use of compound sentences.
4. Use of complex sentences, including embedded subordinate clauses.

In a more recent study, Burman and colleagues (Burman et al., 2008) found existing assessments to be insufficient measures with d/hh students. They found that the available assessments use criteria that fail to discriminate between different levels of production and place many productions at floor level. They created an instrument with 17 questions, each one taking the form of “Does the child _____?” The questions account for both low-level and high-level language objectives. Question 2 is “Does the child put words in subject-verb order”, while Question 17 is “Does the child include direct speech?” Teachers respond to each question with a score of 0 to 4, which are defined differently for each question. These scores typically indicate consistency of use, with one end of the scale indicating no evidence and the other end indicating systematic use with few errors. The test yields two scores: a grammatical scale and a message quality scale. The authors administered the assessment to 167 students from 22 different

schools/programs and found that the overall scale was sensitive and was not significantly skewed. Additionally the grammatical scale showed no floor or ceiling effect.

White (2007) developed an assessment called the Structural Analysis of Written Language (SAWL), which allows teachers to use t-unit analysis with d/hh students. A t-unit is an independent clause with all attached dependent clauses (Hunt, 1965). T-units can be used as an index of linguistic maturity; however, it is difficult to apply this measure to d/hh student writing which typically contains syntactic errors. The SAWL sets forth guidelines for using t-unit analysis with flawed English and writing containing minimal English structure. The assessment also introduces two new measures of linguistic maturity: morphemes per t-unit (MTU) and word efficiency ratio (WER).

Other Formal Assessments. Most norm-referenced assessments are intended to be administered only once per year; therefore, even when the information that they yield is useful, they are unable to be used to track writing development throughout the school year. The criterion-referenced tests described above have not been widely disseminated or adopted by classroom teachers. Two additional formal assessment options that have become popular way for teachers to conduct progress monitoring are curriculum-based measures (CBM, Deno & Mirkin, 1977) and computer adaptive tests. Both types of assessments can be used several times a year. The benefits of these assessments are that they can be used to measure growth over a short period of time and can be used to help plan instruction.

CBMs are efficient and do not require extensive amounts of instructional time to administer (Rose, McAnally, & Quigley, 2004). Typically, CBM written language assessments typically require students to write a story for 3 minutes. That written language sample is then scored using a variety of quantitative measures that can be calculated relatively quickly.

Measures such as number of words written, number of words spelled correctly, correct letter sequence, correct word sequence, and correct word sequence minus incorrect word sequence are used (Tindal, 2013).

Computer adaptive tests are unique because the tasks or questions given to a student change based on his/her responses. One example of computer adaptive tests that has a written language component is Measures of Academic Progress® (MAP®, Northwest Evaluation Association). MAP® Language Usage uses multiple choice questions to assess a student's knowledge of written language in the following three areas: Writing—Plan, Organize, Develop, Revise, Research; Language—Understand, Edit for Grammar, Usage; and Language—Understand, Edit Mechanics. Like many standardized assessments this assessment of written language is done outside of the context of authentic writing.

Informal Assessments

In addition to formal assessments, there are a variety of informal classroom measures that teachers can use to track progress. Moores (1970) suggests the cloze procedure can be used as a way to identify a student's linguistic strengths and weaknesses. Teachers can easily create their own cloze procedure assessments by selecting a short reading passage and deleting every 7th-10th word. This type of assessment measures both text comprehension and language use. To develop a cloze procedure assessment, teachers should select a passage within the student's reading comprehension level. The first two sentences should introduce the passage and remain intact. The cloze procedure can measure student's syntactic, morphological, and/or pragmatic skills depending on which words are selected for deletion. Therefore, words should be carefully and intentionally selected.

A writing portfolio is an excellent way for teachers to document and assess writing development. Student writing samples are collected throughout the year and kept in a central location to document progress over time. These samples can be evaluated using a variety of measures. Like CBMs quantitative measures can be used. Rose, McAnally, & Quigley (2004) suggest the use of the following quantitative measures to evaluate written language samples:

- *Type-Token Ratio (TTR)*. A ratio of the number of different words compared to the total number of words used.
- *Mean Sentence Length (MSL)*. The mean number of words used per sentence.
- *T-unit Length (T Units)*. The mean of the number of words per thought. The thought unit is defined as a complete phrase or simple statement (Hunt, 1965).
- *Correct Word Sequence*. A measure of two adjacent, correctly spelled words syntactically and semantically acceptable to a native speaker of English

In addition to these quantitative measures, skill checklists can also be used to evaluate various areas (e.g., morphology, syntax, semantics, pragmatics) of written language for a more focused assessment. These checklists are informed by hierarchies, which describe written language development. Hierarchies are a way of understanding the general progression that occurs in language learning. However, language is extremely complex, variable, and nonlinear. Easterbrooks and Baker (2002) caution that “any attempt to align all the components and systems of language into one overall sequence would violate the basic premise of child development” (p. 230). Educators turn to hierarchies because they need some sort of guidance to set objectives and plan instruction. They need to know what the logical “next steps” might be. When hierarchies are used, educators must use them responsibly by keeping in mind that they are a framework and not a rigid sequential checklist.

Analytic writing scoring measures, referred to as rubrics, are another quantitative measure used to evaluate written language. Rubrics can allow teachers to look at qualities of writing in manageable units while helping to establish shared language and understanding of expectations. They facilitate teacher feedback and provide consistency. The Six-Trait Analytical Scale (Spandel & Stiggins, 1990), which rates students in ideas, organization, voice, word choice, sentence fluency, and conventions, is an example of this type of assessment. Heefner and Shaw (1996) used the Six Trait Analytical Scale to assess 943 personal narratives collected from 206 students over a 4-year period of time. They concluded the assessment is reliable and valid and seemed to be able to provide teachers with diagnostic information that could be used to inform writing instruction. Schirmer and Bailey (2000) examined a teacher's use of the Six Trait Analytical Scale with her class at a school for the deaf and concluded that teachers should also create individualized or grade-level rubrics by adding, removing, or changing traits. Many teachers now use The 6 +1 Trait® Writing Model of Instruction and Assessment, which includes presentation as a 7th trait. The newest rubrics have been aligned to the Common Core State Standards and are designed for use across a variety of genres (i.e., informative/explanatory, argument, and narrative writing).

While a variety of formal and informal measures have been used to evaluate written language development, these assessments are not able to provide the specific information teachers need to plan balanced written language instruction that is responsive to student needs. Rubrics can be helpful in providing information about discourse-level language skills; however, they provide little information regarding sentence-level language skills. According to Mayer (2010), "What makes the evaluation of the texts of deaf writers particularly challenging is that they feature idiosyncratic uses of language that are not accounted for in typical assessments of

written language, or are simply subsumed under the category of “conventions” in many of the rubrics that are popular as assessment tools in the field for both hearing and deaf learners” (p. 151). Teachers of d/hh students need an evaluation tool that can provide meaningful information about the language resources students are using in their writing.

In this section, I described the types of assessments that are available for evaluating the written language development of d/hh students. In the final section of this chapter, I discuss Systemic Functional Grammar, which is both the theoretical framework and method of analysis for this dissertation study.

Section 5: Systemic Functional Grammar

In Chapter 1, I briefly introduced SFG and explained how it can be used as a new way of evaluating written language. SFG provides a way to consider how language works in context, as well as what language options are available (Fontaine, 2013; Halliday & Matthiessen, 2014). In this study, SFG acts as both my theoretical framework and my method of analysis. I have chosen to use it to guide the development of the written language inventory, because it will allow me to ensure that the inventory focuses on both form and function. In this section, I provide a broad overview of SFG. I include descriptions of SFG as a theoretical framework and model of analysis and a discussion of how it has been used in educational research.

SFG as a Theoretical Framework

SFG attends to both form and meaning (Halliday & Matthiessen, 2014). This makes it similar to the combined approaches discussed in Section 3 of this chapter. An SFG approach to written language evaluation and instruction focuses on teaching students how to use the meaning-making resources they have and on teaching them about the choices available to them (de Oliveira & Schleppegrell, 2015). It allows students to expand their linguistic repertoire while

considering language in context (Thompson, 2004). As their linguistic repertoire expands, they are able to engage in new ways of expressing themselves (de Oliveira & Schleppegrell, 2015). While using language to participate in natural meaningful interaction, they are also building both linguistic and metalinguistic awareness. In other words, they are learning language, learning through language, and learning about language (Halliday, 1984).

When SFG is used as a teaching resource it can enable teachers to make the meaning-making process in reading and writing visible to students (de Oliveira & Schleppegrell, 2015). When it is used as an assessment resource, the students' meaning-making process becomes visible to teachers and can inform their instructional planning. Using SFG as a theoretical lens enables one to view language as a tool for thinking (Coffin, 2010). SFG views language acquisition not as acquiring a set of finite structures that is 'out there', but a process of co-constructing meaning through interaction. This view dates back to the work of Vygotsky (c.f. Vygotsky 1978, 1986) who argued that learning and cognitive development should be viewed as social processes.

Vygotsky's sociocultural theory of learning explains that language development and cognitive development are intertwined (Vygotsky, 1978). Sociocultural theories of learning and SFG are complimentary perspectives. Language develops first as a tool for social interaction but leads to the development of thought. As children engage in social interaction with more knowledgeable users of language, they can begin to use language in new ways (Dimitriadis & Kamberelis, 2006). Zone of Proximal Development (ZPD) is Vygotsky's term to describe the range of tasks that a child is in the process of mastering (Vygotsky, 1978). The lower limit consists of the tasks the child can do independently, while the upper limit consists of the tasks the child can do with assistance. The ZPD explains how children learn ways of using language

from others in social situations, before internalizing those ways of using language for themselves.

A sociocultural perspective of teaching suggests that teachers should provide opportunities for students to engage in interactions for language use slightly above the ways in which they are currently using language independently (Easterbrooks & Baker, 2002). For written language development, this suggestion has implications for planning and instruction of both reading and writing. Written language development should be supported first through providing opportunities to read authentic texts that use language in new ways. As students read these texts, teachers should support students in noticing the ways in which language is used (de Oliveira & Schleppegrell, 2015). Students can then attempt to use language in similar ways in their own writing.

An SFG approach enables teachers to plan instruction that is focused on helping students recognize and use the language resources available to them (de Oliveira & Schleppegrell, 2015). Teachers can use model texts to prompt students to attend to the ways linguistic choices convey meaning. Because context determines linguistic demands, these linguistic choices are influenced by the situations in which they are used. In other words, the grammar appropriate to a text depends on audience, topic, and purpose. Consequently, it is important that students have opportunities to read and notice the linguistic structures used in a variety of texts and to consider how context impacts the writer's linguistic choices.

When teachers use an SFG approach, evaluation and feedback are focused (first) on meaning (de Oliveira & Schleppegrell, 2015). Because meaning and form are connected, students will learn form implicitly. The goal of an SFG perspective is not to fix the errors in student writing, but to expand the options students have for making meaning (de Oliveira &

Schleppegrell, 2015). It is assumed that errors are a natural part of language learning. In other words, before a student masters a particular linguistic structure, they will first make attempts in which they use the structure with confusion (i.e., error). To use a sociocultural or SFG approach to instruction, teachers must become familiar with the ways in which students are already using language in their independent writing. Thus, teachers need a way to analyze student writing that can inform instruction that helps students to recognize and use the language resources available to them.

SFG as a Model of Analysis

In a traditional approach to grammar, sentences are analyzed directly into words. Because meaning is determined by context, a traditional model is not able to adequately describe how students are using language. Halliday (Halliday & Matthiessen, 2014) explained, “Describing a sentence as a construction of words is rather like describing a house as a construction of bricks, without recognizing the walls and the rooms as intermediate structural units” (p. 362). This analogy explains why a traditional approach to language analysis is incomplete, while an SFG approach accounts for additional relevant information. Words occur in patterns, groups, phrases, and clauses. An SFG analysis accounts for these patterns and captures how linguistic structures are used to construct meaning.

SFG analysis begins with looking at a clause (Halliday & Matthiessen, 2014). A clause can be described in a variety of ways. According to most dictionaries, it is considered to be the smallest grammatical unit that can express a complete proposition or thought. All clauses consist of a subject and a predicate. An independent clause is one that can stand alone as a sentence, while a dependent clause must be attached to an independent clause. Fontaine (2013) provides 3 basic notions regarding an SFG perspective of clauses:

- Every text (semantic unit) contains at least one clause.
- The clause is made up of units.
- Each clause has one and only one main verb.

SFG analyzes the clause, but instead of traditional labels, such as subject and predicate, it uses functional labels. These labels differ according to the metafunction that is being analyzed. SFG uses a *trinocular perspective*, looking at the clause from its own level, but also ‘from above’ and ‘from below’ (Halliday & Matthiessen, 2014). This perspective allows the analysis to consider not only the function of the clause, but also the way in which the clause is composed and connected to other clauses.

SFG names three metafunctions of language: *textual*, *interpersonal*, and *experiential* (Halliday & Matthiessen, 2014). Each metafunction has its own system of choices (Thompson, 2004). The *textual* is concerned with the message, or how language is organized to fit a particular context (Halliday & Matthiessen, 2014). The *interpersonal* is concerned with the exchange, or how language is used to interact with others (Halliday & Matthiessen, 2014). And the *experiential* is concerned with the representation, or how language is used to talk about the world (Halliday & Matthiessen, 2014). Each of these metafunctions occurs simultaneously and represents a different layer of meaning (Halliday & Matthiessen, 2014).

Because of this metafunction stratification, users of language can mean more than one thing at the same time (Fontaine, 2013). Figure 2.1 shows an example of SFG analysis that includes all 3 metafunctions, or layers of meaning, which will be further explained below. While this example shows an analysis of all 3 layers of meaning, SFG analysis is often focused on only one metafunction.

	The	last	unicorn	lived	in	a	lilac	wood,	and	she	lived	all	alone.		
	Clause										Clause				
<i>Textual</i>	Theme			Rheme							Theme		Rheme		
<i>Interpersonal</i>	Subject			Finite	Adjunct							Subject	Finite	Modal	Adjunct
<i>Experiential</i>	Participant-Actor			Process-Material	Circumstance-Location							Participant-Actor	Process-Material	Circumstance-Manner	

Figure 2.1 SFG Analysis Example

SFG analysis provides a deeper understanding of the language in use (de Oliveira & Schleppegrell, 2015); it has the potential to provide insight into the linguistic repertoire of a writer that would not be possible without this type of in-depth analysis. The question one hopes to answer determines which type of metafunction analysis is needed. Below, I provide descriptions and examples of the 3 metafunction analyses: textual, interpersonal, and experiential. These descriptions and examples provide only a glimpse into the complexities of SFG analysis. For a more comprehensive explanation of SFG, see *Halliday’s Introduction to Functional Grammar* (Halliday & Matthiessen, 2014) or *Introducing Functional Grammar* (Thompson, 2014).

Textual Analysis. The textual metafunction has to do with the ways in which language is organized in relation to the context. Textual analysis begins with a *text*. A text is a semantic unit that has both unity of structure and unity of textures (Hasan, 1985). This means that patterns are used to create a focus and flow of ideas through a text. The textual component is what makes the experiential and interpersonal metafunctions possible by allowing language in the abstract to become language in use (Halliday, 2002). In other words, a text is what allows language to become relevant by situating it in context.

Textual analysis focuses on *theme* and *rheme*. The *theme* is what orients a clause to its context (Halliday & Matthiessen, 2014). The remainder of the message is the *rheme* (Halliday &

Matthiessen, 2014). A theme-rheme analysis is used in examining the choices related to coherence, cohesion, and organization of a text (Fang & Wang, 2011). There are *topical*, *interpersonal*, and *textual* themes. A writer selects a theme to construct a particular meaning related to each of the three metafunctions. Figure 2.2 provides an example of a topical theme analysis of the sentence “The last unicorn lived in a lilac wood, and she lived all alone”, a quote from Peter S. Beagle’s *The Last Unicorn* (1968). This sentence consists of two clauses joined by the conjunction ‘and’. A theme and rheme have been labeled for each clause. The two themes, ‘the last unicorn’ and ‘she’ refer to the same entity. In this text, coherence is created by using a pronoun in the second clause to refer back to the theme mentioned in the first clause.

A theme-rheme analysis can focus on any of the three metafunctions, depending on what type of organization is in question. A *topical theme* analysis helps to identify the resources students are using to organize propositions within a text. An *interpersonal theme* analysis helps to identify the resources students are using to relate propositions to themselves or their audience. A *textual theme* analysis helps to identify the resources students are using to link or transition between propositions. Textual analysis helps to identify the linguistic resources students use to organize their ideas.

“The last unicorn lived in a lilac wood, and she lived all alone.” (Beagle, 1968)												
The	last	unicorn	lived	in	a	lilac	wood,	and	She	lived	all	alone.
Theme			Rheme						Theme	Rheme		

Figure 2.2 Textual Analysis Example

Interpersonal Analysis. The interpersonal metafunction has to do with the ways in which a writer interacts with the audience through language. This is related to the purpose for writing (Fang & Wang, 2011). Language choices are made based on the intent of a clause. Therefore, the linguistic structures used will be different for informing, persuading, inquiring, commanding, stating, offering, describing, etc. (Fontaine, 2013). Linguistic structures also vary according to perspectives, opinions, judgments, attitudes, etc. Interpersonal analysis has to do with *mood*, *modality*, and *appraisal*.

Interpersonal analysis focuses on the arrangement of the *subject* and *finite* of a proposition. The *subject* is realized by the nominal group (Halliday & Matthiessen, 2014). The *finite* is realized by the first word of the verbal group (Halliday & Matthiessen, 2014). The finite relates the proposition to the context. It does this either by referring to when the proposition occurred or by referring to the writer's perspective regarding the proposition (Fontaine, 2013). The interpersonal analysis also labels the remainder of the clause using the terms *residue*, *modal*, *complement*, *adjunct*, and *predicator* (Halliday & Matthiessen, 2014). These terms provide a way for understanding how the interpersonal and experiential meaning intersect. *Mood* refers to the type of clause structure (e.g., indicative, declarative, interrogative, imperative) a writer chooses to use (Fontaine, 2013). This structure is realized in the arrangement of the *subject* and *finite*. *Modality* refers to how writers use language to signal degree of certainty (i.e., probability and usuality) and is realized through the use of *modal verbs* and *modal adjuncts* (Halliday & Matthiessen, 2014). *Appraisal* refers to how writers use language to position themselves in relationship to a certain attitude, statement, or audience and is realized through (Thompson, 2014). Each of these interpersonal analyses helps to identify the linguistic resources students are using to interact with their audience.

Figure 2.3 provides an interpersonal analysis of the same sentence used for the textual analysis above. The arrangement of the subject, followed by the finite indicates mood of both clauses is declarative (non-exclamative). The finite ‘lived’ indicates the proposition occurred in the past. And the modal ‘all’ indicates certainty of the proposition.

“The last unicorn lived in a lilac wood, and she lived all alone.” (Beagle, 1968)												
The	last	unicorn	lived	in	a	lilac	wood,	and	She	lived	all	alone.
Subject			Finite	Adjunct					Subject	Finite	Modal	Adjunct

Figure 2.3 Interpersonal Analysis Example

Experiential Analysis. The experiential metafunction has to do with the representation of the writer’s experiences in the external world (i.e., entities, events, qualities, etc.) and internal world (i.e., thoughts, beliefs, feelings, etc.) (Richards, 1996). A clause is a representation of a particular situation involving *participants* and *processes* against a backdrop of *circumstances* (Fontaine, 2013). *Participants*, the persons or things involved, are realized by nominal groups (Halliday & Matthiessen, 2014). *Processes*, the ways of happening, doing, sensing, saying, being, or having, are realized by verbal groups (Halliday & Matthiessen, 2014). *Circumstances*, the manner, location, and time in which processes occur, are realized by adverbial groups and prepositional phrases (Halliday & Matthiessen, 2014). Together participants, processes, and circumstances are used to represent entities in the world and the ways in which those entities act on or relate to each other (Fontaine, 2013).

Experiential analysis begins with the concept of *transitivity*. *Transitivity* is used in a broader sense in SFG than the way in which it is used in traditional grammar (Fontaine, 2013). It is a semantic system for describing the whole clause, rather than just the verb and its object

(Halliday & Matthiessen, 2014). Fontaine (2013) explains that “the distinction is always based on the presence or absence of the various roles involving objects: direct object, indirect object, no object and even whether one of these can occur as a subject. What this shows is that the relation of transitivity concerns the distribution of objects, whether this means arguments, objects, or participants, rather than the status of the verb” (Fontaine, 2013. p.73). Halliday names six basic types of processes: material, mental, relational, behavioral, verbal, and existential (Halliday & Matthiessen, 2014). Each of these labels describes the transitive function of the process. There are also various types of participants and circumstances; these types can be used to label the function of the participants and circumstances. (See Appendix M and N for a list of participant and process types.)

The configuration of participants and processes is the experiential center of a clause (Halliday & Matthiessen, 2014). Both participants and processes are inherent or obligatory components of a clause. On the other hand, circumstances are almost always optional augmentation. While every clause (with the exception of certain meteorological processes) contains 1 to 3 participants, Matthiessen (1999, 2006) found that the average number of circumstances per clause was .45 and that there was a considerable difference among clauses with different process types. An experiential analysis helps to identify the resources students are using to represent their ideas.

Figure 2.4 demonstrates an experiential analysis of the same sentence used in Figures 2.2 and 2.3. This analysis focuses on the language used to organize an imaginary happening. It provides information about the language that is used to construct a text that declares to the reader who (‘the last unicorn’) did what (‘lived’), where (‘in a lilac wood’), and how (‘all alone’).

“The last unicorn lived in a lilac wood, and she lived all alone.” (Beagle, 1968)												
The	last	unicorn	lived	in	a	lilac	wood,	and	she	lived	all	alone.
Participant-Actor		Process-Material	Circumstance-Location				Participant-Actor	Process-Material	Circumstance-Manner			

Figure 2.4 Experiential Analysis Example

SFG in Educational Research

While I was unable to find any published studies in which SFG was used in deaf education, I was able to locate studies in which SFG was used in the education of students with normal hearing to improve literacy outcomes. In these studies, teachers use the meta-language offered by SFG as an instructional strategy to aid students in attending to language. The studies I describe below provide examples of the use of this meta-language to lead to improved outcomes in reading (Bailey & Heritage; 2008; De Oliveira & Dodds, 2010; Schleppegrell, 2013) and writing (Aguirre-Muñoz, Park, Amabisca, & Boscardin, 2008; De Oliveira & Lan, 2014).

