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Signing Exact English: Providing a Complete Model of English for Literacy Growth

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Abstract

Signing Exact English, SEE, is an invented sign system created in the early 1970s by Gerilee Gustason, a deaf university professor and researcher, and Esther Zawolkow, a child of deaf adults (1993). In a rationale for the development of SEE, Nielsen, Luetke, McClean and Stryker (2015) explained that many morphological aspects, like word endings, are not visible in speech and are difficult to speechread. For example, words such as *interest, interesting, interests*, and *interested* are nearly impossible to distinguish using speechreading alone and some involve hard-to-hear sounds which make these important, audibly-insalient, elements of English difficult for D/HH children to acquire. SEE was invented to address the need to visually represent words in a grammatically accurate way as well as provide 'through the air' access. This research will define the SEE system, exemplify, and explain the research findings on the use of SEE.

Signing Exact English, SEE, is an invented sign system created in the early 1970s by Gerilee Gustason, a deaf university professor and researcher, and Esther Zawolkow, a child of deaf adults (1993). They also founded the Modern Signs Press and the SEE Center. This research will define the SEE system, exemplify, and explain the research findings on the use of SEE.

At the time of the creation of SEE, research documented that children who are deaf or hard of hearing (D/HH) acquired a smaller vocabulary than their hearing peers and had a weak understanding of the morphological and syntactical rules of English when compared to the understanding and clear pattern of development of their hearing peers (Quigley & King, 1980). And now, despite early identification and improved assistive listening technology such as CIs, D/HH children's reading levels continue to plateau at about the fourth grade reading level (Spencer & Marschark, 2010). A potential reason for this plateau is that students who are D/HH cannot always hear the audibly-insalient components of English, such as pronouns, articles and bound morphemes (Guo, Spenser & Tomblin, 2013). In a rationale for the development of SEE, Nielsen, Luetke, McClean and Stryker (2015) explained that many morphological aspects, like word endings, are not visible in speech and are difficult to speechread. For example, words such as *interest, interesting, interests*, and *interested* are nearly impossible to distinguish using speechreading alone and some involve hard-to-hear sounds which make these important, audibly-insalient, elements of English difficult for D/HH children to acquire. SEE was invented to address the need to visually represent words in a grammatically accurate way as well as provide 'through the air' access.

SEE signs utilize the morphology of English, both root words and affix (prefix and suffix) markers (e.g., /re-/, /un-/, /-ing/, /-ity/, /-ness/, etc.), providing a means to differentiate highly similar words with signs. There are approximately 80 affix sign markers in SEE. To

illustrate, "electric," "electrical," "electrician," "electricity," and "nonelectrical" all use the same ASL root-word sign and add SEE affix sign markers to form the morphemically accurate English vocabulary. There are also different SEE signs for words that convey similar concepts, such as "annoy," "bother," and "irritate" allowing the nuances of meaning to be represented and differentiated in sign. SEE uses the manual features common to all manual languages and systems as was explained by the authors in the first edition of the SEE reference dictionary (Gustason, Pfetzing, & Zawolkow, 1972). Because SEE is used simultaneously with authentically spoken English, the figurative expressions and grammar of Standard English are signed the way they are spoken or written. For example, the English word *run* would appear in SEE as the same sign in the following phrases even through a different sign would be used in ASL: "to run quickly," "to run a machine," to have "a runny nose," and to "run for office." SEE uses a "two-out-of-three" rule to decide how a word with multiple meanings should be signed. If a word is spelled with the same letters and sounds the same, it is signed in the same way (i.e., run). However, if it is spelled differently and has a different meaning, different signs are used for the word even though they sound the same. The words "bear" and "bare" are an example because each has a different sign. SEE visually provides access to Standard English in the same manner that hearing children are exposed to grammatically correct English from their teachers.

Gustason (1990) explained that the guiding principle of SEE is that English can be signed in a manner consistent with how it is expressed in speech to facilitate the acquisition of Standard English. SEE is a manual code of English (MCE); a descriptive term for a visual communication method, expressed through the hands, that attempts to represent the English language. It has been our experience that most people who use the term MCE to describe how they sign are not referring to grammatically accurate English signing. For example, another invented MCE is

Signed English, which includes only 14 affix sign markers (e.g., /-s/, /-ed/ and /-ing/ but not others, such as /de-/, /re-/ and /-ous/). When signing words such as "unworkable" or "irreplaceable" in Signed English, they would not be signing these words grammatically because the words cannot be encoded with that MCE due to the limited number of affix marker signs represented. Whereas in SEE, "unworkable" would be signed using the signs "un" + "work" + "able" and "foolishness" using the signs "fool" + "ish" + "ness".

