

The relationship of rare ASL vocabulary to English vocabulary knowledge and reading comprehension in Deaf children

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Background

This study reports on data that are part of a larger project investigating the relationships among ASL proficiency, English proficiency, and theory of mind in Deaf children. This particular study explores the influence of ASL rare vocabulary knowledge on both reading vocabulary knowledge and reading comprehension in English. Vocabulary research conducted with American Deaf subjects typically uses measures of vocabulary knowledge in English or ASL measures that have been adapted from those in English. Previous research has shown that knowledge of ASL vocabulary by Deaf children is related to knowledge of synonyms and antonyms in ASL (Hoffmeister, 1994; 2000), the development of theory of mind (Hoffmeister, et al. 2000), and English vocabulary knowledge (Fish, et al. 2005; in preparation). A critical question is whether ASL vocabulary knowledge can support/facilitate English vocabulary knowledge and reading comprehension, despite the modality differences between the two languages.

According to Cummins (1979, 2000, 2003), an interdependence among the concepts, skills, and linguistic knowledge in one's L1 and L2 enables transfer between the two languages. This interaction and transfer fosters language development in both languages, but requires a strong foundation in one's L1. For Deaf children who are users of ASL and written English, this brings up a number of interesting issues:

- They often receive less than ideal input in their L1, and there is often little attention paid to the formal academic instruction of ASL.
- The L1 & L2 of this population of students are of different modalities, and the L1 (ASL) is not always viewed as a possible means of support for reading in the L2 (English).

Methods

Subjects:

- Subjects enrolled at one of two bilingual/bicultural schools for the Deaf, with exposure to native-signing Deaf adults as part of their educational program

The authors owe much to the participation and collaboration of the students & staff at our two data collection residential schools for the Deaf, for without their participation (as well as the assistance of colleagues too numerous to mention), we could not have completed this research. In particular, we especially thank the Deaf students who have shown us that they are resilient, knowledgeable, and forthcoming; they have taught us a great deal about language learning and its impact on achievement. Please contact the first author at sfish@bu.edu with any comments and/or questions.

	Subject ages						Total	
	7-8	9-10	11-12	13-14	15-16	17-18		
DCDP	5	8	6	11		4	0	40
DCHP	5	20	21	22	38	32	11	149
Total	10	28	27	33	44	36	11	189

Note: At both schools, all subjects above the age of 7 with no identified disabilities were tested

Tasks:

• Vocabulary in Sentences Task (VST)

- Subtest of the American Sign Language Assessment Instrument (ASLAI: Hoffmeister, Bahan, Greenwald, and Cole, 1989)
- Receptive metalinguistic judgment task for rare ASL vocabulary
 - Infrequent signs, but not necessarily obscure
 - 15 multiple-choice questions on video with picture response booklets
 - Subjects must choose the one sentence (of four options) that correctly uses the stimulus vocabulary item

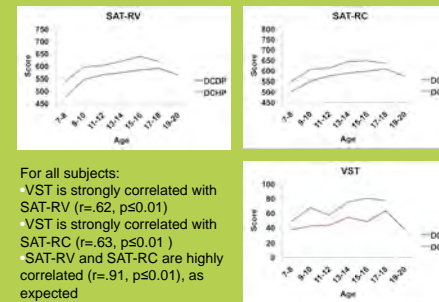
Example question (stills from video clips)

TO BAIT, TEASE	This is delicious!	I'm teasing my sister by flicking her lights on and off.	Ew, there's gum stuck to the bottom of my shoe.	It's too dark! Do you mind turning on the light?

• Stanford Achievement Test 9: Reading Vocabulary (SAT-RV) and Reading Comprehension (SAT-RC) tasks

- Taken in fulfillment of school requirements
- Normed for Deaf children by Gallaudet Research Institute
- Students take the appropriate level based on their abilities, not their grade level
- SAT-RV: receptive judgment task for English vocabulary (30 multiple-choice questions)
- SAT-RC: English reading comprehension task (40 multiple-choice questions)

Results



Discussion

There has been some debate as to whether it is plausible for L1 knowledge in a sign language to support and encourage L2 knowledge in the written representation of a spoken language. Our results indicate that such differences in L1 and L2 modalities do not appear to interfere with language development in either language. Quite the contrary, it would seem that a strong foundation in an L1 can support language development in an L2 regardless of modalities.

It should be noted that having early access to ASL appears to provide a long-lasting advantage in language development (in both the L1 and L2) in this setting for Deaf children of Deaf parents. While Deaf children of Hearing parents do demonstrate development over time, as a group they never match the levels of L1 or L2 language proficiency that are attained by DCDP. However, this should not deter educators and parents from striving to provide the richest, most naturally accessible language environment for all Deaf children, as it provides critical linguistic affordances.

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