The first 3 studies I have included demonstrate how teachers have used the meta-language offered by an SFG approach to help students attend to available linguistic choices for a particular metafunction, leading to improved reading comprehension. Schleppegrell (2013) found that when 2nd graders were introduced to the metalinguistic label ‘doing process,’ they were able to use this label to attend to the form and meaning of the language in use. This label allowed them to participate in a conversation about the meaning of a particular sentence in the book they were reading and improved their understanding of the idea the author had constructed. Bailey and Heritage (2008) found that a 5th grade teacher was able to support students’ understanding of an expository (historical recount) text, by drawing the students’ attention to ‘action verbs.’ This metalinguistic label helped students to understand that ‘action verbs’ are one

of many types of verbs (processes) that can be used to construct meaning in different types of texts. In another study, 4th grade teacher Katie Dodds taught her English language learners several metalinguistic labels: ‘participant’, ‘being process’, and ‘connector’ (De Oliveira & Dodds, 2010). Then, she gave the students a chart with these labels and an expository (scientific information report) text to analyze. The meta-language facilitated students’ participation in class discussions about language and meaning in the context of a science textbook, improving their understanding of the content.

The next 2 studies I have included demonstrate how teachers have used the meta-language offered by an SFG approach to help students identify and use available linguistic resources within particular contexts, leading to improvements in their writing. In these studies, the teachers used this meta-language to help students attend to language and meaning in model texts of a particular genre and provided opportunities for them to write their own text in the same genre. The findings of these studies indicate that these instructional strategies led to an expansion of the students written language repertoires. De Oliveira and Lan (2014) found that when 4th grade students were introduced to the purpose, text structure, and grammatical features of a procedural recount, they were better able to use the language of procedural recounts in their own writing. Aguirre-Muñoz, Park, Amabisca, and Boscardin (2008) found that when teachers helped students attend to the ways language was used to describe and evaluate characters in texts they were reading, the students were able to use those same language features to expand the nominal phrases in their own writing. They also found that when teachers helped students attend to how conjunctions and other cohesive devices were used, the students produced texts with clearer cohesion.

While I was able to find studies in which SFG was used as an instructional tool to impact literacy outcomes, I have not located any studies in which SFG was used as an analysis tool to examine the syntactic development of d/hh students or students with normal hearing. In chapter 3, I will discuss how I use SFG analysis as a tool to identify the syntactic structures used by d/hh students.

Chapter Summary

In this chapter, I reviewed the literature relevant to this dissertation study. I began by discussing research that describes the syntactic development of students with normal hearing and with d/hh students and hypothesized how this development might differ. Next, I discussed the types of instructional approaches and strategies that have been used with d/hh students. I described the writing assessments that have been used with d/hh students. Lastly, I discussed SFG as a theoretical framework and as a model of analysis and explored the use of SFG in educational research.

CHAPTER 3: METHODOLOGY

The purpose of this study was to develop a written language inventory. It is part of a larger three-year research project to more fully develop Strategic and Interactive Writing Instruction (SIWI; Wolbers, 2008). The study began prior to the second year of the project in the summer of 2013, during a professional development workshop when the research team introduced the participating teachers to SFG. We asked the teachers to engage in experiential analysis (Halliday & Matthiessen, 2014) of a few writing samples, labeling the participants, processes, and circumstances. Together, the teachers and three members of the research team, myself included, discussed how the analysis informed our knowledge of the students' writing development. During this discussion, we noted that the analysis allowed us to pick up on characteristics of the students' syntactic development that we had not noticed previously. This motivated me to conduct a pilot study to investigate if experiential analysis was an effective way to identify and compare the syntactic structures used by students at varying levels of language proficiency. Because the findings of the pilot study provide a foundation and context for the current study, I have included it in this chapter. Figure 3.1 outlines the timeline of the development of the written language inventory, from the pilot study through the current study.

I begin this chapter on methodology with a presentation of the rationale and theoretical framework of the studies. In the remainder of the chapter, I outline the research methods of the studies chronologically. For the pilot study, I include summaries of the experiential analysis, the development of syntactic structure progression charts designed to guide teachers engage in experiential analysis, and the field-testing of these charts. In these summaries, I have also included the findings of the experiential analysis and field-testing. For the current study, I

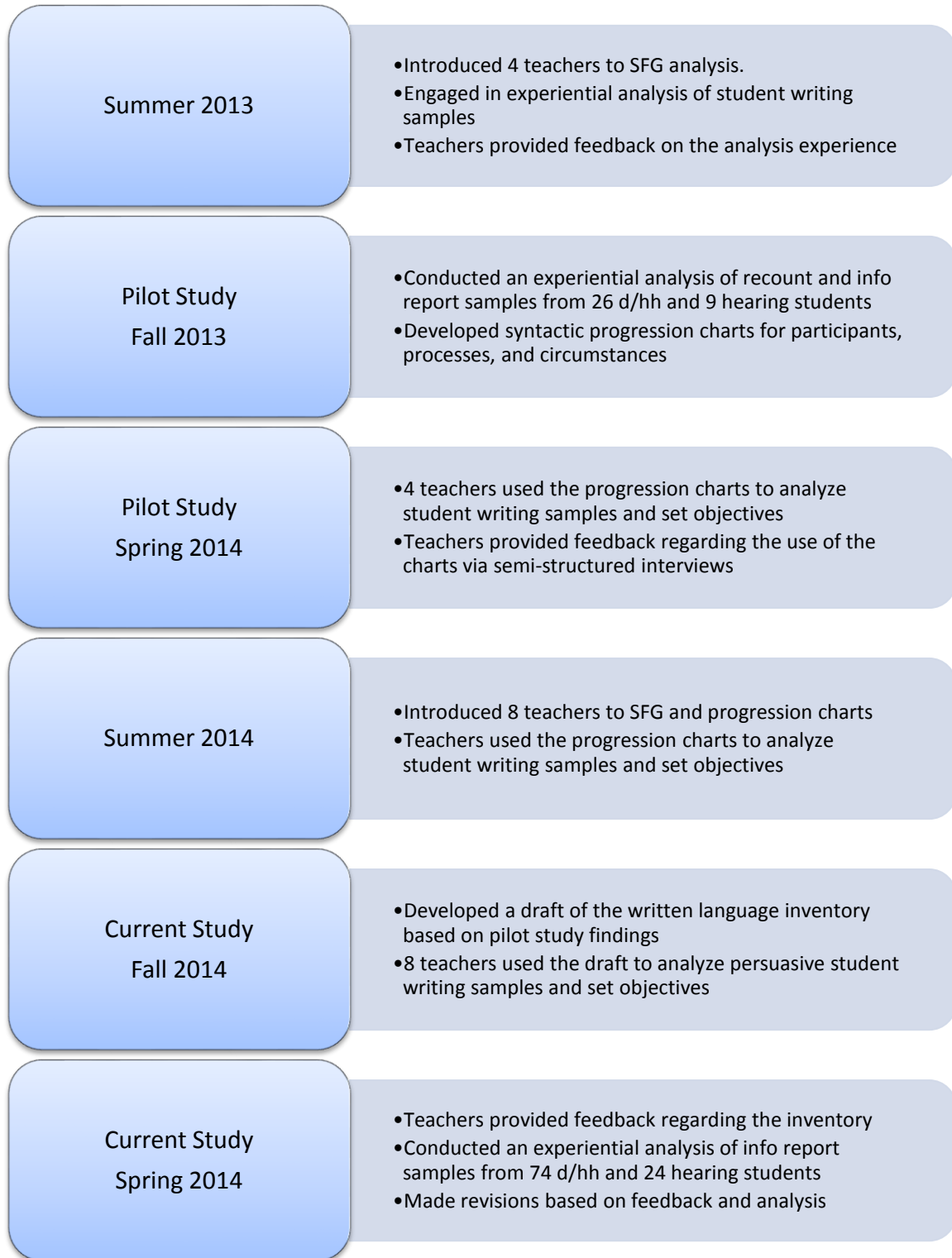


Figure 3.1 Pilot and Current Study Timeline

provide a description of the written language inventory draft development, field-testing procedures, and experiential analysis procedures.

Rationale

Currently, there are several inventories for reading and spelling development available for teachers to use. These inventories help teachers to identify skills that a student has mastered, as well as skills that are emerging. Additionally, reading inventories use “miscue analysis” (Goodman, 1969) as a tool to gain insight into the reading process. Ken Goodman (1969) coined the term “miscue” to avoid the negative connotation associated with the word “error”. Goodman (1969) viewed students’ departures from the written text as “windows on the reading process” (p.123). When teachers use reading inventories and running records (Clay, 2000) to evaluate students, miscue analysis allows them to use errors to identify the strategies a student is using to decode the text. Teachers use the knowledge provided by reading inventories to inform objectives and guide instruction. Unfortunately, there is no published inventory for syntactic skill development. Because d/hh student writing contains “idiosyncratic uses of language” (Mayer, 2010), there is a need for a written language inventory focused on syntactic development for this population. The purpose of this study was to develop that inventory.

This written language inventory provides teachers with a way to identify the syntactic structures a student is using, using but confusing, and not yet using. It also guides them in a miscue analysis of the structures a student is using with confusion, providing insight into the process students are using to construct meaning and illuminate areas of need for targeted instruction. In this way, the inventory has the potential to guide written language instruction, allowing that instruction to be “developmentally appropriate” (Bredekamp, 1987).

As I used the findings of the analysis to construct an inventory that reflects a “scope and sequence” of the syntactic development of d/hh students, I did so with developmental variation in mind. I acknowledge that individual children are unique. They pass through the stages of language and literacy development in a variety of ways, taking different paths to proficiency (Clay, 1982, 1998, 2001; Teale & Sulzby, 1986). Easterbrooks and Baker (2002) wrote, “Any attempt to align all the components and systems of language into one overall sequence would violate this basic premise of child development. Be that as it may, teachers need a framework for decision making.” The purpose of this inventory is to provide such a framework.

Theoretical Framework

Because SFG analysis focuses on groups of words, it illuminates the patterns in which students are using language and provides information without separating form from function (Halliday & Matthiessen, 2014). SFG analysis provides a way to identify the meaning-making resources a student has available to them (de Oliveira & Schleppegrell, 2015) by examining language use in context (Thompson, 2004). It has the potential to provide insight into the ways students are using language to represent their ideas, interact with their audience, and structure a text.

In Chapter 2, I defined the 3 meta-functions (textual, interpersonal, experiential) and described each type of analysis. I have chosen to use an experiential analysis because it provides a way to identify the syntactic structures a student is using to represent his/her ideas. Because d/hh student writing often contains flawed English or minimal English structure, it is difficult to read or examine without being distracted by syntactic errors. As a result, it can be challenging to notice or determine which syntactic structures students are using correctly or which structures they are attempting to use. An experiential analysis provides a framework for me to identify the

types of syntactic structures used by d/hh students at varying levels of written language proficiency, without separating form from function.

Pilot Study

Experiential Analysis & Findings

In the pilot study, (Wolbers, Dostal, Graham, Kilpatrick, & Saulsbury, 2014), recount and information report writing samples were collected from 26 d/hh students, resulting in a total of 52 writing samples collected from d/hh students. These students were divided into low (N=9), middle (N=11), and high (N=6) groups based on language proficiency levels reported by their teachers. In order to add a hearing peer group to the analysis, narrative and expository samples were retrieved from the Oregon Department of Education Website (<http://www.ode.state.or.us>). The medium-low, medium, and medium-high 3rd, 4th, and 5th grade anchor papers were downloaded from the site, resulting in a total of 18 samples from hearing peers.

I analyzed the samples (N=70) using an experiential analysis. I coded the participants in red, the processes in green, and the circumstances in blue. After these syntactic structures had been identified, I used traditional grammar labels (e.g. 1st person pronoun, definite article + noun, noun + prepositional phrase) as inductive sub-codes (Miles, Huberman, & Saldana, 2013) to further categorize the structures in tables. These tables can be found in Appendix A. Next, I compared the findings between groups and between genres, looking for differences in the syntactic structures used. I found that there were clear differences across groups. I summarized these findings in tables like the one found in Appendix B, which summarizes syntactic structures of the participants used by each group. I also found that there were clear differences across genres. For example, in recount writing students used more structures containing personal pronouns and more structures containing past tense verbs than they did in recount writing. I

concluded that experiential analysis was an effective way to identify and compare the syntactic structures used by students at varying levels of language proficiency.

Progression Chart Development

During a professional development workshop in October 2014, I shared the findings with the teachers along with one representative coded recount sample from each group. (See Appendix C.) The findings and samples were used to guide a discussion about the differences between groups and how this information could help the teachers to set objectives for their students. As the teachers discussed the implications the findings had for objective setting and instructional planning, one teacher stated that it would be beneficial for her to have this information in “some sort of ladder” to help her identify what types of skills might be “appropriate next steps”. Using her idea and the findings from the analysis, I developed the charts in Figures 3.2, 3.3, and 3.4 to depict the general progression of the syntactic structures used to construct participants, processes, and circumstances.

The charts indicate a progression of simple to complex structures, from bottom to top. While the syntactic structures on the bottom of the charts were used by students in all 4 groups, the structures at the top of the charts were used only by the hearing peer group and occasionally some members of the high language proficiency d/hh group. The purpose of these charts was to guide teachers in experiential analysis by helping them to identify the types of syntactic structures their students were using and to determine which syntactic structures might be an appropriate “next step” for objectives and explicit instruction.

Field-Testing & Findings

In January 2014, I introduced the teachers (N=4) to the syntactic structure progression charts during a professional development workshop. I demonstrated how to use the charts to

PARTICIPANTS

Inclusive + N <i>(all books, both cars, neither girl)</i>		Partitive + N <i>(a piece of pie, a slice of pizza)</i>		N + Finite Phrase <i>(the woman who lives there, the dog that barks)</i>		N + Nonfinite Phrase <i>(the boy swimming in the park)</i>					
Indefinite Pronouns <i>(some, all, everyone)</i>		Demonstrative PN <i>(this, that, these)</i>		Demonstrative + N <i>(this bag, the other box)</i>		Quantifier + N <i>(four kids, some days)</i>		N + Prep Phrase <i>(the girl with blonde hair, the book on the table)</i>			
3rd Person Pronouns <i>(he, she it, they)</i>		Object & Possessive Pronouns <i>(him, me, his, mine)</i>		Indefinite Article + N <i>(a zoo, a book, a man)</i>		Possessive N + N <i>(Tori's pencil, Mom's car)</i>		Describer + N <i>(small dog, good book)</i>			
Multiple Nouns/Pronouns <i>(cats and dogs; Dad, Mom, and Jill)</i>			Definite Article + N <i>(the zoo, the book, the man)</i>			Possessive PN + N <i>(my dog, his bag, their house)</i>			Classifier + N <i>(dog toy, dirt track, car crash)</i>		
1st & 2nd Person Pronouns <i>(I, we, you)</i>				Proper Nouns <i>(Ashley, New Jersey, Disneyworld)</i>				Common Nouns <i>(tree, car, summer)</i>			

Figure 3.2 Participants Progression Chart

PROCESSES

Causatives <i>(help her clean, let's see)</i>		Phases <i>(stop raining, begin writing)</i>	
Past Tense Stative Verbs <i>(was, were, had, have, liked, seemed, knew)</i>	Verb + Preposition <i>(clean up, sit down, breathe in)</i>	Verb + Infinitive <i>(try to dance, like to play, tend to smile)</i>	Helping Verb + Verb <i>(can, will, shall, may, must, need, have to, used to)</i>
Stative Verbs <i>(am, is, are, have, has, like, know)</i>		Action Verbs <i>(jump, kick, go)</i>	
		Past Tense Action Verbs <i>(jumped, kicked, went)</i>	

Figure 3.3 Processes Progression Chart

CIRCUMSTANCES

<p style="text-align: center;">When—Dependent Clauses <i>(after they won, when he called)</i></p>	<p style="text-align: center;">How—Phrases <i>(faster than me, like lightening, as hot as the sun)</i></p>	<p style="text-align: center;">How—Several Words <i>(so funny, slow and steady, upside down)</i></p>
<p style="text-align: center;">When—Several Words <i>(one day, last year, a few years ago)</i></p>	<p style="text-align: center;">When—Prepositional Phrases <i>(on Dec 25th, at 5pm, on Friday)</i></p>	<p style="text-align: center;">How—1 Word <i>(alone, carelessly, delicious)</i></p>
<p style="text-align: center;">When—1 Word <i>(now, later, before)</i></p>	<p style="text-align: center;">Where—Simple <i>(here, downstairs, backwards)</i></p>	<p style="text-align: center;">Where—Prepositional Phrases <i>(under the table, on the chair)</i></p>

Figure 3.4 Circumstances Progression Chart

take inventory of the syntactic structures a student uses in a writing sample. I did this by identifying the participants, processes, and circumstances in a sample, writing those syntactic structures in the corresponding boxes, and thinking aloud about how that information could help me to set objectives. Then, the teachers used the charts to analyze their students' writing samples. Each teacher was provided with a packet of materials (see Appendix D) to guide them through this process. The packet included instructions for how to use the charts to complete the analysis and set objectives. It also contained the progression charts along with definitions and examples of the syntactic structures represented in the charts. Finally, it provided examples of how to set objectives using the completed charts. When the teachers were done using the charts to analyze the samples, they met with three members of the research team, myself included, to review the findings of the analysis and collaboratively set objectives for the students. Throughout the next quarter of the school year, the teachers used the charts on their own to evaluate student writing, monitor objectives, set new objectives, and guide instruction.

At the end of the quarter, I used a structured interview protocol (see Appendix E) to conduct interviews with the teachers about their experiences using the progression charts. In an analysis of the interview transcripts, the following four themes (Wolbers et al., 2014) emerged from the teachers' responses:

1. Engaging in experiential analysis informs teachers' understandings of students' present levels of performance.
2. Using a progressive chart that includes grammar structures of proficiency groups and of typically developing students contextualizes students' performance and guides the development of next objective.

3. Bridging knowledge gained from experiential analysis and changing instructional practices requires modeling of application-based strategies.
4. Applying experiential analysis and setting next objectives based on the analyses requires substantial time.

Representative quotes for each of the themes are included in Figure 3.5. These themes led me to several conclusions. An experiential analysis does allow teachers to gain insight into their students' present level of syntactic development and assists them in setting individual objectives. However, teachers need modeling of instruction that is guided by these objectives. Most importantly, the time required to learn how to do experiential analysis and the time required to do the analysis make it challenging for teachers to adopt this method of evaluating student writing.

Current Study

The pilot study conclusions motivated me to conduct the current study. The pilot study demonstrated that findings of SFG analysis could be used to map out a general progression of syntactic development. It also demonstrated that the information gained from this type of analysis helps teachers set instructional objectives for d/hh students. However, we also found the time required to learn and engage in this type of analysis is substantial, making it a somewhat impractical method of evaluation for classroom teachers. These conclusions led me to develop a written language inventory informed by SFG analysis. This type of inventory has the potential to allow teachers to benefit from the advantages of SFG analysis, without requiring extensive time for training and analysis.

The current study had two major components: field-testing and a second experiential analysis. I included field-testing to provide a way for current deaf educators

Theme 1

Engaging in experiential analysis informs teachers' understandings of students' present levels of performance.

- "I left (the workshop) excited because it just made so much more sense, and it was so much easier to analyze just the issues that students are having."
- "I think it's much more clear than some other ways that I've had to do things related to analyzing student language or student writing and then trying to know what's next."

Theme 2

Using a progressive chart that included syntactic structures of proficiency groups and of typically developing students contextualizes students' performance and guides the development of next objective.

- "I feel like when we don't use it, you look at their writing and you see so many things that you could teach, but that's the best thing for them. You can pick one thing that you think might be the best thing, but you're not really sure if that's exactly what would make their writing more clear at this time...I think functional grammar will help us with that and it will help us narrow it down."
- "I think it was definitely helpful and I think that it will definitely make setting objectives easier."

Theme 3

Bridging knowledge gained from experiential analysis and changing instructional practices requires modeling of application-based strategies.

- "I feel like they (teachers) need to see something that says if your student is struggling with making a complete sentence, if they aren't putting participants, or if they're doing that, here are some things that you can do."
- "I think it can really benefit us as we teach. I just need to take a look at it and think about how I can really incorporate it into my writing instruction. I just think we need ideas and strategies of how to incorporate it."

Theme 4

Applying experiential analysis and setting next objectives based on the analyses requires substantial time.

- "My concern with other teachers is just the training that needs to go into it a little bit to understand how it's used and how it's used in different genres of writing. And also just the time it took."
- "It takes a long time to analyze their language and it's gonna be difficult for teachers in the future to put that in their daily life."

Figure 3.5 Pilot Study Interview Themes

to participate in the development of the inventory. Input from the teachers allowed me to consider the varying needs of teachers. I included a second experiential analysis as part of the development process to insure that the inventory accurately reflects the syntactic development of d/hh students. The pilot study analysis was done using samples collected from a small group of d/hh students, the majority of which attended the same school. The hearing peer group samples that were added were not collected in the same way and differed in audience and topic. I determined that I needed to conduct a second experiential analysis to ensure that the content of the inventory would be based on findings more representative of the population. For the current study, the analysis was done using samples from a larger, more diverse group of participants. It is important to note that the findings from the pilot study indicated that genre does impact the use of syntactic structures. However, for the current study, I chose to focus on one genre (information report), with future plans to conduct analyses on additional genres (recount and persuasive). I chose information report as the first genre because students are expected to use information writing not only in Language Arts, but also in content area classes (e.g., Social Studies, Science).

I began, in the Fall of 2014, by developing an initial draft of the inventory and conducted field-testing to address the following question and sub-questions.

1. What feedback do teachers have regarding the format of the written language inventory draft?
 - a. Which features of the inventory do they find beneficial?
 - b. What suggestions do they have for improvement?

