The psychometric measurement of verbal ability with students who are bilingual is challenging due to the potential confounding of factors such as language proficiency, cultural background, and educational experiences. This is particularly relevant when attempting to measure the cognitive academic language processing (CALP) of Spanish-speaking students.

**Example:** A student whose native language is Spanish and who is not fluent in English, would not be included in the normative sample of an IQ test in English. This is because the student's English skills are not representative of the abilities of monolingual speakers of the language sampled and the reading skills can improve. As the Oral language facility with academic language increases (Verbal IQ), the student's reading ability increases, and the student is placed in a lower difficulty level of material, which in turn raises the test scores. This is due to the nature of the test and the student's ability to understand the test instructions, not due to an actual improvement in academic language processing.

**ASSUMPTION 1**

- **Elementary students who live in a bilingual world are not subjected to opportunities to expand their language skills in a monolingual world.** Therefore, students that are from environments which tend to be monolingual should be expected to be at a disadvantage. In the case of bilingual students, the student's academic performance should be measured in the language they are most proficient in.

**ASSUMPTION 2**

- **Elementary students who live in a bilingual world have an average Verbal Ability Score which is depressed by some quantity.** It is assumed that this quantity is one standard deviation.

**LIMITED PARENTAL ASSISTANCE AVAILABLE, LOWER SOCIO-ECONOMIC STATUS OF FAMILY, ONLY SPANISH SPOKEN AT HOME, ENGLISH AT SCHOOL.**

The following graph shows the result of more appropriate interventions that take advantage of the student's Spanish language skills in order to learn English. The student's English BICS (Basic Interlanguage Comprehension Skills) were matched to the English BICS of their age mates, and the student's CALP (Cognitive Academic Language Processing) was matched to the CALP of their age mates. This is done in an effort to control for factors which don't relate to intelligence, including limited parental assistance and lower socio-economic status.

---

**SPANISH**

- 60-down is Intellectually Deficient (69 or below)
- 61-68 is Borderline (70 - 79 is listed)
- 69-74 is Average (80 - 89 is listed)
- 75-84 is Above Average (90 - 109 is listed)
- 85-102 is Superior (110 - 119 is listed)
- 103-110 is Very Superior (120 - 129 is listed)
- 111-up is Very Superior (gifted)

**ENGLISH**

- 60-down is Intellectually Deficient (69 or below)
- 61-68 is Borderline (70 - 79 is listed)
- 69-74 is Average (80 - 89 is listed)
- 75-84 is Above Average (90 - 109 is listed)
- 85-102 is Superior (110 - 119 is listed)
- 103-110 is Very Superior (120 - 129 is listed)
- 111-up is Very Superior (gifted)

The following graph shows the result of more appropriate interventions that take advantage of the student's Spanish language skills in order to learn English. Again, this model assumes English language immersion, but uses ESL programming with limited parental assistance.

**THE USE OF SIGNIFICANT DISCREPANCY FORMULAS**

It is clear that “g” in bilingual students is not possible to measure with existing tests. Verbal abilities are not measured by verbal tests due to the omission of these students in the normative sample. Additionally, these students have not had the same opportunity to learn a given language. A related problem is that the language history varies, and so does the opportunity to acquire a given language. The following graph shows the result of more appropriate interventions that take advantage of the student's Spanish language skills in order to learn English. Again, this model assumes English language immersion, but uses ESL programming with limited parental assistance.

---

**BILINGUAL IQ CONVERSION CHART**

The following chart may be used to convert a student's “Bilingual Score” from a given Standard score (not commensurate) into a BICL score. Note that “Spanish BICS” is not graphed, it is assumed to be constant at 100 from age 5 up in this example.