Title: Assessing ASL Knowledge and its Relationship to Reading English in Deaf Children  
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DESCRIPTION

Purpose: Educators have a plethora of assessments for evaluating language skills of hearing children in order to study the influence of language skills on learning. For deaf children, whose language input is often impoverished and inconsistent, this is not possible because no assessments of American Signed Language are currently available for educational use. The purpose of this project is to develop a test of Signed Language, the American Signed Language Assessment Instrument (ASLAI) modeled on tests for spoken language development and tests of reading achievement. The ASLAI measures conversational language abilities, academic language knowledge, and metalinguistic skills in ASL. Educators of the Deaf and researchers can use the test to assess which students are proceeding along a normal developmental path in their acquisition of language knowledge as well as those who are above or below the expected level of ability. The ASLAI also may be able to identify those Deaf students who may have a language problem affecting their ability to learn 2nd language which we define as learning to read.

Project Activities: The ASLAI builds on previous work performed by the researcher in developing assessments for signed language. New assessments to measure vocabulary knowledge, language comprehension, language generalization processes, and sign imitation abilities will be developed and refined through field testing with deaf adults and deaf students of deaf parents. The ASLAI will be pilot tested with students, ages 4 – 17, attending schools and programs for the deaf in six states. Results will be used to study the potential of the ASLAI to identify developmental changes in ASL abilities as well as distinct profiles of learners that may identify students at risk for learning problems.

Products: The product of this project will be a fully developed and validated assessment of American Sign Language and technical reports.
STRUCTURED ABSTRACT

Setting: Schools and or programs for deaf children in Massachusetts, California, Texas, Pennsylvania, Indiana, Minnesota, Florida and Washington State. Schools include both residential and non-residential facilities.

Population: Approximately 350 deaf children ranging in age from 4 to 17 years old. About one third of the students are children of deaf parents (considered to be ‘native’ signers) versus children who have one or more parents who are not deaf.

Intervention: The ASLAI consists of a battery of assessments that measure knowledge of synonyms, antonyms, plurals, complex sentences, rare vocabulary and narrative comprehension in Signed Language. Three tests are used to measure morphological knowledge of signed language, which includes such aspects as knowledge of classifier hand shapes and spatial arrangements. Narrative comprehension tests are included because of the theoretical importance of measuring narrative skills as these have been proposed to be important for literacy in deaf children.

Research Design and Methods: Assessments are developed through expert input and field testing with fluent and native adult ASL signers, deaf children of deaf parents and deaf children of hearing parents. Items are selected of varying difficulty to allow for discrimination of signers at varying levels of age and ability. Rasch models are used to scale and score performance, and reliability is examined through internal consistency measures. Prior research indicates that ASL knowledge is predictive of literacy skills and reading skills in English. Validity of the assessment is investigated through correlation with tests of reading comprehension and vocabulary.

Control Condition: Although there is no control condition, deaf children exposed to ASL from birth via their deaf parents will be compared to deaf children of hearing parents who are exposed to ASL at a later age or who have minimal exposure at home and/or school.

Key Measures: ASLAI test scores, Rhode Island Test of Language Structure (adapted), California Achievement Test (reading comprehension and vocabulary subtest), Stanford Achievement Test (reading comprehension and vocabulary subtest, and a sentence elicitation task (researcher developed).

Data Analytic Strategy: Item response theory (Rasch model) is used to scale items and create assessment scores. Classical test theory is used for item analysis to inform item selection and refinement. Cronbach’s alpha and factor analysis is used to assess internal reliability. Correlation with reading measures is used to investigate construct validity.