In the Spring of 2015, I did the second experiential analysis to address the following question and sub-questions.

2. How do the syntactic structures used by students differ between groups of varying levels of language proficiency?
 - a. How do participants vary?
 - b. How do processes vary?
 - c. How do circumstances vary?

Inventory Development

I used the findings of the pilot study experiential analysis and the syntactic skill progression charts to inform the construction of a written language inventory draft. The initial draft consisted of two items: an Individual Student Language Checklist and a Class Objective Setting Guide. (See Appendix F.) Both included the syntactic structures most commonly used by d/hh students in the pilot study, in order from simplest to most complex. The Individual Student Checklist provides space for teachers to document correct uses and attempts (i.e. errors) for each syntactic structure. The Class Objective Setting Guide allows teachers to note which structures each student uses and which structures each student attempts; it provides a way for teachers to see the syntactic development of all of the students in a class at-a-glance for the purposes of class objective setting and developmental grouping.

Field-Testing

A focus group of eight 3rd-5th grade teachers participated in field-testing of the written language inventory. These teachers are participants in the experimental group of the 3rd year of the SIWI development project. They teach d/hh students in a variety of settings (i.e., neighborhood schools, site-based programs, day schools for the deaf, and residential schools for the deaf) located in six states. Three teachers are in a bilingual ASL context, three are in a Total Communication context, and two are in a Listening and Spoken Language Context. In July

2014, the teachers were introduced to SFG during a week-long professional development session. They used the progression charts created in the pilot study to analyze their students' writing and set instructional objectives for recount writing. At that time they were asked to participate in the field-testing of the written language inventory that would be developed. As part of the SIWI development project, the teachers provided instruction focused on three genres (recount, information report, and persuasive), each for a period of nine weeks. They were asked to collect pre- and post-samples for each genre. As each teacher transitioned her instruction from recount writing to information report writing, a member of the research team visited the classroom to provide support. During that visit, the initial draft of the written language inventory was shared with the teacher. Each teacher used the inventory to analyze her students' writing and set instructional objectives for information report writing. Feedback on the format and use of the inventory was collected from the teachers in two ways:

1. Initial questions, comments, and suggestions were shared with a member of the research team during the school visit.
2. Follow up questions, comments, and suggestions were shared with me via bi-weekly virtual meetings and email.

Feedback I collected was documented in my field notes. Feedback collected by other members of the research team was documented in the team's shared field notes.

Experiential Analysis

Data Sources & Data Collection Procedures. Information report writing samples were collected from a total of 106 participants in 3rd-5th grades. These students participated as part of the experimental or comparison groups in the 3rd year of the development project. Seventy-four of the students have a hearing loss ranging from mild to profound, while thirty-four of the

students have normal hearing. The d/hh students attend school in a variety of settings (i.e., neighborhood schools, site-based programs, day schools for the deaf, and residential schools for the deaf) that use a variety of communication philosophies. The participating d/hh classes included five bilingual classes, four Total Communication classes, and four Listening and Spoken Language classes. These classes were located in urban, suburban, and town areas in eight states. The participating hearing comparison classes included one 3rd grade class, one 4th grade class, and one 5th grade class at an elementary school located in a large urban metropolitan area in the Southeast. In the 2012-2013 school year, the school had a minority enrollment of 46%, and 72% of the students attending the school were eligible for free or reduced lunch (Public School Review, n. d.).

The information report writing samples were collected from the participants in October – November 2014, roughly 12 weeks after each school year had begun. Students were asked to respond to one of three randomly assigned prompts. (See Appendix G.) The teachers were provided with an extended version of the prompt, which could be read aloud, and a simplified version of the prompt, which included picture supports and could be displayed using a projector. Teachers were instructed to communicate the prompt in the way that the students would understand it best (e.g., allow the students to read the prompt, read it to them in spoken English, read it to them in ASL, read it to them in ASL and spoken English, project the visual prompt with pictures), but not to help the students in any way with ideas, spelling, or grammar. Students were permitted to construct a plan and rough draft and were given no time limit. When they turned in their finished writing sample, they were asked to read their information report to their teacher. If words or phrases in a student’s writing were illegible or unintelligible, teachers were instructed to transcribe the students’ dictated responses below his/her writing exactly as they

were dictated. A typed sample was created for the analysis. Each typed sample contained the student's writing, along with any dictations written by the teacher.

Data Analysis Procedures. Before coding the data, I used the students' grade level standard scores for the Broad Written Language cluster of the *Woodcock-Johnson III Achievement Test* (WJIII; Woodcock, Schrank, Mather, & McGrew, 2007) to organize the samples I had collected into 4 equally sized groups.

Table 3.5 Group Demographics

	Low D/HH N=24	Mid D/HH N=25	High D/HH N=25	Hearing N=24
WJIII Broad Written Language <i>Mean (SD)</i>	27.9 (16.4)	60.8 (5.3)	89.3 (10.5)	101.5 (9.7)
3 rd Graders <i>N (%)</i>	9 (37.5%)	8 (32%)	12 (48%)	9 (37.5%)
4 th Graders <i>N (%)</i>	9 (37.5%)	6 (24%)	5 (20%)	8 (33.3%)
5 th Graders <i>N (%)</i>	6 (25%)	11 (44%)	8 (32%)	7 (29.2%)

I began by dividing the samples from the 74 d/hh students using the students' WJIII scores as a measure of written language proficiency. Students with a standard score of 1-50 were placed in the low language proficiency group (N=25). Students with a standard score of 51-70 were placed in the mid language proficiency group (N=24). And students with a standard score of 71-110 were placed in the high language proficiency group (N=24). Because writing samples had been collected from 32 hearing students, I needed to eliminate samples from my hearing peer

group. I used z-scores to identify the 7 students whose WJIII scores were the farthest from the mean and eliminated samples from students with a z-score larger than +/- 1.13 to create an approximately equally sized hearing peer group (N=25). Table 3.5 includes demographic data for each group. It shows means and standard deviations for the WJIII scores. It also shows the number and percentage of students in each grade level. All of the d/hh groups included 5 or more students from each grade, indicating that there was not a strong correlation between d/hh student grade level and written language maturity.

I used the qualitative and mixed methods research software program, NVivo for Mac (2014) for the analysis. I uploaded the 98 writing samples to the program and divided each sample into clauses. Then, I began a 2-level experiential analysis using nodes (i.e., codes) to label syntactic structures. For an example, see Figure 3.6.

"The last unicorn lived in a lilac wood, and she lived all alone." (Beagle, 1968)												
The	last	unicorn	lived	in	a	lilac	wood,	and	she	lived	all	alone.
PARTICIPANT			PROCESS	CIRCUMSTANCE					PARTICIPANT	PROCESS	CIRCUMSTANCE	
article + noun, classifier + noun		past action verb	where? prepositional phrase					3 rd person pronoun	past action verb	how?		

Figure 3.6 Two-Level Experiential Analysis Example

In the first level of analysis, experiential metafunction labels (*participant*, *process*, and *circumstance*; Halliday & Matthiessen, 2014) were used as a predetermined coding scheme. Because experiential analysis begins with transitivity (Halliday & Matthiessen, 2014; Fontain, 2013), I coded the processes, then the participants and circumstances for each code. I did not code for the different types of participants, processes, and circumstances. However, because each type performs a different function, I did use my knowledge and understanding of the

various types as I coded, to ensure that my codes identified syntactic structures shaped by the function of the student's language. In other words, I did this to be certain that the words grouped together by my codes, were, indeed, functioning as one unit. During this round of analysis I used the notes in Appendix H as a resource to recall the various types (of *participants*, *processes*, and *circumstances*) and their functions. In the second level of analysis, inductive codes (Miles, Huberman, & Saldana, 2013) were used to describe the structures. These codes consisted primarily of traditional grammar labels. For *processes*, question word labels (e.g. *when?*, *where?*, *how?*) were also used.

In the first level of analysis each structure was only coded as once, as *participant*, *process*, or *circumstance*. However, in the second level of analysis *participants* and *processes* were sometimes coded with more than one node. For example, in Figure 3.6 “The last unicorn” was coded as both *article + noun* and classifier + noun. The nodes were organized into three trees (i.e., categories) with participants, processes, and circumstances as the parent nodes (Bazeley, 2007). Because d/hh student writing typically contains errored attempts to construct syntactic structures, I had to determine how errored constructions would be coded. I decided to code word groups according to the targeted structure that a student attempted. For example, one student wrote “My brother want play Candyland”, instead of “My brother wanted to play”. Although “want” should have been a past tense stative verb, I coded the *process* “want play” as *other stative—present* not *other stative—past* because the student had not made an attempt to construct a past tense verb. However, I also coded it as *verb + infinitive* because the student had made a clear attempt to combine the two verbs (want and play) in this way. In addition to the two tiers, I also coded for errors. In the example above, I also coded “want play” as *incorrect tense*. See Appendix I for a complete list of the codes used.

Chapter Summary

I began this chapter with an overview of the events, which led to the pilot, and eventually, the current study. After I presented a rationale and theoretical framework for the studies, I summarized the pilot study, including: the experiential analysis and findings, the development of the syntactic structure progression charts, and the field-testing and findings. I explained how the findings of the pilot study indicated a need for a written language inventory that could allow teachers to benefit from the advantages of SFG analysis. Then, I described the methods for the current study. I provided an explanation of how the written language inventory draft was developed. Finally, I outlined the field testing and experiential analysis procedures.

CHAPTER 4: FINDINGS

In this chapter, I present the findings of the field-testing and the experiential analysis.

These findings have been structured into sections by the research questions:

1. What feedback do teachers have regarding the format of the written language inventory draft?
 - a. Which features of the inventory do they find beneficial?
 - b. What suggestions do they have for improvement?
2. How do the syntactic structures used by students differ between groups of varying levels of language proficiency?
 - a. How do participants vary?
 - b. How do processes vary?
 - c. How do circumstances vary?

Research Question 1

The first research question (i.e. What feedback do teachers have regarding the format of the written language inventory draft?) was answered by a content analysis of field notes documenting feedback from the eight teachers who participated in field-testing of the initial draft. In the second half of the fall semester, 1 of 3 members of the research team, including me, visited each teacher in her school. We provided each teacher with a copy of the draft and asked her to use it to evaluate her students' independent writing samples and set instructional objectives with our support.

During the visit, the teachers shared their initial questions, comments, and suggestions with a member of the research team. The feedback they shared was documented in the team's shared field notes. Follow up questions, comments, and suggestions were shared with me via bi-

weekly virtual meetings and emails and documented in my field notes. I have selected responses from the field notes to present in two sections: inventory benefits and suggestions for improvement. Pseudonyms have been used for both teacher and student names.

Inventory Benefits

The feedback from the teachers was overwhelmingly positive. The quotes included in this section are representative of the feedback given by the teachers. The teachers indicated that using the inventory provided them with a clearer picture of their students' linguistic repertoire, allowing them to identify areas of need. Kendall said, "I think this format is very user friendly, it is easy to see what skills are needed for each child and the class." Like Kendall, many of the teachers used the word "see" emphasizing that one of the benefits of using the inventory is that it provides them with a way to visually identify areas of need. Joy stated, "You can readily see what the student is using, what they are inconsistently using, and what they are rarely using." Jane provided a specific example from her experience using the inventory. She wrote, "It helped me to realize that the girls use a plethora of stative verbs, but very few action verbs. This helps to explain why even when they write something grammatically correct, it is blah."

The teachers also indicated that using the inventory helped them to set objectives and plan instruction. Jane again provided a specific example from her experience, writing, "They (the components of the inventory) are helpful because I was able to target some quick fix goals like increasing adjective + noun and prep phrases to tell when." She went on to say, "I like it (the inventory) because it gives me very concrete ways to increase their writing abilities and add interest to their writing while increasing their language abilities." Joy said, "This (using the inventory) provides great feedback for planning lessons based on needs."

Suggestions for Improvement

While the teachers reported positive experiences using the inventory, they also provided several suggestions for improvement. Several of the teachers commented that the list of syntactic structures included did not seem to fully capture the linguistic repertoire of their students. Robyn suggested that I add more complex syntactic structures. She said, “I think you will need to extend the list into upper level skills. Cally was using language above what you had listed, so I just started making notes at the bottom.” Angie experienced the opposite problem. She said, “Many of the building blocks didn’t apply to the students in my lower group. I wonder if there could be different levels for different students.” She used the term “building blocks” to refer to the syntactic structures because this was the language used in the initial draft. These quotes emphasize the variation among students at different levels of development and the need for the inventory to be adaptable for use with students at each level.

The remaining quotes included in this section are unique, containing a suggestion that was given by only one teacher participant. Although they are not representative of the feedback given by the group of teachers, they are included because they contain suggestions that were used in the final revisions of the inventory. Robyn wrote, “At first, I liked that you ordered this from seemingly less complex to more complex language features; however, the 3 students I evaluated didn’t show a steady progression or order of skills. They were here, there, everywhere. Since there is no recognizable pattern to growth in skills that I can tell, I might suggest clumping the participants all together, processes all together, etc.” Her suggestion emphasizes the developmental variation among students and indicates that the inventory should be structured in a way that reminds teachers and evaluators that the progression of skills is a general guideline.

Many of the teachers gave suggestions for formatting revisions that they felt would help them use the inventory more effectively. On the draft of the Individual Student Checklist, teachers were instructed to use hash marks to document the number of uses of each use of a structure. On the draft of the Class Objective Setting Guide, teachers were instructed to make one diagonal slash for 1-2 correct uses and an “X” for 3 or more correct uses. Robyn stated, “On the individual student language checklist under “correct uses” column, I had a tendency to use hash marks up to 3 (on the left of the column) and then x it off (on the right of the column). That way it matched the class form, and I didn’t do more work than necessary. I wonder if it could be structured better by having a place to x off within the column, and also adjust the directions so they match the class form.” On the Individual Student Checklist, there was a space to document incorrect attempts. Joy said, “The building block column could be smaller, and then increase the size of the correct use and attempts boxes.” Like Angie, she uses the term “building block” when referring to the syntactic structures. Joy commented, “It would help me if there was an example of each type of grammatical structure. I know there are examples on the charts, but this would help consolidate the information. That way I don’t have to flip through so many papers.” Jane wrote, “If there were an area for notes, as well as incorrect attempts, it would be helpful. I would be able to keep track like ‘Introduced 3/2’, ‘Reviewed 4/2’, ‘went over it for the 7 millionth time and they still don’t have it’. Ya know, stuff like that.”

Research Question 2

The second research question (i.e. How do the syntactic structures used by students differ between groups of varying levels of language proficiency?) was answered by the experiential analysis of the 98 writing samples. After the samples were coded, I made general observations about the characteristics of the students’ writing in each group. Next, I ran queries in NVivo to

compare the findings between groups. I compared participants, processes, and circumstances between groups by the number of students using each, number of uses, number of words, average number of words, and percentage of total words. I also compared the number of students using each syntactic structure, as well as the total number of uses of each syntactic structure, between groups. These findings are presented in five sections: general group differences, participants, processes, circumstances, and errors.

General Group Differences

There were clear visible differences in the characteristics of the writing of students in each group. The students in the low group demonstrated a range of writing development from emergent to developing. There were 4 students who drew pictures and did not write any words and four students who wrote lists of words. The remaining 16 students were beginning to combine words in an attempt to construct simple sentences. The students in the mid group demonstrated a range of writing development from beginning to early novice. The majority of students in this group conveyed their ideas through simple sentences. About half of the students had begun to organize their sentences into paragraphs with a beginning, middle, and end, and 3 students wrote multiple paragraphs. The students in the high group demonstrated a range of writing development from novice to independent. The majority of the students organized their sentences into a paragraph with a clear beginning, middle, and end, and 6 students wrote multiple paragraphs. Additionally, the majority of the students used one or more complex sentences in their writing. The students in the hearing peer group demonstrated an independent level of writing development. The majority of the students wrote multiple paragraphs, and almost all students used complex sentences in his/her writing. Figure 4.1 contains a representative sample

<p style="text-align: center;">Low D/HH Group</p> <p>We I See 3DS. We I See toY car. We I See toYS have boG. We toYS have BoY cow</p>	<p style="text-align: center;">Mid D/HH Group</p> <p>→Kindergarteners want ToY Lego moive. It have Legos. Uno is card Game. Kindergartortners match color. Kindergartners Game DS. DS for card Game.</p>
<p style="text-align: center;">High D/HH Group</p> <p>MY favorite games is football hero. Football has manY power there about 75 power. If I win I will get 750 dollars. If you win and Champions you will get a trophy! That why I Love football hero!</p>	<p style="text-align: center;">Hearing Peer Group</p> <p>What I know about Guess who is You have to pick a person on the chart who ever you want and the person who is going first has to guess if it is a boy or a girl and if they guess the right one or the wrong one it is still the other person's turn. Next, once you guess if it is a boy or a girl You have to tell what it looks like. After, you are done with that if the person now knows who it is then they win the game because they guessed who the person is. This game is a very fun game and very interesting game to play. I think you kindergardeners will be very interested in the fun game.</p> <p>I think you kindegardeners will also be interested in legos. What I know about legos is that they can be very fun to play with. With legos you can bulid anthing you want Such as a tower, a person, or a big truck! There is a lot of stuff you can build with legos like if your'e in a center and one center there is legos and when it is time to switch centers you will get upset because you want to play with legos. That is how fun legos are.</p>

Figure 4.1 Representative Writing Samples

from each group responding to the prompt: Choose 2-4 toys or games to write about for the kindergartners. Tell them all the important information and facts you know. There were also clear differences in the numbers of participants, processes, and circumstances used by the students in each group. Figure 4.2 shows how many students in each group used participants, processes, and circumstances in their writing.

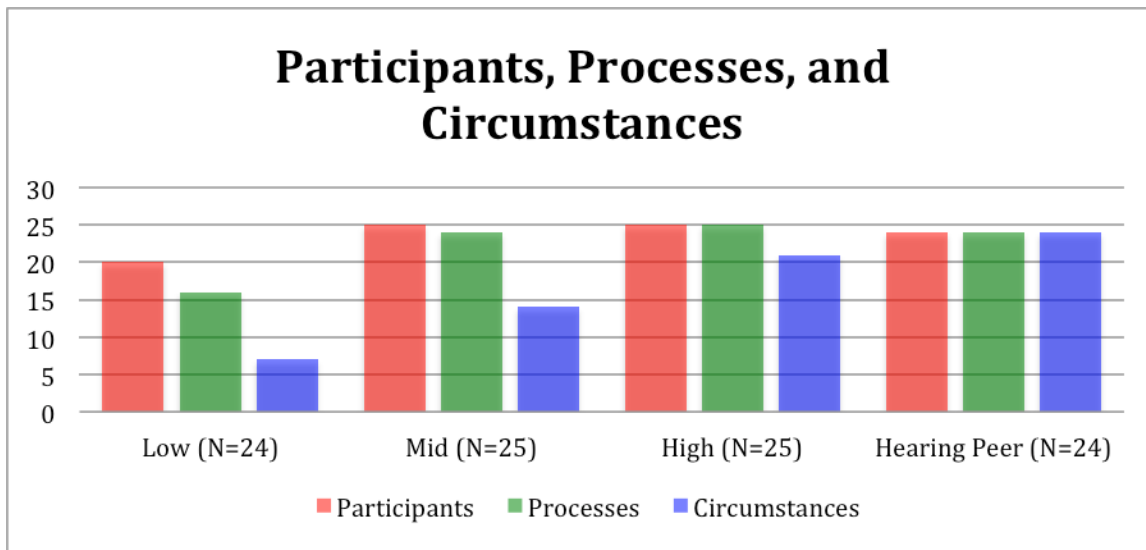


Figure 4.2 Use of Participants, Processes, and Circumstances

Participants

The majority of the words written by students in all groups were classified as participants. Furthermore, all of the students who wrote words in their sample used participants. Table 4.1 includes quantitative data illustrating the use of participants by students in each group. The bar graph in Figure 4.3 shows that the number of participants used by each group and total number of words used to construct those participants increased between each group as expected. The mid group used 147% more participants than the low group, and the average length of their

Table 4.1 Participant Use

Group	# of students	# of uses	total # of words	avg # of words	% of total words
Low (N=24)	20	174	264	1.51	58.3%
Mid (N=25)	25	429	794	1.85	68.0%
High (N=25)	25	464	1198	2.58	52.9%
Hearing Peer (N=24)	24	1044	3433	3.28	58.4%

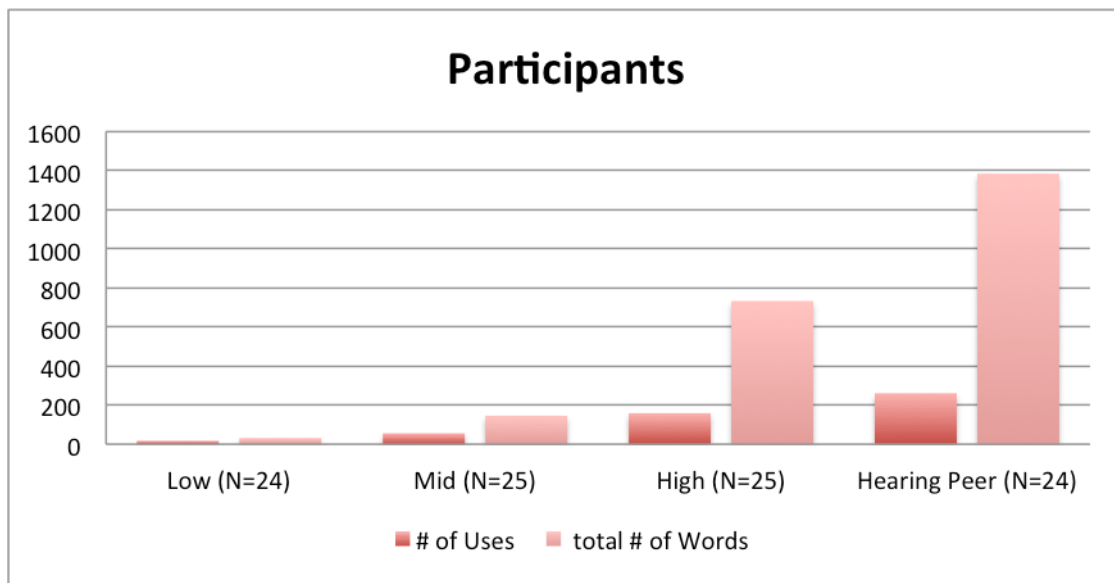


Figure 4.3 Participant Uses & Number of Words

participants was 23% longer. Although the high group used only 8% more participants than the mid group, the average length of their participants was 39% longer. The hearing peer group used 125% more participants than the high group, and the average length of their participants was 27% longer. The average (mean) length of a participant written by d/hh students in the mid group was 1.85 words, while the average length of a participant written by hearing peer students was nearly double at 3.28 words. Students were more 81% more likely to lengthen participants by expanding before the noun than by expanding after the noun. Of the hearing peer students, 100% of the students (N=24) expanded before nouns, while only 92% of the students (N=22) expanded after nouns. Of the d/hh students (N=73), 62% of the students (N=45) expanded before nouns, while only 36% of the students (N=38) expanded after nouns.

