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Honors Project Reflection

Constructing a Grammatically Enriched Children's Book

December 11, 2017

My plan for HNRS 4980 was to create a children's book that focused on one specific morpheme, or grammatical structure: third person singular present tense (i.e., /3s). The intended purpose of this book is to serve as a grammatically rich resource of this structure for preschool age children with a language delay. More specifically, this book can be used as a clinical tool by speech-language pathologists in order to assist those with language delays in acquiring this difficult structure. Third person singular present tense is a morpheme that is acquired later in child language development due to its complexity, rarity and acoustic factors. Creating a clinical resource with an abundance of third person singular allows a clinician to deliver a copious amount of input in one sitting.

I carried out this plan in HNRS 4990, meticulously selecting each word for the sentences of my children's book, *Pete's First Baseball Game*. I focused on the allomorph type or form of /3s (i.e. /s/, /z/, or /əz/), the coda or sound at the end of inflected verb, the onset or sound at the beginning of the word following /3s, sentence position of /3s whether it be medial or final, if the inflected verb was transitive or intransitive and then state or action, and lastly the frequency of the inflected verb for children at 36- and 48-months of age. I took all of these characteristics into consideration when constructing my sentences. I created a variety of situations so the child was able to get a diverse input. A need for a book such as mine is supported by Hsieh, Leonard, and Swanson (1999). They conveyed that of the 18 most popular children's books at the time, /3s was only present in 19 instances across all of the 18 books. In order to put their findings into practice, I have designed a resource that contains 31 instances in *one* book.

The first characteristic of my sentences I focused on was allomorph type, which is the form that /3s may appear in, pending the sounds surrounding it. Of my 31 inflected verbs, I had 15 counts of /s/, 12 counts of /z/, and 4 counts of /əz/. These allomorphs are indicative of the

coda on the inflected verbs. There was a variety of 10 phonemes making up 26 of the 31 codas. The voiceless phonemes yielding a /s/ allomorph were /t, k, and p/. The voiced phonemes yielding a /z/ allomorph were /l, b, m, v, and d/. Lastly, the phonemes yielding a /əz/ allomorph were /ʃ and tʃ/. The five inflected verbs that did not have a coda were verbs that ended with a vowel, allowing an open-syllable, which has the potential to facilitate the acquisition of /3s, as it is more isolated (Sundara, Demuth, & Kuhl, 2011; Song, Sundara, and Demuth (2009).

The next characteristic I considered was the onset of the following word, or the sound following /3s. Of the 31 inflected verbs I created an environment that has the potential to isolate the /3s in order to make it easier for children to perceive during input. In 17 circumstances the onset was either a vowel or not present at all. Because vowels are neutral in terms of place of articulation this allows the /3s of the inflected verb to be more isolated. Then, there were 6 situations where there was no following sound making the /3s in the final position of the sentence (e.g. He smiles). Due to no following phonemes, the duration of /3s is longer, possibly allowing it to be more easily perceived by the child. Therefore in terms of sentence position, that allows the remaining 25 inflected verbs to be in the sentence medial position (e.g. He brushes his teeth). Third person singular present tense is often found in the medial position (Hsieh et al., 1999; Koehlinger, Owen Van Horne, Oleson, McCreery & Moeller, 2015), so I created as many opportunities as possible to allow /3s to be in the final position without the sentences and story becoming incoherent.

In order to subcategorize the verb itself I also consider whether the verbs I was choosing to use were transitive or intransitive and state or action. A transitive verb is one that requires a direct object or complement following it (e.g. He *puts* on his jersey). It is not grammatically correct to simply say *He puts*; an object needs to follow the verb, *puts*. For a verb to be classified

as intransitive, it will not require a direct object or complement to be grammatically correct (e.g. *He jumps*). Yes, a direct object can follow the verb, but it is not grammatically needed. Of my 31 different verbs there were 15 that were transitive and 16 that were intransitive. The following verbs were transitive: wake, get, put, brush, meet, grab, see, buy, take, like, want, come, hit, catch, and love. The following verbs were classified as intransitive: smile, jump, hurry, wait, hop, walk, sit, eat, rush, push, leave, go, start, fly, end, and wave. In addition to classifying the verbs as transitive or intransitive, I also noted which ones were state or action. I found it challenging to incorporate a significant amount of state verbs since the plot line of the book was more action oriented. Even so, I ended up having 6, leaving the remaining 25 to be action verbs.

