

Research Study: Adapting the British Sign Language Receptive Skills  
Test into American Sign Language  
Summary Report 2010

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**ASL Receptive Skills Test – Revisions:**

The first round of pilot testing (conducted from December 2008 – April 2009) indicated that although a significant correlation existed between raw score and age, this correlation weakened in children above the age of 8 years. A more thorough analysis of error patterns and consultation with signed language test developers revealed ways to modify test items to make them more challenging and effective in assessing the target ASL structures. Revisions were needed for 23 of the original 41 test items, including changes to distracter drawings (11 items), signed stimulus sentences (4 items), and changes to both drawings and signed sentences (8 items). The revisions made to the distracter pictures ensured that the children needed to use their understanding of ASL grammar to answer the questions, rather than being able to guess from the pictures. It was necessary to replace some pictures with items that resembled the target ASL sign more closely than what was used in the *BSL RST*. For example, when the target was an open book lying on the bed (CL: B palm up), the *BSL RST* distracter item, a brush, was replaced with a shirt to more closely resemble the ASL CL: B handshape but with the palm down. Similarly, for the target two rows of beds (CL: N straight fingers), distracter pictures were changed from a bunk bed and a single bed to two rows of chairs (CL: N bent fingers) and two rows of

pencils (CL: INDEX), to again more closely resemble the ASL target structure. Revisions were also made to some of the signed stimulus sentences. These included shortening the hold or length of the action on noun-verb distinction items, for example “DRINKING” and “DRIVING”, and ensuring that the signers’ hands returned to a neutral position at the end of each item. In some cases it was necessary to revise both the pictures and the signed stimulus. For example, the item “EAT BIG-SANDWICH”, involved replacing pictures of eating an apple and eating chips, with eating a watermelon and eating a hamburger - foods that more closely resembled holding a sandwich. In addition, the handling classifier needed to be signed more clearly in the stimulus sentence. The item, “(NO)-REACH” was modified so that the sign was not held as long, and one of the distracter pictures was modified to increase the reach of a boy struggling to climb onto a chair, where previously his action was not as similar as the target item of the boy reaching for a teddy bear.

In addition to the modifications made to existing test items, four new items were added to assess understanding of role shift and conditional clauses. These constructions are considered to reflect more complex ASL grammar and the intention was to add items that the older children would find more challenging. The final modification to the adapted ASL test was to re-order the items to more accurately reflect the developmental level of difficulty according to the number of children that passed each item.

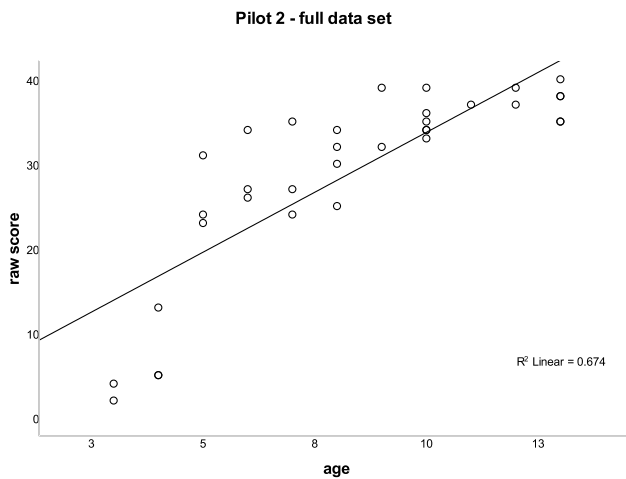
## **Results of Second Round of Pilot Testing:**