As was expected, the variety of structures used by the students increased at each level of proficiency. Students in the low group used mostly 1st person subject pronouns, proper nouns, and common nouns without expansion. When they did use expansion, they were most likely to use classifiers before the noun. Students in the mid group were more likely than those in the low group to use plurals and 3rd person subject pronouns and to join nouns with conjunctions and comma series. Students in the mid group were also much more likely to expand before nouns, primarily with describers and possessive pronouns. Students in the high group were more likely than those in the low and middle groups to use 2nd person subject pronouns and object pronouns. They were also more likely to use indefinite and definite articles and quantifiers to expand before the noun. While incidents of expansion after the noun were rare in the low and mid group, 57% of students in the high group used expansion after the noun, by adding prepositional, nonfinite, and finite phrases. Hearing peer students use several structures that were not often used by the d/hh students in any group. They used the existential there (e.g. *There* are four types of sharks.),

used demonstrative pronouns and partitives to expand before nouns, and used examples to expand after nouns. They also used imbedded clauses as participants.

Processes

With the exception of the students in the low group who drew pictures or wrote lists, all students used processes in their writing. After participants, processes made up the second highest percentage of word use for students in the low and mid groups. Table 4.2 includes quantitative data illustrating the use of processes by students in each group. Figure 4.4 provides a visual depiction of both the number of processes used by each group and total number of words used to construct those processes. The number of uses of processes increased between each group; however, the difference in the average length of processes did not follow the same consistent pattern. The mid group used 67% more processes than the low group, but the average length of their processes was 11% shorter. The high group used 32% more processes than the mid group, and the average length of their processes was 11% longer. The hearing peer group used 144% more processes than the high group, and the average length of their processes was 31% longer.

The average length of processes did increase from the mid group to the high group and from the high group to the hearing peer group. However, the average length of processes used by students in the low group was longer than the average length of those used by students in the mid group and slightly longer than those used by students in the high group. The majority (76%) of the processes used by students in the low group were only one word. Because there were only 98 processes used by this group, several longer structures used positively skewed the mean word length of processes. For example, one student wrote, “But you guy *have to do take turns and do*

Table 4.2 Process Use

Group	# of students	# of uses	total # of words	avg # of words	% of total words
Low (N=24)	16	98	154	1.57	34.5%
Mid (N=25)	24	164	228	1.39	19.5%
High (N=25)	25	216	333	1.54	14.7%
Hearing Peer (N=24)	24	525	1062	2.02	18.1%

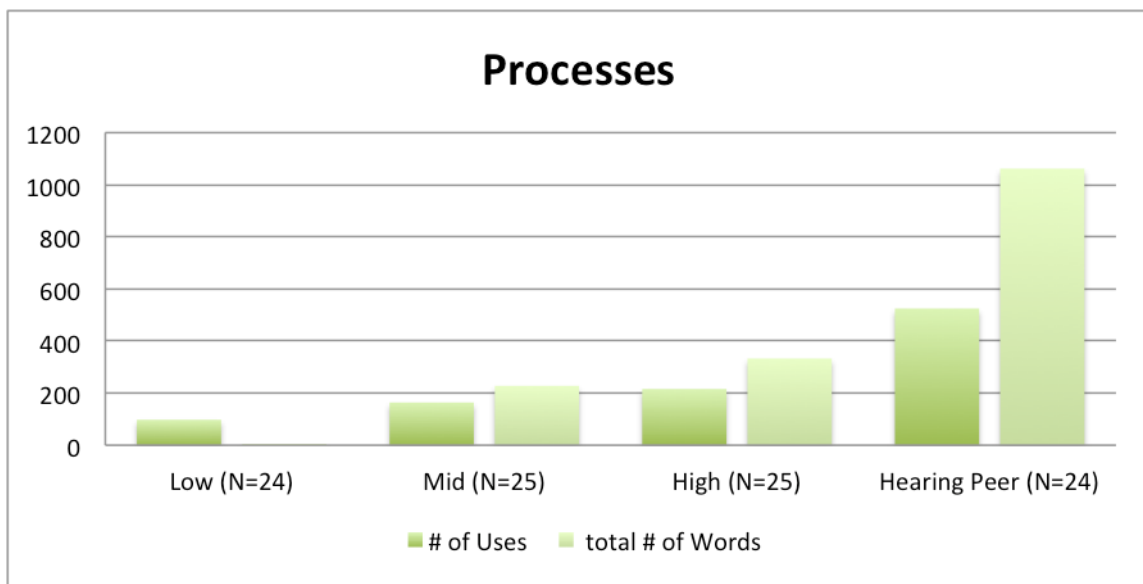


Figure 4.4 Process Uses & Number of Words

not cut in the line.” The construction of the process is errored, but is an attempt at using a very complex process structure with many words.

Students in the low group primarily used present tense action and stative verbs with some uses of modal helping verbs. The students in the low group did not use a wide variety of verbs. The verbs *is*, *have*, *like*, *eat*, *play*, *see*, *work*, and *run* accounted for over half of the verbs used by the group. Students in the mid group were more likely to use the present tense of the stative verbs “to be” and “to have” and to use processes containing infinitives, such as *like to play*. Students in the high group were more likely to use processes that contained prepositions, such as *give up*. Students in the hearing peer group were more likely to use helping verbs including primary helping verbs and semi-modal helping verbs.

Circumstances

While participants and processes are necessary components of a sentence, the use of circumstances is “optional.” Participants and processes were used by the majority of students in all groups; however, circumstances were not. All students in the hearing peer group used circumstances; however, only 29% of students in the low group, 56% of students in the mid group, and 84% of students in the high group used circumstances. After participants, circumstances made up the second highest percentage of word use for students in the high group and hearing peer group. Table 4.3 includes quantitative data illustrating the use of circumstances by students in each group. See Figure 4.5 for a visual depiction of both the number of circumstances used by each group and total number of words used to construct those circumstances.

The number of uses and the average number of words of circumstances increased between each group just like it did with participants. However, the difference between groups

Table 4.3 Circumstance Use

Group	# of students	# of uses	total # of words	avg # of words	% of total words
Low (N=24)	7	18	32	1.77	6.2%
Mid (N=25)	14	56	146	2.61	12.5%
High (N=25)	21	149	733	4.92	32.4%
Hearing Peer (N=24)	24	261	1385	5.30	23.6%

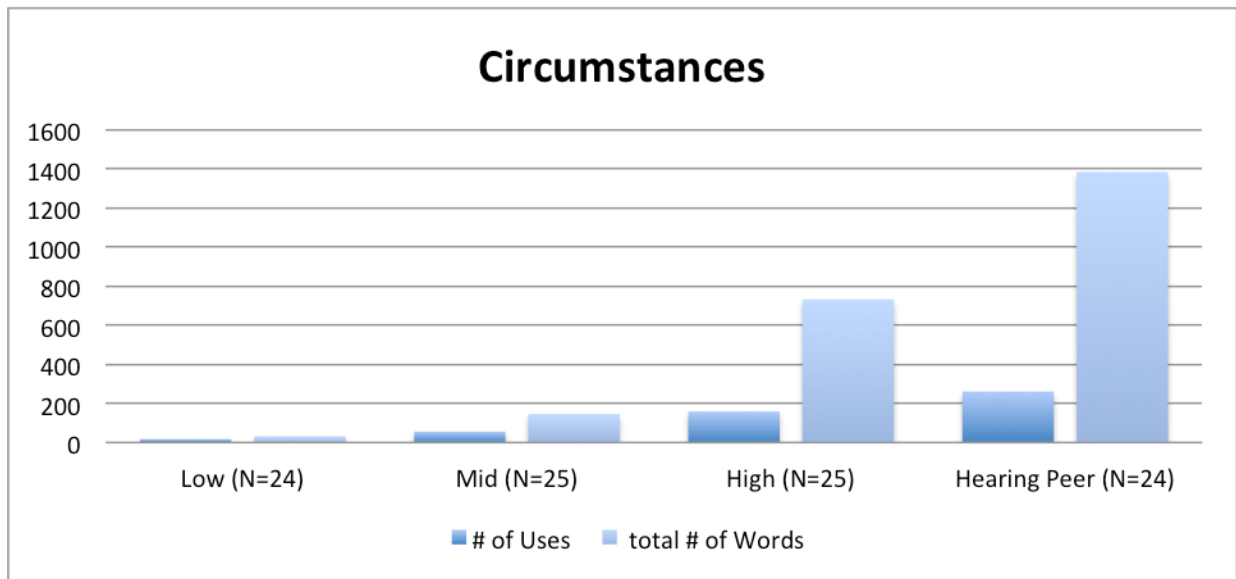


Figure 4.5 Circumstance Uses & Number of Words

was the largest with circumstances. The mid group used 211% more circumstances than the low group, and the average length of their circumstances was 47% longer. The high group used 166% more circumstances than the mid group, and the average length of their circumstances was 89% longer. The hearing peer group used 75% more circumstances than the high group, but the average length of their circumstances was only 8% longer.

Students in the low group primarily used one-word circumstances to tell *where*. Students in the mid group used circumstances to tell both *where* and *when* and were more likely to use prepositional phrases. Students in the high group used circumstances to tell *where*, *when*, *why*, *how*, or *with what condition*. The hearing group used circumstances for one additional reason: to tell *how often*. Students in the high group were 58% more likely to use circumstances to compose dependent clauses than those students in the low or mid groups. However, hearing peer students were 28% more likely than students in the high group to use dependent clauses. Furthermore, they wrote more than twice as many complex sentences.

Errors

D/hh students' writing often contains idiosyncratic errors that are not easy to identify or label; however, many errors are common and can be easily identified and labeled. In addition to the two-layer experiential analysis, I coded for these errors. I did not do this in the pilot study, but chose to add this step in the current study to determine if analyzing the syntactic errors of d/hh students at varying levels of writing proficiency might also assist with understanding the syntactic development of d/hh students. I used codes for 24 different types of errors. These codes can be found in Appendix I.

I found that the majority of students in all groups made some type of error; however, the number of (easily identifiable) errors made by each group differed significantly. D/hh students

in the low group made an average (mean) of 2.1 errors. D/hh students in the mid group made an average (mean) of 7.6 errors. D/hh students in the high group made an average (mean) of 1.7 errors. Students in the hearing group made an average (mean) of 1.2 errors. One would expect to see errors decrease as maturity increase; however, the group with the largest average number of errors is the mid group. This is because the students in the low group represented a wide range of development. Most students are not yet using simple sentences in their writing. As a result, many errors that they made were not able to be identified and labeled. Deaf students in the mid group had the largest average number of errors, because they are still learning to construct simple sentences.

Some errors were more common than others. In fact, only 10 of the types of errors were made by 5 or more students in the study. Only 4 were made by 10 or more students in the study. These errors were: *missing an article*, *missing a linking verb*, *not making a noun plural*, and *subject-verb disagreement*. The errors made by the largest number of students were: *missing a linking verb* and *not making a noun plural*. These two errors were the most commonly made errors for students in the low group, high group, and hearing peer group. They were the second and third most commonly made errors for students in the high group. The most commonly made error for students in the high group was *subject verb disagreement*. I also found evidence of ASL features, such as *placing an adjective after the noun* (e.g. Cats have claws sharp.) and *use of a rhetorical question* (e.g. Fish live where ocean.)

Chapter Summary

In this chapter, I presented the findings of both the field-testing of the inventory and the experiential analysis. The teachers provided feedback on the benefits of the inventory and gave suggestions for improvements. I presented this feedback by using quotes from the participating

teachers. The experiential analysis provided data that showed differences between the groups of students at different levels of written language development. I presented this data by describing the characteristics of the writing of each group, comparing the participant, process, and circumstance use between groups, and identifying the most commonly made errors. The findings discussed in this chapter were used to make revisions to the inventory, which will be presented in the final chapter.

CHAPTER 5: INVENTORY REVISIONS

The purpose of this dissertation study was to develop a written language inventory that can help deaf educators to identify the syntactic structures in a student's linguistic repertoire. The need for the development of this type of assessment tool was inspired by my work with the students and teachers participating in the first year of the SIWI development project. In our search to find a better way to evaluate student writing, the research team and teachers began to explore the use of SFG analysis. Through the pilot study, we learned that SFG had the potential to provide information that was helpful to teachers in setting sentence-level writing objectives, but the time-consuming nature of SFG analysis prevents it from being a practical or attractive option for teachers. These findings provided the motivation for the development of the written language inventory.

I began developing the initial draft by using the findings of an experiential analysis of recount and information report writing samples from a group of 26 d/hh and 9 hearing students to inform the progression of the syntactic structures. Eight teachers used the initial draft to evaluate their students' writing and set language level objectives and provided feedback on their experiences. Much of their communication included information about which features of the inventory they found to be beneficial. They also gave several suggestions regarding how the inventory could be improved. The feedback they provided was used to make revisions to the format of the inventory. I also conducted a second experiential analysis of information report writing samples from a group of 74 d/hh and 24 hearing students. I chose to do this because the initial analysis was done on a somewhat homogenous group of d/hh students that were not representative of the population. This larger, more diverse sample was used to provide a more comprehensive understanding of the order of syntactic structure development. Additionally, I

chose to use NVivo for this analysis. This choice provided me with quantitative data that I did not get with the pilot study methods. The findings of the experiential analysis were used to make revisions to the content of the inventory. In this chapter I summarize the findings, compare my findings regarding the syntactic development of d/hh students to what is known about the syntactic development of hearing students, and describe the process of revising the inventory. I close by discussing the limitations and future directions of this research.

Summary of Findings

The field-testing findings demonstrate that the inventory provides teachers with a clear understanding of their students' linguistic repertoire by allowing them to identify the syntactic structures students were using and attempting in their writing. It enables teachers to identify areas of need and plan responsive instruction. The majority of the teachers indicated that the list of syntactic structures included in the inventory should be expanded and that the inventory may need more than one level to be used effectively with students at different stages of written language development. Individual teachers also suggested several unique revisions for the Individual Student Checklist. The first of these suggestions was to not order the syntactic structures in the inventory by the exact order of acquisition of skills identified by the experiential analysis. Instead, Robyn recommended that I group the structures together by function first and then order using the order of acquisition identified by the analysis. Robyn recommended that I format it to prompt the teacher or evaluator to place an X in the correct uses column after 3 correct uses. Joy suggested that I include examples in the column naming the syntactic structure. Jane commented that it would be helpful if there were a place to write additional notes related to instruction.

Prior to conducting the experiential analysis, I made some general observations about the characteristics of the writing samples of each group, noticing how they differed. This allowed me to contextualize the findings of the experiential analysis, which focuses on language at the sentence-level, within a broader understanding of the written language characteristics at the discourse-level. The students progressed from pictures to lists, lists to sentences, sentences to paragraphs, and paragraphs to multiple paragraphs, demonstrating an expected maturation of writing development between groups at the discourse level. I described the writing of the students in each group using terms (e.g. emergent, developing, beginning, novice, independent) that I have also incorporated into the inventory. Table 5.1 includes these terms and summarizes the writing characteristics I observed.

The experiential analysis provided information about the sentence-level differences between the writing of students in each group. All students who wrote words included participants in their writing. Excepting students who wrote lists, all students who wrote words included processes. On the other hand, only 57% of d/hh students included circumstances in their writing. The average number of uses and the average length of participants increased between each group. Hearing peer students wrote participants that contained approximately twice as many words as d/hh students in the mid group. Students were more likely to lengthen participants by expanding before the noun than expanding after the noun. The number of uses of processes increased between each group, and with the exception of the low group to the mid group, the average length of processes increased between each group. The most drastic changes appeared in the use of circumstances. The number of uses and the average number of words of circumstances increased significantly between each group. The majority of the students in both the high and hearing peer groups used circumstances to compose dependent clauses and create

complex sentences. However, those students in the hearing peer group were more likely to write complex sentences and wrote twice as many.

Table 5.1 Group Characteristics

Low	Mid	High	Hearing Peer
<ul style="list-style-type: none"> • emergent to developing • drew pictures with no words (4 students) • wrote list of words (4 students) • wrote word combinations/ attempted sentences (15 students) 	<ul style="list-style-type: none"> • beginning to early novice • simple sentences (almost all) • organized their sentences into paragraphs w/ beginning, middle, & end (about half) • multiple paragraphs (3 students) 	<ul style="list-style-type: none"> • novice to independent • organized their sentences into paragraphs w/ beginning, middle, & end (majority) • multiple paragraphs (6 students) • use of complex sentences (majority) 	<ul style="list-style-type: none"> • independent • organized their sentences into paragraphs w/ beginning, middle, & end (all) • multiple paragraphs (majority) • use of complex sentences (almost all)

Comparison of D/hh and Hearing Students

By comparing the findings of the experiential analysis to Hunt's (1966) research on syntactic development and Brown's (1973) research on spoken language development, it is possible to consider how the language development of d/hh students compares to that of hearing students. Hunt (1966) found that the use of subordinate clauses increases with age. Likewise, I found that the use of subordinate clauses increases as developmental maturity increases. Hunt found that the use of movable adverbial phrases increases with maturity in elementary and middle grades. I also found that the use of adverbial phrases increases with maturity. In fact, the rate of increase between groups was larger for circumstances, than it was for participants or

processes. Hunt found that age/maturity was not a predictor of the frequency of noun phrases; however, I found that the use of noun phrases (i.e. participants) does increase with maturity in d/hh student writing. Finally, Hunt found that older students were more likely to expand before and after the noun. Likewise, I found that the use of expansion both before and after the noun increased with maturity.

In chapter 2, I stated that although I was unable to find literature that documents the order in which hearing students begin to use syntactic structures during the earliest stages of writing, research indicates that the developmental path of written language (Chapman, 1996, Hunt, 1966, McCarthy, 1954) is similar to that of spoken language (Brown, 1973). Brown's stages describe how a student progresses from a vocabulary of 50-60 words to sentences composed using adult-like grammar in just a few years. Likewise, the written language development of the d/hh students in the study, progresses from early word combinations in the low group to the use of complex sentences in the high group. Because this comparison was not the objective of the analysis, the use of many of the morphemes that Brown names (e.g. verb tenses, subject-verb agreement, contractions) were not clearly captured in the experiential analysis. However the use of some morphemes, specifically prepositions, plural -s, possessive 's, and articles, was documented.

According to Brown (1973), hearing children begin using the prepositions 'in' and 'on' (e.g. in car, on floor), and adding -s for regular plurals (e.g. dogs) in Stage 2. I found that plural nouns were used by students in all groups. D/hh students in all groups used circumstances to tell *where* and those in the mid and high group used prepositional phrases, which often began with 'in' or 'on', to tell *where*. These findings indicate that uses of these morphemes are also early developmental steps in the written language development of d/hh students. In Stage 3, Brown

said that children begin to add -'s to make nouns possessive (e.g. boy's), and use forms of 'to be' as linking verbs (e.g. I am happy). Possessive nouns and pronouns and the linking verb "to be" were used only by d/hh students in the mid and high groups. These findings indicate the use of these morphemes occurs after the use of plural nouns and the prepositions 'in' and 'on'. In Stage 4, Brown includes the use of articles (e.g. a, an, the). Articles were used only by d/hh students in the high group, indicating that the use of articles occurs after the use of possessive nouns and pronouns and the linking verb "to be". The emergence of these 4 morphemes in the written language of d/hh children occurs in the same order as it does in the spoken (and likely written) language of hearing children.

The comparison of my findings to those of Hunt (1966) and Brown (1973) suggests that the syntactic development of d/hh students is similar to, but not exactly the same as, as the syntactic development of hearing students. A comparison of the other 10 morphemes named by Brown is needed to further explore how the language development of d/hh students compares to that of hearing students. It is important to note that many of these morphemes which are related to tense and contractions would be most likely to appear in recount or narrative writing. Therefore, further comparison should be done using these genres.

In Chapter 2, I suggested that Moffett's view of writing as the revision of inner speech (Moffett 1979, 1983) supports the hypothesis that through-the-air language development is a relevant and important part of written language development and instruction. While coding the data, I also found use of ASL features (e.g. *placement of adjective after the noun, use of rhetorical question*) in student writing. These features appeared primarily in the writing of students in the low and mid groups. This finding suggests that students in the high group were better able to revise their inner speech, supporting Moffet's perspectives of written language

development and instruction. It also supports Wolbers et al.'s (2013) assertion that linguistic competence and metalinguistic knowledge of English and/or ASL contributes to English writing proficiency.

Inventory Revisions

The current draft of the inventory is a 13-page document that contains an introduction, syntactic progression charts, an individual student checklist, and objective setting guide. I made substantial revisions to the initial draft, using the findings described in Chapter 4. The revisions made to the 3 components can be seen by comparing the current draft, which can be found in Appendix J, to the original progression charts on pages 69-71 and the initial draft in Appendix F.