When SEE was first invented, a group of researchers claimed it did not represent spoken or written English to a high degree (Johnson, Lidell & Erting, 1989), but investigation into these early studies evidenced that the participants in the studies were not users of SEE. At least six studies have been conducted that substantiate that Standard English can be signed accurately with SEE. These studies investigating whether SEE could be signed in a grammatically accurate manner by parents, teachers, and interpreters, found that they could. In fact, participants encoded a very high percent of questions, words in relative clauses, pronouns, conjunctions, and verb tenses; all of which are important parts of English syntax that research has documented are difficult to hear (Luetke-Stahlman, 1988a, 1988b, 1989b, 1990, 1991; Luetke-Stahlman & Moeller, 1990). Donald Moores, a well-respected professor and researcher noted that English signed in SEE was similar to written English, not a perfect representation but indisputably English according to most people (Moores & Sweet, 1990).

English signed in SEE has been documented empirically in almost a dozen studies over the last 30 years as the first language of many D/HH children. In addition, children who were educated in programs where a complete language was used, ASL or English, that is ASL or oral English only, Cued Speech, Seeing Essential English now referred to as Morphemic Sign System (MSS) or SEE, understood and used English to a higher degree than children enrolled in

programs where adults used ungrammatical English input (i.e. Signed English or Pidgin Sign English).

Many educators have suggested that early exposure to English would benefit children who are D/HH as readers (Gaustad & Kelly, 2004; Gaustad, Kelly, Payne, & Lylak, 2002; Mayer, 2007), as was the intention of the SEE authors. Several prominent deaf educators noted, in published reviews of literature, that all readers of English need to be competent users of the vocabulary and grammar of the same language they are reading. In other words, D/HH students need to understand and use Standard English to read on grade level and continue to make reading vocabulary and comprehension progress. The knowledge required to develop age-appropriate levels of reading and written English entails the development of both phonological and morphological components of English. A review of 1st grade reading basal stories found 10 bound morphemes were utilized (i.e., dis-, -ed, -en, -ly, -ful, -ing, plural -s, possessive -s, third person -s, and -y), understood, and used by hearing six-year-olds, thus preparing them linguistically to read them. An additional 21 affixes were used in 3rd grade stories (i.e., -able, -an, -ant, -en, -er, -ible, -ic, -ice, in-, -ion, -ious, -ist, -ity, -ment, mis-, -or, re-, -sion, -th, -tion, and un-), as well as nine more in 5th grade texts (Stryker & Luetke, 2013). Many readers who are D/HH do not have access to these bound morphemes. The use of authentic Standard English with D/HH students, through SEE signing these bound morphemes, or fingerspelling them, makes them visually accessible during instructional and social conversations. The reading vocabulary and reading comprehension scores of D/HH students who used SEE have been empirically documented to be higher than those of D/HH students who used other methods of communication (Nielsen, Luetke, & Stryker, 2014; Nielsen, Luetke, McClean, & Stryker, 2014).

Recently Appelman, Callahan, Mayer, Luetke, and Stryker (2012) published a study on the post-secondary outcomes of a majority of young adults who had attended a non–public school for the deaf located in the northwestern United States where SEE was used by all adults and children. They reported that all graduates had finished high school and that most had earned a college degree (at a rate that was twice the national average), were employed, and lived independently. More recent research with students from the same PreK-grade 8 school found that speech was developed to a high degree of articulation when supported by SEE, but that speech production scores did not predict D/HH students' English language or reading ability (Nielsen, Luetke, McClean, & Stryker, 2015). Additionally, these researchers reported the speech, English language, and reading ability did not plateau around the average, 4th grade, for D/HH students but rather continued to improve with each grade. Students who used SEE read at or above the average range when assessed using standardized measures of English and reading. High morphemic awareness scores (made salient with SEE) predicted high reading vocabulary scores.

Research continues to suggest that the gap between the reading achievement of D/HH students and their hearing peers widens as students move beyond the primary grades (e.g. Geers, Tobey, Moog, & Brenner, 2008; Harris & Terlektsi, 2011) although it does not have to. SEE gives D/HH students access to audibly-insalient components of English (Nielson, et al., 2015). The most recent research by Nielson and her colleagues (2015) is a contribution to the field of deaf education because it calls attention to the need for access to the morphology of English with D/HH students, essential to unlocking the words of more challenging text, through a specific invented sign system, SEE. It is critical that ways to provide more access to English morphology be identified as one way to support D/HH students so that they have the opportunity to develop,

progress, and reach their literacy and academic potential. The ability to access and understand

English is essential for this development of age-appropriate reading for all students; SEE

provides this access.

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