The book will not only be an environment where /3s is prevalent, as it will also expose a child to preexisting or novel vocabulary. I consulted the ChildFreq. website in order to determine how frequent each verb I was considering appeared in child language at the ages of 36- and 48-months, since my book targets children in that age-range. I picked a range of verbs from ones that were most frequent: get, put, see, want, like; less frequent: take, eat, come; and lowest frequency words that would be more relevant to baseball vocabulary: start, hit, fly, and catch,. Table 1 lists each verb in order of appearance in the book with counts for the phonetic environment and linguistic characteristics of the verb.

In terms of acquisition, it may take typically developing children until the age of 4;0 to master this morpheme, and children with a language delay may take until age 7;0 until errors cease (Rice, Wexler, & Hershberger, 1998). This age difference means the children who are at risk for specific language impairment (SLI) have a later onset of tense marking on this morpheme. They also show no evidence of catch-up period where they close the gap with their typically developing peers. The purpose of my book is to be a resource of grammatically rich and

diverse input for children at risk for SLI in order to help them bridge the gap with their typically developing peers. Plans are underway next semester to start a follow-up investigation using *Pete's First Baseball Game* to compare /3s duration when surrounded by vowels versus consonants (e.g., "sees it" vs. "needs more"; Fitzgerald & Ebert, in progress) in order to determine if one of the environments helps to better facilitate the acquisition of /3s. I look forward to employing all I have learned and researched throughout this project into a study of my own.

Table 1. Phonetic environment and linguistic characteristics for all inflected verbs in order of appearance

Verb	Allomorph Type	Coda	Onset	Sentence Position	Transitive vs Intransitive	State vs Action	Frequency from ChildFreq. @ 36mo	Frequency from ChildFreq. @ 48mo
wake	s	k	∅	Medial	Transitive	Action	138	88
get	s	t	t	Medial	Transitive	State	5760	5040
smile	z	l	#	Final	Intransitive	Action	26	0
put	s	t	∅	Medial	Transitive	Action	5520	4140
brush	əz	ʃ	h	Medial	Transitive	Action	128	40
meet	s	t	h	Medial	Transitive	State	36	19
jump	s	p	#	Final	Intransitive	Action	424	320
grab	z	b	ð	Medial	Transitive	Action	39	40
hurry	z	∅	∅	Medial	Intransitive	Action	70	71
wait	s	t	#	Final	Intransitive	Action	430	680
see	z	∅	ð	Medial	Transitive	Action	4200	5360
hop	s	p	∅	Medial	Intransitive	Action	150	48
walk	s	k	∅	Medial	Intransitive	Action	280	220
buy	z	∅	h	Medial	Transitive	Action	380	536
take	s	k	ð	Medial	Transitive	Action	1920	1680
sit	s	t	d	Medial	Intransitive	Action	752	400
eat	s	t	#	Final	Intransitive	Action	1820	2080
like	s	k	ð	Medial	Transitive	State	5320	6080
want	s	t	∅	Medial	Transitive	State	7680	5000
rush	əz	ʃ	∅	Medial	Intransitive	Action	8	4
come	z	m	∅	Medial	Transitive	Action	2480	1550
push	əz	ʃ	t	Medial	Intransitive	Action	280	210
leave	z	v	#	Final	Intransitive	Action	210	190
go	z	∅	∅	Medial	Intransitive	Action	7200	5000
start	s	t	#	Final	Intransitive	Action	115	140
hit	s	t	ð	Medial	Transitive	Action	312	234
fly	z	∅	∅	Medial	Intransitive	Action	352	176
catch	əz	tʃ	ð	Medial	Transitive	Action	320	200
end	z	d	#	Final	Intransitive	State	180	190
love	z	v	b	Medial	Transitive	State	390	504
wave	z	v	g	Medial	Intransitive	Action	10	35

Note. # indicates an utterance boundary. ∅ indicates no coda or onset (only consonants can serve as a codas or onsets).

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