I began the process of revising the inventory, by reading through my field notes that documented the feedback provided by the teachers. As I read through these notes, I highlighted the suggestions they made for improvement in yellow. Then, I read through these suggestions and considered whether each suggestion was specific to the individual teacher's context or if the change she had suggested had the potential benefit teachers in a variety of contexts. If the change had this potential, I changed the highlight color to blue. I included the suggestions I highlighted in blue in the findings I presented in Chapter 4. Next, I read through the suggestions again and made a list of formatting revisions I wanted to make to the inventory based on the feedback from the teachers. After I had determined how I would be revising the format, I turned to the experiential analysis findings to determine how the content of the inventory needed to change to better reflect the syntactic development of d/hh students. I used the queries I had run in NVivo to map out the order in which syntactic structures emerge. I documented syntactic structures that were used at least once by 5 or more students in the low group to construct participants and noted how many students in the group had used each structure. For example, for

participants I wrote: *proper noun* (13), *common noun* (10), *classifier + noun* (7), *plural noun* (6), *1st person subject pronoun* (9). Then, I documented the same information for the mid, high, and hearing peer groups and repeated the process for processes and circumstances.

I then used this information to separate the structures into 3 overlapping levels of development. I chose to have the levels overlap because it allowed me to include more advanced structures in each level, with the rationale that this could help teachers in scaffolding students to the next level. Level I contains the structures that were used by 5 or more students in both the low and mid groups. Level II contains the structures that were used by 5 or more students in both the mid and high groups. Level III contains the structures that were used by 5 or more students in both the high and hearing peer groups. For example, Level I participants include: *proper noun*, *common noun*, *1st person subject pronoun*, *plural noun*, *describer/classifier + noun*, *multiple noun or pronoun*, *possessive noun or pronoun + noun*, and *2ND & 3RD person subject pronoun*. Level II participants include: *describer/classifier + noun*, *multiple noun or pronoun*, *possessive noun or pronoun + noun*, and *2ND & 3RD person subject pronoun*, *object pronoun*, *demonstrative pronoun*, *quantifier + noun*, *article + noun*, *noun + prepositional phrase*, *noun + finite phrase*, and *noun + nonfinite phrase*. The structures used by the mid group (but not by the low group) are included in both Level I and II. In the example above *describer/classifier + noun*, *multiple noun or pronoun*, *possessive noun or pronoun + noun*, and *2ND & 3RD person subject pronoun* are included in both levels because they were used by 5 or more students in the mid group, but not by 5 or more students in the low group. I did this for participants, processes, and circumstances.

I used these lists to revise the syntactic progression charts. I still used the red, green, and blue to differentiate between the functional groups, but I titled the charts: *Nouns & Noun*

Phrases, Verbs & Verb Phrases, and Adverbs & Adverbial Phrases. I changed this language throughout the inventory, eliminating the use of the terms *participants, processes, and circumstances.* I did this because the objective of this study was to allow teachers to benefit from the advantages of SFG analysis, without requiring them to be trained in SFG. I also made a conscious effort to use labels for the structures that are “user” friendly. They contain simplified language and, in most cases, do not require an extensive knowledge of (traditional) grammar vocabulary. Since the charts are now intended to serve as a visual scaffold for teachers and are no longer intended to be used for the analysis, I changed the font and spacing of the name and example of each structure to allow them to take up the entire box.

After revising the charts, I revised the Individual Student Checklist. First, I created 3 levels. I used the lists I had created of the structures separated by level of development to determine which structures should be included in each level. I changed the column headings from *Building Block, Correct Uses, and Attempts* to *Structure, Correct Uses, and Incorrect Attempts & Other Notes.* I changed the first column (i.e. *Building Block/Structure*) to eliminate the use of the term “building block”. I did this throughout the inventory. I changed the final column (i.e. *Attempts/Incorrect Attempts & Other Notes*) to clarify that attempts refers to uses which were not correct and to provide a space for teachers to include other notes, possibly regarding instruction.

In the first column (i.e. *Structure*), I eliminated the labels *participants, processes, and circumstances* but changed the color of the name of the structure to red, green, or blue to help teachers and evaluators locate the structures on the progression charts. Using suggestions from the teachers, I made the column shorter and included examples of the structures. In the second column (i.e. *Correct Uses*), I made revisions using Joy’s suggestion to have the column better

match the Class objective setting guide. I added 3 lines and a box to allow teachers to place a check for the first 3 correct uses and an X for structures with 3 or more correct uses. Finally, I revised the directions and added a note to help teachers and evaluators use the inventory in the way it is intended.

While the general format of the progression charts and the Individual Student Checklist remained largely the same, I made major revisions to the general format of the Class Objective Setting Guide. These changes were made for several reasons. First, the initial draft included 17 structures, while the current draft includes 40 structures. Second, in the initial draft I was using Microsoft Excel to allow me to slant the first column. I had chosen to do this to make it easier to read the names of the structures, but using Excel actually made the labels for the columns small and difficult to read. Finally, using Excel limited my ability to manipulate the inventory and made it look very different from the rest of the components in the inventory. I felt that it was important that the components should share as many visual features as possible to help teachers use them together.

In the initial draft syntactic structures were listed across the top and student names could be written down the side. In the current draft the syntactic structures are listed down the side, like they are on the Individual Student Checklist, and student initials can be written across the top. The expanded list of structures is grouped into Level I, Level II, and Level II with columns on the side. These columns provide teachers with a visual depiction of how the levels overlap. I eliminated the labels *participants*, *processes*, and *circumstances* but changed the color of the name of the structure to red, green, or blue, just as I had done with the Individual Student Checklist. Finally, I revised the directions and added “tips” to help teachers and evaluators use the inventory in the way it is intended.

In addition to the 3 main components (i.e. the syntactic structure progression charts, Individual Student Checklist, and Class Objective Setting Guide), I added a two-page introduction for teachers and evaluators. In this introduction, I included sections on the purpose, development, syntactic structure labels, inventory components, levels, important notes, and definitions to help teachers understand how and why the inventory was developed, how the components work together, and how to use it to evaluate their students' writing. In the important notes, I emphasized the need to remember developmental variation (Clay, 1982, 1998, 2001; Easterbrooks & Baker, 2002; Teale & Sulzby, 1986) and language features of individual genres when using the inventory and setting objectives. Everything in the introduction was included based on my experience using the progression charts and initial drafts with the teachers during the field-testing of both items. Comments they made and questions they asked helped me know what information teachers might need to use the inventory independently. I included definitions for traditional grammar labels with which teachers may be less familiar because I found through the field-testing that many teachers do not have a deep knowledge of traditional grammar and could benefit from this additional support.

Educational Implications

The purpose of this dissertation was to develop a written language inventory, which could help teachers identify areas of need, set instructional objectives, and provide developmentally appropriate writing instruction. This study did not examine the impacts the inventory has on teachers' instruction. However, there are certain implications that can be concluded and hypothesized based on the findings. According to the feedback from the teachers, the inventory does help them identify areas of need and set instructional objectives. Because instruction is guided by objectives, it is likely that the inventory will impact instruction as well.

Using the written language inventory is supportive of a combined approach to literacy instruction. It examines syntactic development within the context of authentic writing, but also provides the information needed to plan structured mini-lessons on the use of specific syntactic structures. The inventory also has the potential to transform teachers' views of language, because it prompts them to consider language in context and to be aware of functional groups of words. This transformation could allow them to notice language, increasing their awareness of syntactic structures in their own language, the language in mentor texts, and the students' language. This increased awareness could help teachers to provide instruction that is focused building linguistic competence and metalinguistic knowledge of English and/or ASL, thus increasing student written language proficiency.

Limitations & Future Directions

Although Appendix J is titled "Final Draft of Inventory", throughout this chapter, I have intentionally used the term "current" and avoided using the term "final" when referring to the inventory because I know the development work is not yet finished. The feedback from the teachers indicates that the current draft of the inventory will be "user friendly" and effective in assisting teachers in evaluating their students writing and setting instructional objectives. However, there are certain limitations that must be acknowledged and future steps that should be planned to more fully develop the inventory. Additionally, the limited body of research regarding d/hh students' syntactic development must be expanded.

Because the analysis and field-testing were limited to information report writing, the inventory may not be as effective when used with writing samples of other genres. While developing the inventory, I kept in mind the language features of various genres, by referring to Derewienka's (1998) *Exploring How Texts Work*. The teachers participating in the SIWI

development project have been provided with a copy of this text and the language feature differences of genres is a topic the research team has spent a significant amount of time discussing during professional development sessions and individual teacher meetings throughout the year. However, the average teacher may not be as familiar with these differences. As a result, it would be helpful to add a feature to the inventory that would indicate which syntactic structures would be likely to be needed when writing in various genres. A necessary next step to this research would be to conduct an experiential analysis on writing samples of additional genres (e.g. recount, persuasive).

The inventory development operated on the assumption that the use of syntactic structures of students at different levels of writing proficiency could be used to identify the order in which students acquire individual syntactic structures. There is a need for longitudinal studies to further explore syntactic development. An experiential analysis of writing samples collected from students over time as they progress in their development of written language would provide stronger evidence for the order of syntactic structure acquisition. Findings should examine the order of appearance of the 14 morphemes named in Brown's (1973) stages of language development to further examine how the syntactic development of d/hh students compares to that of hearing students. Samples of additional genres, especially recount and narrative, should be used to examine the order of appearance of the 10 morphemes that were not represented in the experiential analysis done in this study.

When I began this study, I chose to use samples from students in 3rd-5th grade mostly because the development of this inventory helped us to accomplish objectives of the SIWI development project. This allowed me to “kill two birds with one stone” as they say. It was also admittedly a choice of convenience—I had Institutional Review Board (IRB) permission and

access to the data (i.e. assessment results and writing samples) from the d/hh students.

Therefore, I only needed to add a hearing peer group. When I designed the study this way, I was unsure if the samples from 3rd-5th grade students would be able to inform the design of an inventory intended for use with students at all ages and all stages of written language development. However, the findings suggest that it is. The writing samples spanned all stages of syntactic development from two-word combinations to adult-like grammar. This indicates that the content of the inventory makes it appropriate for use with students at all levels of syntactic maturity. Still, future field-testing should be done with samples from younger and older students to determine if the inventory should have a recommended age range or to inform further revisions to accommodate for use with younger or older students.

Finally, the purpose of assessment is to inform instruction and improve student outcomes. This study did not examine the impacts the use of the inventory has on teacher instruction or student outcomes. These impacts need to be examined in future research.

Conclusion

The omission of writing in the No Child Left Behind (NCLB) legislation (2001), has led to reform efforts that have not focused on writing. The National Commission on Writing in America's Schools and Colleges (2003) argues "writing should be at the top of the nation's school reform agenda because writing and communication are essential to the development of students' critical thinking skills and their ability to conceptualize and organize their own knowledge and thinking" (2006, p. 28). I agree with the Commission's position. In fact, I believe that writing should be even more important in the education of d/hh students who are even more often put in a position to use writing to communicate.

To conclude this dissertation I must return to how I began, with a statement of the problem. Despite increased access to education, early intervention, developments in hearing technologies, and changes in instructional practices, notable delays and differences in the written language development (Ivimey & Lachterman, 1980; Kretschmer & Kretschmer, 1986; Moores & Sweet, 1990; Quigley; Yoshinaga-Itano et al., 1996), specifically syntactic development (Antia, Ree, & Kreimeyer, 2005; Koutsoubou, 2010; Musselman & Santo, 1998; Rose et al., 2004; Van Beijsterveldt & van Hell, 2009; Yoshinaga-Itano & Snyder, 1985) persist. For teachers to provide developmentally appropriate (Bredekamp, 1987) instruction, they must use assessment to inform instructional objectives (Coffin, 2010; Bredekamp, 1987; deOliviera & Schleppegrell, 2015; Vygotsky, 1978). However, the information provided by current assessments is insufficient for guiding the construction of sentence-level/syntax objectives (French, 1999; Mayer, 2010; Musselman & Szanto, 1998; Yarger, 1996). The purpose of this study was to develop an assessment that is capable of providing specific information regarding the syntactic development of d/hh students. Such an assessment is needed to help students catch up to their hearing peers.

Teachers of d/hh students understand that writing is an essential skill for d/hh students, they are aware that their students are struggling with writing development, and they know they need more information that is not provided by current assessments. As a classroom teacher of d/hh students, I spent years facing these giants. I wanted so badly to help my students improve their writing, but I continuously found that while my students made visible improvements in discourse-level objectives, progress on sentence-level objectives was slow. It was not enough.

As I sit here typing the final paragraphs of this dissertation, I cannot help thinking back to almost exactly 2 years ago when Dr. Wolbers, the principal investigator of the SIWI

development project, first introduced the participating teachers and the research team, including me, to SFG. I must admit that I was skeptical. I doubted that SFG could be an effective assessment tool for teachers, mostly because the process is so complex and cumbersome. However, I quickly discovered that SFG analysis was my “missing piece.” It completely transformed the way I looked at d/hh student writing. During my last semester of coursework for my PhD, I was considering several topics for my dissertation and kept returning to SFG—this theoretical framework and method of analysis that had illuminated the things I had struggled to understand for years, as a classroom teacher. I was conducting interviews with the teachers involved in the field-testing of the syntactic structure progression charts, and their feedback made me realize I was not alone. The teachers agreed that SFG analysis has the power to transform writing assessment and instruction; however, they also agreed that it is not accessible to teachers.

During one of the interviews, Darcy unknowingly chose my dissertation study for me.

She said:

“Write something Jen. You need to write something. Write a guide—Teaching SIWI and Using Functional Language Analysis. I feel like they (teachers) need to see something that says if your student is struggling with making a complete sentence, if they aren’t putting participants, if they’re doing that, here are some things that you can do or here is typically what their writing looks like. I don’t know what that looks like entirely, but I feel like that would make it so much clearer for teachers if they are really trying to learn it and really trying to use it. I feel like if you just teach them it, and give them a PPT slide, I don’t think it’s going to stick. I don’t. I’m trying to think if I would do it. And I think I would try, but I think I would get more out of it if I had more—some sort of

guide of typical deaf writing. It's not all going to be the same, but here's what we've seen over these years and here's all that data. Here are the things that we see typically at this stage, and this is what they need strengthened.

I could not ignore her words. I had to "write something." Darcy said she was not sure what this SFG "guide" would look like, I hope it looks a lot like the Kilpatrick D/HH Student Written Language Inventory.

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APPENDICES

APPENDIX A

Pilot Study – Participant, Process, & Circumstance Use

Participant Use

	Low	Mid	High	Peer
One Word Nouns (N)				
<i>Proper Nouns</i>	Addison, Dollywood, Roblox PC game	Gary, Patrick, Seymour; The Optimus Prime; Transformers; 411 speedway	LB, Baxter, New York City, Holy Cow, New Jersey, Ashley, Grandma; McDonalds; Brenda, Splash Country Dollywood	Mt. St. Helens
<i>Count Nouns</i>	princess, airplane, house, ocean, book, pig, car, ball, boy, game, summer, beach, roll	football; men, supper; Puppy, wilderness, sister, doctor, mask, cheerleader, candy, game, man, fish, cake	field trip, puppy, fireworks, , summer, glass, money, restaurant, man,	auditions, trophies, rumors, cloud,
<i>Mass Nouns</i>	ice	homework, chocolate, pizza, outside lunch	ice cream, lunch, baseball, homework, laser tag	softball
<i>Gerunds</i>	swimming	swimming	camping	getting only one good hit,
One Word Pronouns				
<i>Subject PN</i>	I, we, you,	I, we, you, it,	I, we, you, he, she, it, they	I, we, you, he, she, it, they
<i>Object PN</i>			me, it, them	us, her, them
<i>Demonstrative or Interrogative PNs</i>	that		that	these, that

<i>Indefinite PN</i>		one	all, something, everything matter (meaning “whatever”)	all, some, everybody, nowhere to live,
Nouns or Pronouns Joined with a Conjunction				
2 <i>N/PN</i>	bike and helmet	My family and I, My brother and I, Dad and I, Eve and I, Mom and Dad, cat and dogs, my family and friends <i>With Confusion</i> —me and brothers	My cousin and I, My Uncle Tony and I, My family and mom’s friend <i>With confusion</i> -- I and My family, I and Sara, me and my mom	an adult and a partner, 4 runs and 2 outs, two strikes and three balls, he or she
3+ <i>N/PN (Series)</i>	Tabitha, Jerry, Jaclyn, and Jailynn <i>With Confusion</i> —Victoria I and Addison Ainnan; Whit I and; Victoria Whit I and JIme	my Dad, Aunt, and I; my brother, Dad and I; my mom, dad, Jonathan and I; my family, friends, and I; my mom, brother, and sister <i>With Confusion</i> —river, brook, fishing;	my mom, my sister and I; mom and dad and brother; mac & cheese, hot dog, and sweet; deer, fisher, bird, and turkey; wave, lazy river, river rush, butterfly and bucket	her, her friend, and my friend from Ashworth
Noun Phrases Elaborated before the Noun				
Referrer 1: <i>article + N</i>	the helmet, the lego, the bed	a copperhead snake, the ambulance, the dirt track, the road track, the bumblebee car toy	a lake, a fish, a new game, a car, the pole <i>With confusion</i> --the camping	a play, a trip, the bases, the game, the ball, the director, the play, the coach, the ump, the pitcher, the ball,

				the season, the mountain, the ledges, the movie
Referrer 2: <i>demonstrative + N</i>			other people, other restaurant, <i>With Confusion—</i> the summer (meaning “this summer”)	the other narrators, the other person, another one, this scrapbook, that game,
Referrer 3: <i>possessive + N</i>	<i>Pronoun With Confusion--I</i> bike and helmet, them bike	<i>Pronoun—</i> my mom, my dad, my family, my friend, my shirt, my home, , my dog, my mouth, his car number, their computer <i>Noun With Confusion—</i> Puppy name, Dog name, my dog name, dad food, my mom and dad house	<i>Pronoun—</i> my mom, my dad, my family, my grandma, my sister, my gran gran gran grandma, my gran gran gran granmdpa, his phone, his car, his legs, our cat <i>Noun—</i> mom’s friend, our cousin’s house <i>Noun With Confusion--</i> puppy name, biggest dog name, my cousin name, my dad car, Darcy class,	my mom, my family, my friend, my grandslam, my team, my costume, my turn to bat, my first game, my first walk, my scrapbook, my life story, you(r) money, your life/money, their eggs, our team,
Referrer 4: <i>inclusive + N</i>				all my lines, all the kids
<i>quantifier + N</i>		two dog	some deaf, one man deaf, <i>with confusion:</i>	some salmon, two characters, one line, a few of my friends

			lots of (the) money, lots money,	from soccer, half (of) people
<i>partitive</i> + N				a whole lot of fun
<i>describer</i> + N (adjectives and participles)	cool car, good fun, good night, hot sun <i>with confusion</i> —book good		biggest dog, dead bones, dead animal, wonderful time, sad day, good weekend, a new game	a dead salmon, a slow pitcher, a full count, a good education, a huge hole, a brown ash-covered valley, a fun and exciting experience, the best ride, the golden goose, the great news, our first great glimpse,
<i>classifier</i> + N (adjectives, nouns, and participles)	basketball game, car game, dog toy	game Sonic, school clothes, horse stable, gold ball, Army Transformer toy, a copperhead snake, the police mustang, the dirt track, the road track, the bumblebee car toy <i>with confusion</i> —middle school deaf, school deaf	church people, car crash, north New York, garage sale	salmon eggs, a big salmon tank, the space ride,
Noun Phrases Elaborated after the Noun				
<i>N + prep phrase</i>			story about long time ago, the party for 4 th July, other people in glass, doctor for animal hospital, new room for sleep,	a circle of baby, my mom's favorite part of Omzie, my favorite part of Omzie, about 90 or 100 buckets of eggs, all the different

			SWPBS for cottage and in campus, new person for our cottage <i>with confusion</i> -- list of cookie (cookie recipe?)	kinds of salmon, the 3 stages of salmon, all kinds of sports, a fool of myself, the parts of old man and a narrator, the part of narrator #2, friends with the other narrator, a white turtle neck with hearts and some pink pants, my favorite thing to do in the whole world to do, all the parts of salmon, the sweet sounds of the bat's "crack", a voice in my head; pictures of my friends, report cards, and more, a fan of Mt. St. Helens, a documentary about its eruption, the bottom of the big crater
<i>N + finite phrase</i> (relative clauses)				a lot of giant buckets of dead salmon that died up river, something that is useful to me or another person in my family,

				anything that could help me in life, something that's not even mine, something special to me that I will never throw away
<i>N + nonfinite phrase</i> (reduced form of relative clauses)				the specialist thing my class has ever done, their egg attached to their stomach, my first year playing, a story called the golden goose, someone you don't even know, the reason this scrapbook is so special, the clothes we wear, the cars we drive, and the grades we got, a white two inch binder to decorate with clear pages that you can stick papers and pictures in, a new mountain top growing, stairs leading higher up

Process Use

	Low	Mid	High	Peer
Stative Verbs				
<i>To Be</i>	am, is <i>Past w/ Confusion-</i> is were, were is	am, is, <i>With Confusion—</i> I am is fun	is, are Past— was	is, are, Past— was, were
<i>To Have</i>	have Past--had	have Past--had	have Past--had	have, has Past--had
<i>Mental Processes</i> (think, believe, see, hear, like, hate, want, hope)	need, want, like	love, think, see, like Past--saw	like, enjoy	like, love, wish, hope
Action Verbs				
<i>Transitive & Intransitive</i>	eat, play, write, run, do, look, color, win, see	play, fight, put, sleep, eat, sit, swim, ride, get, go, give, visit, watch, buy, look, (not)go,	go, play, dance, eat, see, hear, die, ride, sleep, pay, start, wear, try, cry, tell, carry, call, put, order, want, finish, give, talk, forget, look, meet, play, learn, do, make	bury, play, hit, give, get, holds, audition
<i>Transitive & Intransitive Past</i>	came, went, ran	went, finished, won, ate, slept <i>With Confusion—</i> I maked tea, I have play	came, went, told, brought, ate, saw <i>With Confusion—</i> played is	came, went, saw, laughed, slept, told, took, got, showed, put, learned, thought, hit, slid, sent, read, decided, started, announced, made, forgot, walked, looked, heard, wondered, batted, yelled, threw, won, ended, lost,

				drove, caught, became
<i>Verbal Processes</i> (say, tell, ask, reply, suggest)		ask, say	tell, say	past tense—said
Verb Phrases				
<i>Verb + Preposition</i>	jump down	can't wake up, can't coming back,	turn around, <i>With Confusion—</i> am talk(ing) about	cut open, get out, got out, wound up, wouldn't throw away, don't throw away, would throw away, would curve down, got down, started warming up, had whizzed by,
<i>Verb + Infinitive</i>	want to play <i>With confusion--</i> love swim, love run, like sleep, like see, not like swim	love to play, go to eat <i>With confusion--</i> want play, went hotel sleep	want to visit, sent to see	had to stay, want to tell, tried not to make, were allowed to have, were allowed to audition, want to go, planned to see, drove to see,
<i>Phases (2 verbs)</i>			went camping	started warming up
<i>Causatives (noun between verbs)</i>		help Mom cook, helped mom cook		do you like, cut it open, have filled it up
Auxiliary (Helping)				
<i>Primary, Modals, & Semi-Modals</i>	<i>With Confusion:</i> is eat	can play, can go, can eat, can open, can be, must play <i>With Confusion—</i> (is) not working, is go(ing), is come(ing), will again water park, (am) cooking,	don't want, don't know, was texting, was alive, was hurt, will see, was going to, have to work <i>With Confusion—</i> was cry, is played,	am hoping, could see, couldn't see, was scared, do like, didn't like, didn't think, didn't go, didn't want, didn't impress, had been, had been chosen, had gotten, hadn't memorized, will

				be, would call, wouldn't be, would spread, am going to talk,
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Circumstance Use

