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

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 knowledge (Fish, et al. 2005; in preparation). A critical question is whether ASL vocabulary knowledge can support/facilitate English knowledge (Fish, et al. 2005; in preparation). A critical question is whether ASL vocabulary knowledge can support/facilitate English knowledge (Fish, et al. 2005; in preparation).

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.

Results
For all subjects:
- VST is strongly correlated with SAT-RV (r=.62, p≤.01)
- VST is strongly correlated with SAT-RC (r=.63, p≤.01)
- VST and SAT-RC are highly correlated (r=.91, p≤.01), as expected

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 not 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.

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 sarahfish@bu.edu with any comments/ideas questions.

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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.

Tasks:
Vocabulary in Sentences Task (VST)
- Stimuli from 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 (still from video clips)

TO EAT, TEASE
This is delicious!

I’m teasing my sister by flicking her lights on and off.

Ew, there’s gum attack to the bottom of my shoe.

It’s too dark! Do you mind turning on the lights?

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)

Table: Subject ages
<table>
<thead>
<tr>
<th>Subject Ages</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8</td>
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<tr>
<td>9-10</td>
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<td>19-20</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
</tr>
</tbody>
</table>

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

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