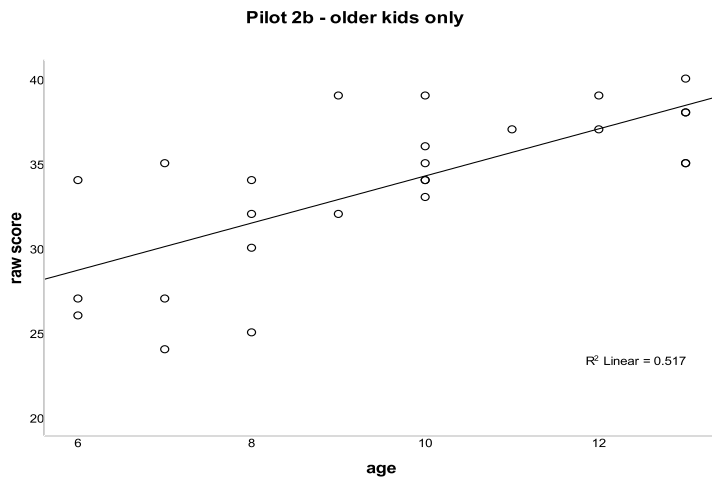
A second round of pilot testing was required for the revised version of the adapted ASL test. The revised version was a similar format to the initial adapted ASL test, in that the children were required to watch the video recorded ASL sentences and then select the appropriate picture from a choice of four. It also included a vocabulary check of 20 words and three practice items, but the total test items were increased from 41 to 45 test items. The grammatical categories assessed through these items included the six previous structures (number/distribution, negation, noun/verb, spatial verbs, size/shape specifiers, handling classifiers), as well as the two additional categories of role shift and conditionals.

The second round of pilot testing included 34 children between the ages of 3 and 13 years. These children were again recruited from the same schools in Minnesota and Ontario, and therefore included both Canadian and American children. The results of the re-testing indicated that the modifications made to previous test items, and the new test items had effectively made the test more challenging and more clearly distinguished children's skills at different ages. Specifically, the analysis comparing age and raw score showed a strong correlation when all 34 children were included ( $r = .821$ ,  $p.000$ ), as well as when only the children 6 years and older ( $n=20$ ) were included ( $r = .719$ ,  $p.000$ ). Please refer to Table 2, and Figures 2 and 2a for more specific results of the second round of pilot testing.

**Table 2: Second Round Pilot Testing Results**

<i>Age</i>	<i># of Children</i>	<i>Mean Raw Score (max 45) and Range</i>
3 yrs	2	3.0 (2 – 4)
4 yrs	3	7.7 (5 – 13)
5 yrs	3	26.0 (23 – 31)
6 yrs	3	29.0 (26 – 34)
7 yrs	3	32.7 (31 – 35)
8 yrs	4	31.5 (30 – 34)
9 yrs	2	35.5 (32 – 39)
10 & 11 yrs	7	35.6 (33 – 39)
12 & 13 yrs	7	37.5 (35 – 40)





A finalized version of the ASL Receptive Skills Test was developed based on the results from the second round of pilot testing. Modifications included deleting three test items, and re-ordering test items to more appropriately reflect the developmental sequence of language acquisition, as indicated by the number of children that correctly answered each test item. The deleted items were considered redundant (several other items were measuring the same grammatical structures) or in one case, culturally inappropriate (the item included an escalator and children from rural areas were often not familiar with this concept). In its finalized version the ASL Receptive Skills Test includes a vocabulary check of 20 words, three practice items, and a total of 42 test items. Eight grammatical categories are assessed through these items, including number/distribution, negation, noun/verb distinction, spatial verbs (location and movement), size/shape specifiers, handling classifiers, role shift, and conditionals.

**Conclusion:**

The finalized version of the ASL Receptive Skills Test now requires standardization. This will involve testing at least 20 children at each age level to get a standard score for what is expected at that age. When the test is used with other children they can be compared to the normal score for their age and it can be determined if they are developing an understanding of ASL age-appropriately. This research project of ASL test development begins to fill an enormous gap regarding the credibility of ASL as a language of instruction in schools. It also provides a contribution for teachers and researchers to help them deliver appropriate educational programming, monitoring and reporting.

Thank you again to all parents, children, and schools for your participation in the pilot testing.