	Low	Medium	High	Peer
<i>when</i>	<i>With Confusion</i> — for birthday (for my birthday)	first, second, third, yet, again, tomorrow, August 20, June 6 th , June 6 th and June 16 th <i>Prep. Phrases</i> — in the summer <i>With Confusion</i> — <i>Prep Omission</i> — one week (for one week), long time (for a long time), snack time (during snack time), dinner time (at dinner time), <i>Prep</i> <i>Substitution</i> — in summer (during summer), at Aug 9, 2013 (on Aug 9, 2013), in the breakfast (during breakfast), at 15 minutes (for 15 minutes), at Aug 5, 2013 (on Aug 5, 2013), today at 6:30pm-8:30pm (today from 6:30pm-8:30pm)	first, after, sometime, Saturday, one day, every day, long time ago, June 1 st <i>Prep. Phrases</i> — for 2 nights, on June 15, 2013, for 2 minutes, on June 25 th , on Saturday, <i>With Confusion</i> — <i>Prep</i> <i>Substitution</i> — while school (during school) <i>Other</i> — most (mostly, most of the time), on the may 31 (on May 31 st), when I back home at Friday (when I went back home on Friday)	last year, first, second, still, usually, anymore, ever, never, finally, next month, , this summer, the next day, a week later <i>Prep. Phrases</i> — about 2 years later, after a couple of rehearsals, at the end of the day, the night before the play, for 30 minutes, for months, for 45 minutes, in my last game, in one week, in a few weeks, in the end, in the second grade for my birthday, on my birthday, <i>Dependent Clauses</i> - after they got it working, as the ball hit it, until we were 4,000 feet high, when she screamed, when the ball came, when the score keepers were done talking about my good hit, while my dad was signing me in
<i>where</i>	far, here, in water, to Dollywood	here, home, school, inside, outside, different place, outside or inside,	inside, outside, upstate, there, back home,	out, <i>Prep. Phrases</i> —

		<p><i>Prep. Phrases</i>— at school; at the lake; at Lake Beach; at home, school, and church; at school or at home; in Seymour; in the water; in my home; in the school; next to 411 Speed Way; on the slide and swings; to the beach; to the park</p> <p><i>With Confusion</i>— <i>Prep Omission</i>— home (at home), the beach (at the beach), cottage (to the cottage), water park (at the water park), my home (to my home)</p> <p><i>Prep Substitution</i>— in game (for game, during game), for the beach (to the beach),</p> <p><i>Article Omission</i>— to gold ball (to the gold ball), at park (at the park), to game (to the game), to the work (to work), to party (to the party), in pool (in the pool),</p> <p><i>Other</i>— at camping (camping), at my mom dad (at my mom and dad's), in to the</p>	<p><i>Prep. Phrases</i>— at church, at home, in car, at universal orlando, at lake, in heaven, in there, in TSD, in middle school, in history, in the outside, in the lake, in there, into Wonder Works, to work, to outside, to Indianapolis, to New Jersey, to mall, to the beach, to Wonder Works</p> <p><i>With Confusion</i>— <i>Prep Omission</i>— sand (in the sand)</p> <p><i>Prep Substitution</i>— in table (at table)</p> <p><i>Other</i>— to home (home)</p>	<p>around the school, at the salmon hatchery, at triple A baseball tryouts, in our hallway of the school, in the tank, into home plate, on the bus, into the gym, on our way to Crater Lake, on the way there, on the way back, on very tall hills surrounding it, out of the ball park, over to a big waterfall where salmon live in the summer, to Seattle, to Omzie, to college, to the baby room, to the gift shop, to the map of Crater Lake, to the egg room, to an acting camp, to a city near the mountain, toward it, under rocks, (right) below you, (right) in front of the mountain, (right) under her,</p> <p><i>Participle Phrase</i>— directly facing the north side of Mt St Helens,</p>
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		math and language (in math and language), out (outside)		
<i>how</i>	1 word— nice, funny, fun	1 word— together, fun, wonderful, better	1 word— hard, fun, same, sad, unfair, sorry, new, wonderful, 2 words— so big, so fun, so delicious, so good, great fun, so much fun	1 word— a lot, almost, awesome, big, fun, great, scary, loaded, only, sweating, fortunately, unfortunately, mad, poor, hardly 2 words— so fun, so nervous, really nice, really tiny, totally red, very boring, very beautiful, very easy, very special Phrases— out of her mind, so proud of me, older than me, faster than I'd ever imagined, more of a spectacle each second, fast, hard, but too low

APPENDIX B

Pilot Study – Summary of Participant Use

	LOW	MID	HIGH
<i>Using</i>	<ul style="list-style-type: none"> • Proper Nouns • Count Nouns • 1st & 2nd Person Subject Pronouns (I, You, We) 	<ul style="list-style-type: none"> • Proper Nouns • Count Nouns • Mass Nouns • 1st & 2nd Person Subject Pronouns (I, You, We) • Nouns/Pronouns Joined with Conjunctions • Definite Article + Noun • First Person Possessive Pronoun + Noun (my) • Classifier + Noun 	<ul style="list-style-type: none"> • Proper Nouns • Count Nouns • Mass Nouns • 1st, 2nd, & 3rd Person Subject Pronouns (I, You, We, He, She, It, They) • Object Pronouns (them, me, it) • Nouns/Pronouns Joined with Conjunctions • Definite/Indefinite Article + Noun • 1s Person & 3rd Person Possessive Pronoun + Noun • Describer + Noun • Classifier + Noun
<i>Emerging (Rare or Using but confusing)</i>	<ul style="list-style-type: none"> • Joining nouns/pronouns with conjunctions • Possessive Pronoun + Noun • Describer + Noun • Classifier + Noun • Definite Article + Noun 	<ul style="list-style-type: none"> • 3rd Person Subject Pronouns (It) • Possessive Noun + Noun (Names without -'s) 	<ul style="list-style-type: none"> • Demonstrative Pronouns (that) • Indefinite Pronouns (something, all) • Subject/Object Pronoun Confusion (I vs. me) • Possessive Noun + Noun (Names without -'s) • Demonstrative + Noun and Quantifier + Noun • Noun + Prepositional Phrase

APPENDIX C

Pilot Study – Coded Writing Sample Examples

Low Group:

I have SM {Spiderman}. I have car
track {truck}. I have car game.
I have car monan {money}. Love.
I JM [drawing of a face] I Ray [drawing of a bike?] Love

Jacob Ray JM

Mid Group:

-> I went to the lake with my
mom, Brother and sister.
I swim in the water with my
family and with My Kids and
with my mom and Dad. I had
Fun at the Lake! And I had fun
swimming!

High Group:

On June 15, 2013, My Ulunetoy {Uncle Tony} and I
went camp {camping} and I saw a Lake wean {when} I
got in the Lake I saw a fish in the Lake. On
the may 31 I went with My Aunt
Rosile to get a New game. I went
to the blesh {beach} with my flamiliey. The summer
is geat {great} fun. I Love summer!

Peer Group:

This summer I went to an acting camp. In one week we were to put on a play. The director read us a story called the golden goose. He decided that was the story we were to act out.

The next day we started auditions. We were only allowed to audition for two characters each. I auditioned for the parts of old man and a narrator.

At the end of the day they announced who got what part. I got the part of narrator #2.

After a couple rehearsals I made friends with the other narrator. She was really nice. I played with her, her friend, and my friend from Ashforth.

The night before the play I was so nervous I hadn't memorized all my lines. Thanks to my parents I got them all down.

The play went great and it was a whole lot of fun. I only forgot one line! I forgot it was my turn to talk and I turned totally red.

My costume was the same as the other narrators. A white turtle neck with hearts and some pink pants.

My favorite thing in the whole world to do is act.

APPENDIX D

Pilot Study – Progression Chart Packet for Teachers

Setting Objectives with SFG Progression Charts

Students write using the three building blocks of Systemic Functional Grammar: *participants, processes, and circumstances*. As their writing develops, they begin use increasingly complex building blocks.

These charts have been developed using the information gathered from your students' writing. They are designed to demonstrate an increase in complexity from bottom to top. In other words, the building blocks in the bottom row are being used by all students, whereas the building block in the top row are being used only by the hearing peer group.

Directions:

- Choose one student's writing to analyze.
- Place examples from the student's writing in the appropriate boxes.
- If the student has no attempts of a building block leave the block blank.
- If the student has attempted to use a particular block draw a diagonal line across the block.
- If the student has more than one example and is using the building block correctly draw two diagonal lines to create an "X".
- This analysis can then be used to create objectives for the student. Choose blocks with only one line (i.e. blocks they are beginning to attempt or "using but confusing") or blocks with no lines (i.e. blocks they are not yet using) as an area of focus for the student.

Important Notes:

- The organization of the blocks is a guideline, students will not all progress through these building blocks at the same pace or in the same order.
- The rows of blocks are not necessarily "levels", they simply demonstrate a general progression from bottom to top. It is not necessary to complete all blocks in one row before moving on to a block in the next row.
- It is likely that genre will have some impact on the building blocks used by students. The information in this packet is based on an initial analysis of recount writing samples.

Use of Participants

Inclusive + N <i>(all books, both cars, neither girl)</i>		Partitive + N <i>(a piece of pie, a slice of pizza)</i>		N + Finite Phrase <i>(the woman who lives there, the dog that barks)</i>		N + Nonfinite Phrase <i>(the boy swimming in the park)</i>					
Indefinite Pronouns <i>(some, all, everyone)</i>		Demonstrative PN <i>(this, that, these)</i>		Demonstrative + N <i>(this bag, the other box)</i>		Quantifier + N <i>(four kids, some days)</i>		N + Prep Phrase <i>(the girl with blonde hair, the book on the table)</i>			
3rd Person Pronouns <i>(he, she it, they)</i>		Object & Possessive Pronouns <i>(him, me, his, mine)</i>		Indefinite Article + N <i>(a zoo, a book, a man)</i>		Possessive N + N <i>(Tori's pencil, Mom's car)</i>		Describer + N <i>(small dog, good book)</i>			
Multiple Nouns/Pronouns <i>(cats and dogs; Dad, Mom, and Jill)</i>			Definite Article + N <i>(the zoo, the book, the man)</i>			Possessive PN + N <i>(my dog, his bag, their house)</i>			Classifier + N <i>(dog toy, dirt track, car crash)</i>		
1st & 2nd Person Pronouns <i>(I, we, you)</i>				Proper Nouns <i>(Ashley, New Jersey, Disneyworld)</i>				Common Nouns <i>(tree, car, summer)</i>			

PARTICIPANTS DEFINITIONS & EXAMPLES

What are participants?

- the 'who or what'
- a nominal word group
- the actors and objects taking part in an action

One word nouns/pronouns:

- proper nouns
 - *Dollywood, Boston, XBox*
- common nouns
 - *cat, pizza, toy*
- personal pronouns
 - subject pronouns
 - *I, you, he, she, it, we, they*
 - object pronouns
 - *me, him, her, us, them*
 - possessive pronouns
 - *mine, yours, his, hers, its, ours, theirs*
- demonstrative pronouns
 - *this, that, these*
- indefinite pronouns
 - *all, each, one, somebody, anyone*

Multiple Nouns/Pronouns:

- 2 nouns/pronouns joined with a conjunction
 - _____ *and* _____ ; _____ *or* _____
- 3 or more nouns/pronouns joined with commas and a conjunction
 - _____, _____, *and* _____ ; _____, _____, *or* _____

Noun phrases elaborated before the noun:

- Referrer + noun
 - indefinite article + noun
 - *a tree, an octopus*
 - definite article + noun
 - *the trees, the octopus*
 - demonstrative pronoun + noun
 - *this bag, that chair, these dogs, those books*
 - possessive + noun
 - *my bike, Kristy's book*
 - inclusive (and exclusive) + noun
 - words that refer to a complete group either positively or negatively
 - *all books, both cars, neither girl*
- quantifier + noun
 - words that indicate a quantity between none and all
 - *four kids, some days, a few books*

- partitive + noun
 - a structure which connects two nouns with “of” and allows a mass noun to be counted
 - *a piece of pie, a slice of pizza*
- describer + noun
 - words that modify the noun (*adjective + noun*)
 - *blue car, big box, excited students*
- classifier + noun
 - words that classify the noun (*noun + noun*)
 - *car accident, monster truck, basketball game*

Noun phrases elaborated after the noun:

- noun + prepositional phrase
 - *the girl with the blonde hair, the book on the table*
- noun + finite phrase
 - *the woman who lives there, the dog that barks*
- noun + nonfinite phrase
 - *the boy swimming in the park*

Use of Participants Example 1 (Low Group)

<p>Inclusive + N (all books, both cars, neither girl)</p>	<p>Partitive + N (a piece of pie, a slice of pizza)</p>	<p>N + Finite Phrase (the woman who lives there, the dog that barks)</p>	<p>N + Nonfinite Phrase (the boy swimming in the park)</p>	
<p>Indefinite Pronouns (some, all, everyone)</p>	<p>Demonstrative PN (this, that, these) that</p>	<p>Demonstrative + N (this bag, the other box)</p>	<p>Quantifier + N (four kids, some days)</p>	<p>N + Prep Phrase (the girl with blonde hair, the book on the table)</p>
<p>3rd Person Pronouns (he, she it, they)</p>	<p>Object & Possessive Pronouns (him, me, his, mine)</p>	<p>Indefinite Article + N (a zoo, a book, a man)</p>	<p>Possessive N + N (Tori's pencil, Mom's car)</p>	<p>Describer + N (small dog, good book) cool car, hot sun, book good</p>
<p>Multiple Nouns/Pronouns (cats and dogs: Dad, Mom, and Jill) bike and helmet Victoria I and Addison</p>	<p>Definite Article + N (the zoo, the book, the man) the helmet, the lego, the bed</p>	<p>Possessive PN + N (my dog, his bag, their house) I bike, them helmet</p>	<p>Classifier + N (dog toy, dirt track, car crash) basketball game, car game, dog toy</p>	
<p>1st & 2nd Person Pronouns (I, we, you) I, we, you</p>	<p>Proper Nouns (Ashley, New Jersey, Disneyworld) Addison, Dollywood, Roblox PC Game</p>	<p>Common Nouns (tree, car, summer) house, pig, boy</p>		

Use of Participants Example 2 (Middle Group)

Inclusive + N <i>(all books, both cars, neither girl)</i>	Partitive + N <i>(a piece of pie, a slice of pizza)</i>	N + Finite Phrase <i>(the woman who lives there, the dog that barks)</i>	N + Nonfinite Phrase <i>(the boy swimming in the park)</i>
Indefinite Pronouns <i>(some, all, everyone)</i> one	Demonstrative PN <i>(this, that, these)</i> that	Demonstrative + N (this bag, the other box)	Quantifier + N (four kids, some days) two dog
3rd Person Pronouns <i>(he, she it, they)</i> it	Object & Possessive Pronouns (him, me, his, mine)	Indefinite Article + N <i>(a zoo, a book, a man)</i> a copperhead snake	Possessive N + N <i>(Tori's pencil, Mom's car)</i> dog name, puppy name, dad food
Multiple Nouns/Pronouns <i>(cats and dogs; Dad, Mom, and Jill)</i> my family and I; my family, friends, and I	Definite Article + N <i>(the zoo, the book, the man)</i> the ambulance, the dirt track	Possessive PN + N <i>(my dog, his bag, their house)</i> their computer, his car number	Classifier + N <i>(dog toy, dirt track, car crash)</i> school clothes, dirt track, horse stable
1st & 2nd Person Pronouns <i>(I, we, you)</i> I, we, you	Proper Nouns <i>(Ashley, New Jersey, Disneyworld)</i> Gary, Patriek, Optimus Prime	Common Nouns <i>(tree, car, summer)</i> cheerleader, wilderness, doctor	

Use of Participants Example 3 (High Group)

<p>Inclusive + N (all books, both cars, neither girl)</p>	<p>Partitive + N (a piece of pie, a slice of pizza)</p>	<p>N + Finite Phrase (the woman who lives there, the dog that barks)</p>	<p>N + Nonfinite Phrase (the boy swimming in the park)</p>	
<p>Indefinite Pronouns (some, all, everyone)</p> <p>all, something</p>	<p>Demonstrative PN (this, that, these)</p> <p>that</p>	<p>Demonstrative + N (this bag, the other box)</p> <p>other people, other restaurant</p>	<p>Quantifier + N (four kids, some days)</p> <p>some deaf, one man deaf, lots of the money</p>	<p>N + Prep Phrase (the girl with blonde hair, the book on the table)</p> <p>new person for our cottage</p>
<p>3rd Person Pronouns (he, she it, they)</p> <p>he, she, it, they</p>	<p>Object & Possessive Pronouns (him, me, his, mine)</p> <p>me, it, them</p>	<p>Indefinite Article + N (a zoo, a book, a man)</p> <p>a lake, a fish, a new game</p>	<p>Possessive N + N (Tori's pencil, Mom's ear)</p> <p>mom's friend, our cousin's house, puppy name</p>	<p>Describer + N (small dog, good book)</p> <p>sad day, good weekend, wonderful time</p>
<p>Multiple Nouns/Pronouns (cats and dogs; Dad, Mom, and Jill)</p> <p>Joe and I; mac & cheese, hot dog, and sweet</p>	<p>Definite Article + N (the zoo, the book, the man)</p> <p>the pole, the party for 4th of July</p>	<p>Possessive PN + N (my dog, his bag, their house)</p> <p>his phone, our cat, my sister</p>	<p>Classifier + N (dog toy, dirt track, car crash)</p> <p>chur eh people, car crash, garage sale</p>	
<p>1st & 2nd Person Pronouns (I, we, you)</p> <p>I, we, you</p>	<p>Proper Nouns (Ashley, New Jersey, Disneyworld)</p> <p>New York City, McDonald's, New Jersey</p>	<p>Common Nouns (tree, car, summer)</p> <p>fireworks, money, restaurant</p>		

Example 1:

- **Mastered**
 - Using 1st & 2nd person pronouns, proper nouns, and common nouns
 - Expanding before nouns by adding definite articles, and classifiers
- **Emerging**
 - Combining nouns and pronouns with conjunctions (Not using commas in series)
 - Showing possession with possessive pronouns (Using subject or object pronouns)
 - Using describers. (Sometimes using after the noun.)
 - One example of demonstrative pronoun “that”.
- **Objectives**
 - *High Level:* Adding details to writing by expanding noun groups to include more describers and possessive pronouns and nouns.
 - *Low level:* Using commas in series.

Example 2:

- **Mastered**
 - Using 1st & 2nd person pronouns, proper nouns, and common nouns
 - Expanding before nouns by adding definite articles, possessive pronouns, and classifiers
 - Combining nouns and pronouns with conjunctions and commas
- **Emerging**
 - Showing possession with possessive nouns (Not adding a ‘s)
 - One example each of 3rd person pronouns (“it”), demonstrative pronouns (“that”), and indefinite pronouns (“one”), and using an indefinite article.
- **Objectives**
 - *High Level:* Adding details to writing by expanding noun groups to include more describers.
 - *Low level:* Adding ‘s to possessive nouns

Example 3:

- **Mastered**
 - Using 1st, 2nd, & 3rd person pronouns, indefinite pronouns, object & possessive pronouns.
 - Using proper nouns, and common nouns
 - Expanding before nouns by adding definite and indefinite articles, possessive pronouns, classifiers, and describers.
 - Combining nouns and pronouns with conjunctions and commas
- **Emerging**
 - Showing possession with possessive nouns (Not always adding a ‘s)
 - Using demonstrative pronouns (“that”)
 - Using demonstrative pronouns (“other”)
 - Using quantifies (some, one, lots; describer after noun; errors with “lots of”)
 - Using prepositional phrases (some use with some errors)
- **Objectives**
 - *High Level:* Adding details to writing by expanding after nouns using prepositional and finite phrases.

- *Low level:* Adding 's to possessive nouns

Use of Processes

Causatives <i>(help her clean, let's see)</i>		Phases <i>(stop raining, begin writing)</i>	
Past Tense Stative Verbs <i>(was, were, had, have, liked, seemed, knew)</i>	Verb + Preposition <i>(clean up, sit down, breathe in)</i>	Verb + Infinitive <i>(try to dance, like to play, tend to smile)</i>	Helping Verb + Verb <i>(can, will, shall, may, must, need, have to, used to)</i>
Stative Verbs <i>(am, is, are, have, has, like, know)</i>		Action Verbs <i>(jump, kick, go)</i>	
		Past Tense Action Verbs <i>(jumped, kicked, went)</i>	

PROCESSES DEFINITIONS & EXAMPLES

What are processes?

- the 'does, makes, or is'
- a verbal word group
- the action being done or taking place

Stative Verbs

- *is, am, are, was, were*
- *have, has, had*
- *like, seem, prefer, know, understand*

Action Verbs

- *jump, dance, give, call, reach*

Mental Processes

- *think, believe, see, hear, like, hate, want, hope*

Verbal Processes

- *say, tell, ask, reply, suggest*

Verb + Preposition

- when the preposition is attached to the verb (not a participant)
- *clean up, breathe in, sit down, apply for, believe in*

Verb + Infinitive

- *decide to call, plan to graduate, offer to help, hope to win*

Helping Verb + Verb

- Primary Helping Verbs
 - *is, am, are, was, were, be, being, been*
 - *have, had, had*
 - *do*
- Modal Helping Verbs
 - *can, could*
 - *may, might*
 - *will, would*
 - *shall, should*
 - *must*
- Semi-Modal Helping Verbs
 - *need, dare, have to, used to, going to*

Phases

- verb + verb
- the first verb provides information about the second verb
- *stop fishing, began restoring, avoid talking*

Causatives

- verb + participant + verb
- *keep the game going, makes me jump, let him win*

Use of Processes Example 1 (Low Group)

Causatives <i>(help her clean, let's see)</i>		Phases <i>(stop raining, begin writing)</i>	
Past Tense Stative Verbs <i>(was, were, had, have, liked, seemed, knew)</i> had, is were, were is	Verb + Preposition <i>(clean up, sit down, breathe in)</i> jump down	Verb + Infinitive <i>(try to dance, like to play, tend to smile)</i> want to play, love swim, like sleep, not like swim	Helping Verb + Verb <i>(can, will, shall, may, must, need, have to, used to)</i> is eat
 Stative Verbs <i>(am, is, are, have, has, like, know)</i> am, is, have, need, want, like 		 Action Verbs <i>(jump, kick, go)</i> eat, play, write, run, do, look, color, win, see 	
 Past Tense Action Verbs <i>(jumped, kicked, went)</i> came, went, ran 			

Use of Processes Example 2 (Mid Group)

<p>Causatives (<i>help her clean, let's see</i>)</p> <p style="text-align: center;">help mom cook, helped mom cook</p>		<p>Phases (<i>stop raining, begin writing</i>)</p>	
<p>Past Tense Stative Verbs (<i>was, were, had, have, liked, seemed, knew</i>)</p> <p style="text-align: center;">was, had</p>	<p>Verb + Preposition (<i>clean up, sit down, breathe in</i>)</p> <p style="text-align: center;">turn around, am talk about</p>	<p>Verb + Infinitive (<i>try to dance, like to play, tend to smile</i>)</p> <p style="text-align: center;">love to play, go to eat, want play, went hotel sleep</p>	<p>Helping Verb + Verb (<i>can, will, shall, may, must, need, have to, used to</i>)</p> <p style="text-align: center;">can play, must play, is go, is come, not working, cooking</p>
<p>Stative Verbs (<i>am, is, are, have, has, like, know</i>)</p> <p style="text-align: center;">am, is, have, love, think, see, like</p>		<p>Action Verbs (<i>jump, kick, go</i>)</p> <p style="text-align: center;">play, fight, put, sleep, eat, sit, swim, ride, get, go, give, visit, watch, buy, look, ask</p>	
		<p>Past Tense Action Verbs (<i>jumped, kicked, went</i>)</p> <p style="text-align: center;">went, finished, won, ate, slept, maked, have play</p>	

Use of Processes Example 3 (High Group)

<p>Causatives (<i>help her clean, let's see</i>)</p>		<p>Phases (<i>stop raining, begin writing</i>)</p> <p>went camping</p>	
<p>Past Tense Stative Verbs (<i>was, were, had, have, liked, seemed, knew</i>)</p> <p>was, had</p>	<p>Verb + Preposition (<i>clean up, sit down, breathe in</i>)</p> <p>can't wake up, can't coming back</p>	<p>Verb + Infinitive (<i>try to dance, like to play, tend to smile</i>)</p> <p>want to visit, sent to see</p>	<p>Helping Verb + Verb (<i>can, will, shall, may, must, need, have to, used to</i>)</p> <p>don't want, was texting, will see, was cry, is played</p>
<p>Stative Verbs (<i>am, is, are, have, has, like, know</i>)</p> <p>is, are, have, like, enjoy</p>	<p>Action Verbs (<i>jump, kick, go</i>)</p> <p>go, play, dance, eat, see, hear, die, ride, sleep, pay, start, wear, try, cry, tell</p>	<p>Past Tense Action Verbs (<i>jumped, kicked, went</i>)</p> <p>came, went, told, brought, ate, saw</p>	

Example 1:

- **Mastered**
 - Using stative verbs
 - Using action verbs
- **Emerging**
 - Using some past tense stative verbs. (Correct use of “had”. Use or errored constructions “is were” and “were is” instead of “was”)
 - Using some past tense action verbs (Correct use of irregular past tense verbs “came”, “went”, “ran”. No use of –ed verbs.)
 - Using some verbs + prepositions. (Correct use—“jump down”)
 - Using some verbs + infinitives (Correct use of “want to play”, several uses of errored constructions two verbs without the “to”, e.g. “like sleep”)
 - Using some helping verbs (Errored construction—“is eat”)
- **Objectives**
 - *High Level:* Writing about experiences that happened in the past.
 - *Low level:* Using regular past tense action verbs (-ed) and “to be” (was, were).

Example 2:

- **Mastered**
 - Using stative verbs
 - Using action verbs
- **Emerging**
 - Using some past tense stative verbs. (Correct use of “was”, and “had”)
 - Using some past tense action verbs. Mostly Irregular. (Correct use of “went”, “won”, “finished”, “won”, “ate”, and “slept”. Use or errored constructions “maked” and “have play”)
 - Using some verbs + prepositions. (Correct use of “turn around”. Use of errored construction “am talk about”)
 - Using some verbs + infinitives (Correct use of “love to play” and “go to eat”, several uses of errored constructions two verbs without the “to”, e.g. “want play”)
 - Using some helping verbs (Correct use of “can” and “must” as helping verbs. Several uses of errored constructions omitting either the “is” or the “-ing”)
 - Using some causatives (Correct constructions—“help mom cook”, “helped mom cook”.
- **Objectives**
 - *High Level:* Writing about experiences that happened in the past.
 - *Low level:* Using regular past tense action verbs (-ed) and the use of the primary helping verb “to be” (was, were) in past tense verb constructions.

Example 3:

- **Mastered**
 - Using stative verbs
 - Using action verbs
- **Emerging**
 - Using some past tense stative verbs. (Correct use of “was”, and “had”)

- Using some irregular past tense action verbs. Mostly irregular. (Correct use of “came”, “went”, “told”, “brought”, “ate”, “saw”)
- Using some verbs + prepositions. (Correct use-“can’t wake up”. Errored construction-“can’t coming back”.)
- Using some verbs + infinitives (Correct use ”want to visit”, “sent to see”.)
- Using some helping verbs (Correct use of the helping verbs “do”, “was”, and “will”. Errored constructions omitting the -ing—“was cry” and “is played”)
- Using some phases. (Correct use-“went camping”)
- **Objectives**
 - *High Level:* Writing about experiences that happened in the past.
 - *Low level:* Using regular past tense action verbs (-ed) and the use of the primary helping verb “to be” (was, were) in past tense verb constructions.

Use of Circumstances

<p>When—Dependent Clauses <i>(after they won, when he called)</i></p>	<p>When—Prepositional Phrases <i>(on Dec 25th, at 5pm, on Friday)</i></p>	<p>How—Phrases <i>(faster than me, like lightening, as hot as the sun)</i></p>
<p>When—Several Words <i>(one day, last year, a few years ago)</i></p>	<p>Where—Prepositional Phrases <i>(under the table, on the chair)</i></p>	<p>How—Several Words <i>(so funny, slow and steady, upside down)</i></p>
<p>When—1 Word <i>(now, later, before)</i></p>	<p>Where—Simple <i>(here, downstairs, backwards)</i></p>	<p>How—1 Word <i>(alone, carelessly, delicious)</i></p>

CIRCUMSTANCES DEFINITIONS & EXAMPLES

What are circumstances?

- the 'when, where, how'
- an adjectival word group
- factors restricting the time and space boundaries of the action and participants
- can be left out of a sentence without impacting grammatical completeness
- can be added by asking questions (when?, where?, how?)

When

- **1 Word**
 - adverbs
 - *now, later, before, after, earlier, tomorrow, today, yesterday*
- **Several Words**
 - a group of words that acts as an adverb (often an adjective +noun)
 - *one day, last year, a few years ago, the day after tomorrow, this semester*
- **Prepositional Phrases**
 - prepositional phrase that acts as an adverb
 - *in an hour, at 5 in the morning, after the game, during the weekend, on Mon.*

Where

- **Simple Words/Groups of Words**
 - singular adverbs or those joined by a conjunction
 - *here, there, downstairs, towards, above, under, here nor there, up and down*
- **Prepositional Phrases**
 - prepositional phrase that acts as an adverb
 - *in the box, on the shelf, under the bed, inside the house, at the store*

How

- **1 Word**
 - adjectives and adverbs
 - *pretty, tired, hungry, delightful, carelessly, fast,*
- **Several Words**
 - 2 words that act as an adjective or adverb
 - *very nice, absolutely delicious, quick and easy*
- **Phrases**
 - a group of 3 or more words that act as an adjective or adverb
 - *like a bird, slower than molasses, as hot as the sun*

Use of Circumstances Example 1 (Low Group)

<p>When—Dependent Clauses (<i>after they won, when he called</i>)</p>	<p>When—Prepositional Phrases (<i>on Dec 25th, at 5pm, on Friday</i>)</p> <p>for birthday</p>	<p>How—Phrases (<i>faster than me, like lightning, as hot as the sun</i>)</p>
<p>When—Several Words (<i>one day, last year, a few years ago</i>)</p>	<p>Where—Prepositional Phrases (<i>under the table, on the chair</i>)</p> <p>in water</p>	<p>How—Several Words (<i>so funny, slow and steady, upside down</i>)</p>
<p>When—1 Word (<i>now, later, before</i>)</p>	<p>Where—Simple (<i>here, downstairs, backwards</i>)</p> <p>here, far</p>	<p>How—1 Word (<i>alone, carelessly, delicious</i>)</p> <p>nice, fun, funny</p>

Use of Circumstances Example 2 (Mid Group)

<p style="text-align: center;">When—Dependent Clauses <i>(after they won, when he called)</i></p>	<p style="text-align: center;">When—Prepositional Phrases <i>(on Dec 25th, at 5pm, on Friday)</i></p> <p style="text-align: center;">in the summer, one week, long time, snack time, in summer, at Aug 9, at 15 min</p>	<p style="text-align: center;">How—Phrases <i>(faster than me, like lightening, as hot as the sun)</i></p>
<p style="text-align: center;">When—Several Words <i>(one day, last year, a few years ago)</i></p> <p style="text-align: center;">June 6th and June 16th</p>	<p style="text-align: center;">Where—Prepositional Phrases <i>(under the table, on the chair)</i></p> <p style="text-align: center;">at school, in the water, on the slide, my home, for the beach, at park, to the work</p>	<p style="text-align: center;">How—Several Words <i>(so funny, slow and steady, upside down)</i></p>
<p style="text-align: center;">When—1 Word <i>(now, later, before)</i></p> <p style="text-align: center;">first, second, third, yet, again, tomorrow, August 20, June 6th</p>	<p style="text-align: center;">Where—Simple <i>(here, downstairs, towards)</i></p> <p style="text-align: center;">here, outside, inside, outside or inside</p>	<p style="text-align: center;">How—1 Word <i>(alone, carelessly, delicious)</i></p> <p style="text-align: center;">together, fun, wonderful, better</p>

Use of Circumstances Example 3 (Mid Group)

<p>When—Dependent Clauses (<i>after they won, when he called</i>)</p>	<p>When—Prepositional Phrases (<i>on Dec 25th, at 5pm, on Friday</i>)</p> <p>for 2 nights, on June 25th, while school, on the May 31st</p>	<p>How—Phrases (<i>faster than me, like lightning, as hot as the sun</i>)</p>
<p>When—Several Words (<i>one day, last year, a few years ago</i>)</p> <p>one day, every day, long time ago</p>	<p>Where—Prepositional Phrases (<i>under the table, on the chair</i>)</p> <p>at church, in heaven, to work, to the beach, sand, in table, in car, at lake</p>	<p>How—Several Words (<i>so funny, slow and steady, upside down</i>)</p> <p>so big, so fun, so delicious, so good, so much fun, great fun</p>
<p>When—1 Word (<i>now, later, before</i>)</p> <p>first, after, sometime, Saturday, Jun 1st</p>	<p>Where—Simple (<i>here, downstairs, towards</i>)</p> <p>inside, outside, upstate, there, back home</p>	<p>How—1 Word (<i>alone, carelessly, delicious</i>)</p> <p>hard, fun, same, sad, unfair, sorry, new, wonderful</p>

Example 1:

- **Emerging**
 - Using simple ‘where’ words/groups of words (Correct use of “here” and “far”)
 - Using ‘where’ prepositional phrases (Flawed construction--“in water”. Missing article)
 - Using ‘when’ prepositional phrases (Flawed construction--“for birthday”. Missing possessive pronoun)
 - Using ‘how’ words (Correct use of “nice”, “fun”, “funny”)
- **Objectives**
 - *High Level:* Adding details to recount writing to help the reader visualize.
 - *Low level:* None

Example 2:

- **Mastered**
 - Using ‘when’ words
 - Using ‘where’ words/groups of words
- **Emerging**
 - Using ‘how’ words (Correct use of several simple adjectives.)
 - Using several ‘when’ words (1 correct use—“June 6th and June 16th)
 - Using ‘where’ prepositional phrases (Correct use of several phrases. Some flawed constructions—missing the preposition, using the wrong preposition, inserting or omitting articles)
 - Using ‘when’ prepositional phrases (Correct use of several phrases. Some flawed constructions—missing the preposition, using the wrong preposition, inserting or omitting articles)
- **Objectives**
 - *High Level:* Adding details to recount writing to help the reader visualize.
 - *Low level:* Choosing the correct preposition in prepositional phrases.

Example 3:

- **Mastered**
 - Using ‘when’ words
 - Using ‘where’ words/groups of words
- **Emerging**
 - Using ‘how’ words (Correct use of several simple adjectives.)
 - Using several ‘when’ words (Correct use of several phrases.)
 - Using ‘where’ prepositional phrases (Correct use of several phrases. Some flawed constructions—missing the preposition, using the wrong preposition, inserting or omitting articles)
 - Using ‘when’ prepositional phrases (Correct use of several phrases. Some flawed constructions—missing the preposition, using the wrong preposition, inserting or omitting articles)
 - Using several ‘how’ words (Correct use of several word groups)
- **Objectives**
 - *High Level:* Adding details to recount writing to help the reader visualize.
 - *Low level:* Choosing the correct preposition in prepositional phrases.

APPENDIX E

Pilot Study – Interview Protocol

1. Has the functional language professional development that we did in October and then again in January changed the way that you view student language objectives?
2. Do you think that it's changed the way that you approach instruction?
3. What's your opinion of using this kind of analysis to look at student writing and to set language objectives?
4. Do you think that teachers who are new to SIWI should be trained in using this kind of an approach?
5. Do you have any suggestions on how we could approach professional development regarding functional language assessment?
6. Do you have any suggestions in terms of materials for teachers that could be helpful?
7. You went through the process of setting language objectives using this approach, what was that process like for you?

APPENDIX F

Dissertation Study – Initial Inventory Draft

Individual Student Language Checklist

Directions: Look for examples of each of the following building blocks in the student’s writing. Use hash marks to document correct uses in the corresponding box. Record each the attempt (incorrect use in the corresponding in the corresponding column. Use a different colored writing utensil each time you analyze samples so you can see growth over time.

Building Block	Correct Uses	Attempts
<i>PARTICIPANTS</i> 1 st Person Personal Pronouns		
<i>PARTICIPANTS</i> 3 rd Person Personal Pronouns		
<i>PROCESSES</i> Simple Past Action Verbs		
<i>PROCESSES</i> Past Stative Verbs		
<i>CIRCUMSTANCES</i> One-Word Time Markers		
<i>CIRCUMSTANCES</i> Several-Word Time Markers		
<i>CIRCUMSTANCES</i> One-Word Place Markers		
<i>PROCESSES</i> Uses Present Stative Verbs		
<i>PARTICIPANTS</i> Personal Pronoun + Noun		
<i>PARTICIPANTS</i> Series of Nouns + Pronouns		
<i>PARTICIPANTS</i> Definite Article + Noun		
<i>PARTICIPANTS</i> Indefinite Article + Noun		
<i>PARTICIPANTS</i> Adjective + Noun		
<i>CIRCUMSTANCES</i> Prepositional Phrases to Tell Where		
<i>CIRCUMSTANCES</i> Prepositional Phrases to Tell When		
<i>PROCESSES</i> Past Progressive Action Verbs		
<i>CIRCUMSTANCES</i> Dependent Clauses to Tell When		

APPENDIX G

Dissertation Study – Writing Prompts

1. Your class will be visiting a kindergarten class next week to tell them about teachers. Choose 2-4 teachers to write about for the kindergartners. You can pick any teacher you want—the funniest, most interesting, most strict, the nicest or most challenging. Tell the kindergartners all the important information and facts you know about each teacher so they can learn about the teachers they might have in the future. Be sure to include information, facts, and details you know that will help the kindergartners learn about the teachers.
2. Your class will be visiting a kindergarten class next week to tell them about toys and games. Choose 2-4 toys or games to write about for the kindergartners. You can pick any toy or game you want—the most fun, the most adventurous, the most interesting, the most challenging or the most exciting. Tell the kindergartners all the important information and facts you know about each toy or game so they can choose one to try. Be sure to include information, facts, and details you know that will help the kindergartners learn about the toys and games.
3. Your class will be visiting a kindergarten class next week to teach them about animals and insects. Choose 2-4 different animals or insects to write about for the kindergartners. You can pick any insects or animals you want—the largest, funniest, most interesting, most colorful, or strongest. Tell the kindergartners all the important information and facts you know about each animal or insect so they can choose one to read more about. Be sure to include information, facts, and details you know that will help the kindergartners learn about the animals or insects.

Information Report Prompt A

Choose 2-4 teachers to write about for the kindergartners. Tell them all the important information and facts you know.



Information Report Prompt B

Choose 2-4 toys or games to write about for the kindergartners. Tell them all the important information and facts you know.



Information Report Prompt C

Choose 2-4 animals or insects to write about for kindergartners. Tell them all the important information and facts you know.



APPENDIX H

Dissertation Study – Coding Notes

Process	General Meaning	Participant 1	Participant 2	<i>Other Participants</i>	Example
Material (action, event)	doing, happening	Actor	(Goal/ Beneficiary/ Scope)	<i>Recipient/Client/ Scope/Attribute</i>	John hit the ball. John gave the ball to Jane. John climbed the mountain.
Mental (perception , affection, cognition)	sensing, seeing, thinking, wanting, feeling	Senser	Phenomenon/ [Projection]	<i>Attribute/Inducer</i>	John likes Jane.
Relational: Attributive	(being) attributing	Carrier	Attribute		John is nice.
Relational: Identifying	(being) identifying	Identifier/ Token	Identified/ Value	<i>Attributer/ Beneficiary/Assigner</i>	John is a lawyer.
Behavioral	behaving	Behaver	(Behavior)		John is laughing.
Verbal	saying	Sayer	(Verbiage)/ [Projection]	<i>Receiver/Target</i>	John told me a story.
Existential	existing	Existent			There was a tree.

Summary of Process and Participant Types (adapted from Halliday & Matthiessen, 2014, p. 311 and Fontaine, 2013, p. 77).

Type	Sub-Type	Question Answered	Example
Extent	distance	<i>How far?</i>	He ran three miles.
	duration	<i>How long?</i>	He ran for three day.
	frequency	How frequently?	He ran every day.
Location	place	Where?	He ran in Toronto.
	time	When?	He ran last year.
Manner	means	By what means?	He saved her with a rope.
	quality	How?	She saved him quickly.
	comparison	Like what?	She ran like the wind.
	degree	How much?	She loved him more than anyone.
Cause	reason	Why?	She ran because she loved to.
	purpose	For what purpose?	She ran to raise money.
	behalf	On whose behalf?	She ran for her sister.
Contingency	condition	Under what conditions?	In the even of fire leave the building.
	default	Under what negative conditions?	Without an agreement, the plan will fail.
	concession	With what concessions?	Despite her help, the plan failed.
Accompaniment	comitative	Who/what with?	John ran with Jane.
	additive	Who/what else?	John wears mittens in addition to his gloves.
Role	guise	What as?	She spoke as his mentor.
	product	What into?	He was transformed into a prince.
Matter	matter	What about?	He warned me about the film.
Angle	source	According to whom?	According to the lecturer, the class is cancelled.
	viewpoint	From whose viewpoint/perspective?	To me, he's an idiot.

Summary of Circumstance Types (adapted from Halliday & Matthiessen, 2014, p. 313-314 and Fontaine, 2013, p. 87).

APPENDIX I

Dissertation Study – List of Codes

Errors:

- adverb verb
- incorrect tense
- indefinite instead of definite article
- me instead of I
- missing article
- missing commas in noun series
- missing helping verb
- missing linking verb
- missing preposition
- missing ‘s
- missing subject
- missing “to” in infinitive
- noun adjective
- incorrect order of modifiers
- rhetorical question
- should be plural
- subject verb agreement
- unnecessary linking verb
- unnecessary “and”
- unnecessary article
- unnecessary preposition

Participants:

SINGLE NOUNS

- proper noun
- count noun
- mass noun
- plural noun
- gerund

SINGLE PRONOUNS

- 1st person subject PN
- 2nd person subject PN
- 3rd person subject PN
- 1st person object PN
- 2nd person object PN
- 3rd person object PN
- Possessive PN
- Demonstrative PN
- Interrogative PN

- Existential There
- Existential Here

JOINED NOUNS/PRONOUNS

- 2 N or PN joined by a conjunction
- 3+ N or PN in a comma series

NOUN PHRASES EXPANDED BEFORE THE NOUN

- indefinite article + N
- definite article + N
- demonstrative + N
- possessive + N
- possessive PN + N
- quantifier + N
- partitive + N
- quantifier + N
- describer + N
- classifier + N
- inclusive/exclusive + N

NOUN PHRASES EXPANDED AFTER THE NOUN

- N + prepositional phrase
- N + finite phrase
- N + nonfinite phrase
- N + example

IMBEDDED NOUN CLAUSE

- verbiage
- relative clause
- question word clause
- other clause

Processes:

VERB TYPE

- linking—to be—present
- linking—to be—past
- linking—to have—present
- linking—to have—past
- linking—other—present
- linking—other—past
- other stative—present
- other stative—past
- action present
- action past

HELPING VERBS

- helping verb—to be
- helping verb—to have
- helping verb—to do

- modal helping verb
- semi-modal helping verb

PHRASAL VERBS

- verb + infinitive
- verb + noun + verb
- verb + adverb
- verb + preposition

VERB and VERB

Circumstances:

- When?
- Where?
- Why?
- How?
- How often?
- How long?
- With what condition?
- Like what?
- To what extent?
- With or from whom?
- Prepositional Phrase
- Dependant Clause

APPENDIX J

Dissertation Study – Final Draft of Inventory

Kilpatrick D/HH Student Written Language Inventory

Purpose: This assessment tool was developed to provide teachers of d/hh students with a way to take inventory of their students' written language repertoire by documenting the syntactic (grammatical) structures a child is using and attempting to use. Using this inventory can help teachers set sentence-level writing objectives and provide developmentally appropriate writing instruction.

Development: The inventory was developed using the findings of a Systemic Functional Grammar (SFG; Halliday & Matthiessen, 2014) analysis of the information writing samples of 74 d/hh and 24 hearing 3rd-5th grade students. The analysis identified the syntactic structures used most frequently by students at different stages of written language development.

Syntactic Structure Labels: In the inventory, structures are labeled in 2 ways. They are grouped by function into 3 groups represented by colors: nouns and noun phrases (red), verbs and verb phrases (green), and adverbs and adverbial phrases (blue). Within each functional group, structures have been named by their form using traditional grammar labels.

Inventory Components: There are three major components:

- *Syntactic Structure Progression Charts* – 3 charts, 1 for each functional group with structures organized from simple (bottom) to advanced (top)
- *Individual Student Checklist* – 3 levels, to be used to take inventory of the structures a student is using in his/her writing
- *Class Objective Setting Guide* – to be used to group students and set class, group, or individual objectives

Levels: The inventory has been divided into three levels of written language development:

- *I - Emergent & Developing* – students are beginning to convey ideas through words and word combinations (attempted sentences)
- *II - Beginning & Early Novice* – students are beginning to convey ideas through simple sentences and paragraphs
- *III - Novice & Independent* – students are beginning to expand, support, and organize their ideas through compound and complex sentences and paragraphs

Each level contains the structures used most frequently by d/hh students at that stage of development. Use the Individual Student Checklist for the level you think best matches a student's level of development.

Important Notes:

- Language development is a complex process; children are unique and do not all take the same path to proficiency. Evaluators and teachers should keep in mind that this

inventory is a guiding framework and students will not acquire the syntactic structures at the same pace or in the same order.

- Language features of different genres vary. For example, past tense verbs are more likely to be used in recounts and narratives than they are in information report or persuasive writing. Teachers should keep the language needs of each genre in mind when setting objectives.
- You may place a particular structure in multiple categories. For example “three cars” would be both *quantifier + noun* and *plural noun*.

Definitions: Traditional grammar labels have been used throughout the inventory. Examples have been provided to assist evaluators and teachers. Some labels with which professionals may be less familiar have been defined below.

- *Classifier* – an adjective or noun that modifies a noun by further classifying the noun (ex. dirt track, car crash, science class)
- *Descriptor* - an adjective that modifies a noun by providing information about the quality of the noun or the writer’s attitude towards the noun (ex. small dog, good book, horrible day)
- *Finite Phrase* – a postmodifying phrase that follow a noun and begin with a relative pronoun (who, whom, which, that), also referred to as relative clause (ex. the dog that barks)
- *Nonfinite Phrase* - postmodifying phrase with the relative pronoun deleted, also referred to as reduced relative clause (ex. the dog barking)
- *Partitive* – a structure which consists of two nouns linked by “of”, allows a mass noun to be counted (ex. a piece of pie)
- *Stative Verb* – a verb that expresses a state rather than an action, usually related to thoughts, emotions, relationships, senses, and states of being (ex. am, is, are, have, has, like, know, see)
- *Modal Helping Verb* – a verb used in conjunction with a main verb to modify the verb in some way by expressing necessity, possibility, or time (ex. can run, should run, must run)
- *Semi-Modal Helping Verb* – a combination of words which functions in the same way as a modal helping verb (ex. be able to run, have to run)
- *Infinitive* – “to” followed by the simple form of a verb (ex. to run, to walk, to read)

Tricky Constructions:

- Students often use the simple sentence construction: noun/pronoun + have/had fun. For example, “We had fun.” The verb “had” typically conveys possession; however, in this construction, the complete verb (or process) is “had fun” and should be coded as a *past tense action verb*.
- Students often use a simple sentence construction that looks like this: noun + linking verb + predicate adjective. What do we do with the adjective!?! In SFG, predicate adjectives are considered to be part of the participant. For example, in the sentence “Dogs are cute”, the predicate adjective “cute” is part of the participant “dogs”. You have two choices. You can choose to not include predicate adjectives. This is the option I would choose. However, you may find a student is using this sentence pattern often and you want the predicate adjectives to be documented. If so, you can make note of these structures by including them where you would if the student had included the adjective as

part of a noun phrase. For example, if the student wrote “Dogs are cute”, the participant would be “cute dogs”. You would categorize it as *describer + noun* and *plural noun*.

Nouns & Noun Phrases

Partitive + N <i>a piece of pie, a slice of pizza</i>	Demonstrative + N <i>this bag, that box</i>	Existential There <i><u>There</u> are 50 states.</i>	Question Word N Clauses <i>Knoxville is <u>where I live.</u></i>	Other N Clauses <i>I think <u>he plays football.</u></i>
N + Prep Phrase <i>the girl with blonde hair, the book on the table</i>		N + Finite Phrase <i>the woman who lives there, the dog that barks</i>		N + Nonfinite Phrase <i>the boy swimming in the park</i>
2nd & 3rd Person Subject PN <i>you, he, she it, they</i>	Object PN <i>me, you, him, her, it, them</i>	Demonstrative PN <i>this, that, these, those</i>	Article + N <i>the zoo, a book, an author</i>	Quantifier + N <i>four kids, some days, many cats</i>
Plural <i>classes, iPads, cheerleaders</i>	Describer/ Classifier + N <i>small dog, good book, dirt track, car crash</i>	Multiple Nouns/Pronouns <i>cats and dogs; Dad, Mom, and Jill</i>		Possessive N/PN + N <i>Tori's pencil, Mom's car</i>
1st Person Subject PN <i>I, we</i>		Proper <i>Ashley, New Jersey, Disneyworld</i>		Common <i>tree, car, summer</i>

Verbs & Verb Phrases

Primary Helping <i>to be, to do, to have</i>		Semi-Modal Helping <i>be able to, have to, going to, used to</i>		Verb + Noun + Verb <i>let us read, make you work</i>	
Verb + Infinitive <i>try to dance, like to play, tend to smile</i>	Past Tense Stative <i>was, were, had, have, liked, seemed, knew</i>		Past Tense Action <i>jumped, kicked, went</i>		Verb + Preposition <i>clean up, sit down, breathe in</i>
Present Tense Action <i>jump, kick, go, have fun</i>		Present Tense Stative <i>am, is, are, have, has, like, know</i>		Modal Helping V + V <i>can, could, will, would, shall, should, may, might, must</i>	

Adverbs & Adverbial Phrases

How often? <i>always, never, once, sometimes</i>		Like who or what? <i>like Ms. Smith, like a diamond</i>	
With what condition? Dependent Clause <i>if I need help, when we run</i>	When? Dependent Clause <i>after they won, when he called</i>	Why? Dependent Clause <i>because I like dogs</i>	How? & How? Prepositional Phrase <i>fast, with one gulp, in a good way</i>
Where? <i>here, downstairs, outside</i>	When? <i>later, before, last year, one day</i>	Where? Prepositional Phrase <i>at home, in class</i>	When? Prepositional Phrase <i>on Dec 25th, at 5pm</i>

Student Name: _____

Dates: _____

Individual Student Checklist—Level I

Emergent & Developing Writers

Directions: This checklist is intended for use with students who are just beginning to convey ideas through words and some attempted sentences. It contains the simple and intermediate structures most likely to be found in d/hh emergent, developing, and beginning writers’ writing. Look for uses of each of the structures in the student’s writing. Examples have been provided to guide this process. In the correct uses column, place a check on the provided lines for each correct use found in the student’s writing. After 3 correct uses, place an X in the box. In the incorrect attempts column, record each incorrect attempt found in the student’s writing. *Tips* – Use a different colored writing utensil each time you analyze samples so you can see growth over time. When setting objectives consider the language typically used in each genre. For example, past tense verbs are more likely to be used in recount or narrative writing than in other genres.

Structure	Correct Uses	Incorrect Attempts & Other Notes
1st Person Subject Pronouns <i>(I, we)</i>	---- <input type="checkbox"/>	
Proper Nouns <i>(Ashley, New Jersey, Disneyworld)</i>	---- <input type="checkbox"/>	
Common Nouns <i>(tree, car, summer)</i>	---- <input type="checkbox"/>	
Plural Nouns <i>(classes, iPads, cheerleaders)</i>	---- <input type="checkbox"/>	
Present Tense Action <i>(jump, kick, go)</i>	---- <input type="checkbox"/>	
Present Tense Stative <i>(am, is, are, have, has, like, know)</i>	---- <input type="checkbox"/>	
Modal Helping V + V <i>(can, could, will, would, should)</i>	---- <input type="checkbox"/>	
Where? <i>(here, downstairs, outside)</i>	---- <input type="checkbox"/>	
*Classifier/Describer + Noun <i>(small dog, good book, dirt track, car crash)</i>	---- <input type="checkbox"/>	

*Multiple Nouns/Pronouns (cats and dogs; Dad, Mom, and Jill)	---- <input type="checkbox"/>	
*Possessive Noun/Pronoun + Noun (Tori's pencil, Mom's car)	---- <input type="checkbox"/>	
*Verb + Infinitive (try to dance, like to play, tend to smile)	---- <input type="checkbox"/>	
*When? (later, before, last year, one day)	---- <input type="checkbox"/>	
*Where? Prepositional Phrases (at home, in class)	---- <input type="checkbox"/>	
*When? Prepositional Phrases (on Dec 25 th , at 5pm)	---- <input type="checkbox"/>	

**structure is also included in Level II*

Note: Level I is appropriate for assessing students with emergent and developing written language skills. It contains the simple structures most likely to be found in d/hh emergent and developing writers' writing. If the student uses intermediate structures that are not included in Level I, you might like to make note of these uses below or on the back of this page. Once student is consistently using the first 8 simple structures (e.g. 1st person subject pronouns, unexpanded nouns, present tense verbs, etc.) to attempt to construct simple sentences, you should begin to use the Level II Inventory to assess his/her writing.

Student Name: _____

Dates: _____

Individual Student Checklist—Level II

Beginning & Early Novice Writers

Directions: This checklist is intended for use with students who are beginning to convey ideas through simple sentences and paragraphs. It contains intermediate structures most likely to be found in d/hh beginning, novice, and independent writers’ writing. Look for uses of each of the structures in the student’s writing; examples have been provided to guide this process. It assumes the student is using simple structures not included (i.e. unexpanded nouns and present tense verbs). In the correct uses column, place a check on the provided lines for each correct use found in the student’s writing. After 3 correct uses, place an X in the box. In the incorrect attempts column, record each incorrect attempt found in the student’s writing. *Tips* – Use a different colored writing utensil each time you analyze samples so you can see growth over time. When setting objectives consider the language needs of each genre. For example, past tense verbs are more likely to be used in recount or narrative writing than in other genres.

Structure	Correct Uses	Incorrect Attempts & Other Notes
Classifier/Describer + Noun <i>(small dog, good book, dirt track, car crash)</i>	---- <input type="checkbox"/>	
Multiple Nouns/Pronouns <i>(cats and dogs; Dad, Mom, and Jill)</i>	---- <input type="checkbox"/>	
Possessive Noun/Pronoun + Noun <i>(Tori’s pencil, Mom’s car)</i>	---- <input type="checkbox"/>	
Verb + Infinitive <i>(try to dance, like to play, tend to smile)</i>	---- <input type="checkbox"/>	
When? <i>(later, before, last year, one day)</i>	---- <input type="checkbox"/>	
Where? Prepositional Phrases <i>(at home, in class)</i>	---- <input type="checkbox"/>	
When? Prepositional Phrases <i>(on Dec 25th, at 5pm)</i>	---- <input type="checkbox"/>	
*2nd & 3rd Person Subject Pronoun <i>(you, he, she it, they)</i>	---- <input type="checkbox"/>	
*Object PN <i>(me, you, him, her, it, them)</i>	---- <input type="checkbox"/>	
*Demonstrative Pronoun <i>(this, that, these, those)</i>	---- <input type="checkbox"/>	

*Article + N <i>(the zoo, a book, an author)</i>	---- <input type="checkbox"/>	
*Quantifier + N <i>(four kids, some days, many cats)</i>	---- <input type="checkbox"/>	
*N + Prep Phrase <i>(the girl with blonde hair, the book on the table)</i>	---- <input type="checkbox"/>	
*N + Finite Phrase <i>(the woman who lives there, the dog that barks)</i>	---- <input type="checkbox"/>	
*N + Nonfinite Phrase <i>(the boy swimming in the park)</i>	---- <input type="checkbox"/>	
*Past Tense Stative <i>(was, were, had, have, liked, seemed, knew)</i>	---- <input type="checkbox"/>	
*Past Tense Action <i>(jumped, kicked, went)</i>	---- <input type="checkbox"/>	
*Verb + Preposition <i>(clean up, sit down, breathe in)</i>	---- <input type="checkbox"/>	
*With what condition? Dependent Clause <i>(if I need help, when we run)</i>	---- <input type="checkbox"/>	
*When? Dependent Clause <i>(after they won, when he called)</i>	---- <input type="checkbox"/>	
*Why? Dependent Clause <i>(because I like dogs)</i>	---- <input type="checkbox"/>	
*How? & How? Prepositional Phrase <i>(fast, with one gulp, in a good way)</i>	---- <input type="checkbox"/>	

**structure is also included in Level III*

Note: Level II is appropriate for assessing students with beginning and early novice written language skills. It contains the structures most likely to be found in d/hh beginning and early novice writers' writing. If the student uses advanced structures that are not included in Level II, you might like to make note of these uses below or on the back of this page. Once student is consistently using the first 7 simple structures (e.g. classifier/describer + noun, multiple nouns/pronouns, possessive noun/pronoun + noun, verb + infinitive, etc.) to construct simple sentences and paragraphs, you should begin to use the Level III Inventory to assess his/her writing.

Student Name: _____

Dates: _____

Individual Student Checklist—Level III

Novice & Independent Writers

Directions: This checklist is intended for use with students who are expanding, supporting, and organizing their ideas. It contains intermediate and advanced structures most likely to be found in d/hh novice and independent writers’ writing and hearing writers’ writing. Look for uses of each of the structures in the student’s writing; examples have been provided to guide this process. It assumes the student is using simple structures not included (i.e. unexpanded nouns and present tense verbs). In the correct uses column, place a check on the provided lines for each correct use found in the student’s writing. After 3 correct uses, place an X in the box. In the incorrect attempts column, record each incorrect attempt found in the student’s writing. *Tips* – Use a different colored writing utensil each time you analyze samples so you can see growth over time. When setting objectives consider the language needs of each genre. For example, past tense verbs are more likely to be used in recount or narrative writing than in other genres.

Structure	Correct Uses	Incorrect Attempts & Other Notes
2nd & 3rd Person Subject Pronoun <i>(you, he, she it, they)</i>	---- <input type="checkbox"/>	
Object PN <i>(me, you, him, her, it, them)</i>	---- <input type="checkbox"/>	
Demonstrative Pronoun <i>(this, that, these, those)</i>	---- <input type="checkbox"/>	
Article + N <i>(the zoo, a book, an author)</i>	---- <input type="checkbox"/>	
Quantifier + N <i>(four kids, some days, many cats)</i>	---- <input type="checkbox"/>	
N + Prep Phrase <i>(the girl with blonde hair, the book on the table)</i>	---- <input type="checkbox"/>	
N + Finite Phrase <i>(the woman who lives there, the dog that barks)</i>	---- <input type="checkbox"/>	
N + Nonfinite Phrase <i>(the boy swimming in the park)</i>	---- <input type="checkbox"/>	
Past Tense Stative <i>(was, were, had, have, liked, seemed, knew)</i>	---- <input type="checkbox"/>	
Past Tense Action <i>(jumped, kicked, went)</i>	---- <input type="checkbox"/>	

Verb + Preposition <i>(clean up, sit down, breathe in)</i>	---- <input type="checkbox"/>	
With what condition? Dependent Clause <i>(if I need help, when we run)</i>	---- <input type="checkbox"/>	
When? Dependent Clause <i>(after they won, when he called)</i>	---- <input type="checkbox"/>	
Why? Dependent Clause <i>(because I like dogs)</i>	---- <input type="checkbox"/>	
How? & How Prepositional Phrase <i>(fast, with one gulp, in a good way)</i>	---- <input type="checkbox"/>	
Partitive + N <i>(a piece of pie, a slice of pizza)</i>	---- <input type="checkbox"/>	
Demonstrative + N <i>(this bag, that box)</i>	---- <input type="checkbox"/>	
Existential There <i>(There are 50 states).</i>	---- <input type="checkbox"/>	
Question Word N Clauses <i>(Knoxville is where I live.)</i>	---- <input type="checkbox"/>	
Other N Clauses <i>(I think <u>he</u> plays football.)</i>	---- <input type="checkbox"/>	
Primary Helping <i>(to be, to do, to have)</i>	---- <input type="checkbox"/>	
Semi-Modal Helping <i>(be able to, have to, going to, used to)</i>	---- <input type="checkbox"/>	
Verb + Noun + Verb <i>(let us read, make you work)</i>	---- <input type="checkbox"/>	
How often? <i>(always, never, once, sometimes)</i>	---- <input type="checkbox"/>	
Like who or what? <i>(like Ms. Smith, like a diamond)</i>	---- <input type="checkbox"/>	

Class Objective Setting Guide

Directions - Write the students' initials in the first row. Then, use the individual student checklists to complete the chart.

- If a student has no uses of a structure, leave the box empty.
- If a student has 1 or 2 uses of a structure, place a / in the box.
- If a student has 3 or more correct uses of a structure, place an X in the box.

Tips – Use a different colored writing utensil each time you analyze samples so you can see growth over time. When setting objectives consider the language needs of each genre. For example, past tense verbs are more likely to be used in recount or narrative writing than in other genres.

Student Initials																				Level I			
1st Person Subject Pronouns																						Level II	
Proper Nouns																							
Common Nouns																							
Plural Nouns																							
Present Tense Action Verbs																							
Present Tense Stative Verbs																							
Modal Helping Verb + Verb																							
Where? Adverbs																							
Classifier/Describer + Noun																							
Multiple Nouns/Pronouns																							
Possessive Noun/Pronoun + Noun																							
Verb + Infinitive																							
When? Adverbs																							
Where? Prepositional Phrases																							
When? Prepositional Phrases																							
2nd & 3rd Person Subject Pronouns																				Level III			
Object Pronouns																							
Demonstrative Pronouns																							
Article + Noun																							
Quantifier + Noun																							
Noun + Prepositional Phrase																							
Noun + Finite Phrase																							

Student Initials																					Level III	
Noun + Nonfinite Phrase																						
Past Tense Action Verbs																						
Past Tense Stative Verbs																						
Verb + Preposition																						
With what condition? Dependent Clause																						
When? Dependent Clauses																						
Why? Dependent Clauses																						
How? Adverbs																						
Partitive + Noun																						
Demonstrative + Noun																						
Existential There																						
Question Word Noun Clauses																						
Other Noun Clauses																						
Primary Helping Verbs																						
Semi-Modal Helping Verbs																						
Verb + Noun + Verb																						
How often? Adverbs																						
Like who or what?																						

Use the chart to help you set objectives. You might consider grouping students who are using and attempting to use structures around the same level of development. You can use the area below to note observations about students' syntactic development and to write sentence-level objectives.

VITA

Jennifer Renée Kilpatrick was born in Giessen, Germany in 1982, but she spent most of her childhood years in the suburbs of Richmond, Virginia. She earned a Bachelor of Science in Special Education from Liberty University in 2003 before beginning her teaching career in the rural foothills of the Blue Ridge Mountains. She taught elementary and high school students with a wide range of high and low incidence disabilities, but it was the deaf and hard of hearing students who stole her heart. After 3 years of teaching and coaching, she moved to Knoxville, Tennessee to work as a residential supervisor at the Tennessee School for the Deaf and pursue a Master of Science in Deaf Education at The University of Tennessee. Upon graduating, she moved to St. Augustine, Florida where she was a middle school Intensive Reading and Language Arts teacher at the Florida School for the Deaf and the Blind (FSDB) for 4 years. While teaching at FSDB, she also earned a Master of Education in Elementary Education with a concentration in Literacy from University of North Florida. She returned to The University of Tennessee to begin her doctoral studies and work as the Research Associate on a federally funded development project for Strategic and Interactive Writing Instruction. In this position, she has gained valuable research experience while collaborating with the members of the research team, as well as 28 deaf educators and their students, located throughout 10 states. Her research interests include the language and literacy development of d/hh students and the preparation and professional development of deaf educators. While pursuing her doctorate, Jennifer began a partnership with several non-profit organizations in Leveque, Haiti to support their efforts to establish Haiti Deaf Academy. She has traveled to Leveque several times to provide teacher training and professional development and plans to continue and expand this work after graduation. Upon acceptance of this dissertation, Jennifer will earn a PhD in Education with a concentration in Literacy Studies along with a Graduate Certificate in Evaluation, Statistics, and Measurement. She has accepted a position as an Assistant Professor at University of North Florida, where she will teach courses in Deaf Education and Literacy.