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Early (grade 2) reading ability in the first language correlates with subsequent (grade 6) reading ability in the second language: A longitudinal confirmation of the Interdependence Hypothesis.

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The Interdependence Hypothesis states that the development of academic language proficiency in one language contributes to a common underlying proficiency that can be accessed as other languages are subsequently acquired (Cummins, 1984, 2000).

Empirical evidence for the Interdependence Hypothesis comes from case histories showing that children who learn to read well in the first language typically do well in reading in their second language, as well as studies showing positive correlations between scores on reading tests in the first and second language when the child has had a chance to develop reading ability in both languages (Cummins, 1979; Krashen, 2003). Additional support comes from studies of bilingual education: Children in bilingual programs that include the development of literacy in the primary language consistently outperform comparisons in all-English programs on tests of English reading (Krashen and McField, 2006).

A gap in the research is a lack of studies showing lagged correlations, that is, demonstrating that earlier reading ability in the first language is associated with subsequent reading ability in the second language. This has been shown for word knowledge (August, Calderon and Carlo, 2001), but until now it has not been shown for reading comprehension.

The goal of this study was to determine if reading ability in the first language (Spanish), tested in grade 2, is associated with reading ability in the second language (English), tested four years later in grade 6. The subjects were 109 children, all English learners, enrolled in bilingual programs (both one-way and two-way programs) in the El Paso area. Nearly all (104 out of 109) of the subjects were classified as low SES, qualifying either for free or reduced cost meals.

Subjects were tested in Spanish on the Aprenda in grade 2 in 2004 and in English on the SAT 10 in grade 6 in 2008 (intermediate level). According to the publisher, the Aprenda is modeled after the SAT 10. Combined Normal Curve Equivalent scores on the reading comprehension and vocabulary subtests were used for this analysis. The same 109 students took both tests. The mean score on the Aprenda was 71 (sd = 13.2) and for the SAT 10 it was 44 (17.6).

Results

The correlation between grade 2 Spanish and grade 6 English reading scores was positive and statistically significant ($r = .52$; $p < .0001$). Those who read better in early grades in Spanish read better in English later on in grade 6.

Discussion

This result provides a clear confirmation of the Interdependence Hypothesis, a demonstration that earlier performance in reading in the first language is related to subsequent performance in reading in the second language. The results are especially interesting as the first language test was administered in grade 2, after children have had a fair chance of developing first language reading competence, and the second language test was administered in grade 6, a time when the school curriculum demands high levels of academic English competence.

It is reasonable to hypothesize that children who read more in their first language, in addition to mastering the mechanical aspects of reading, learn more about the world, and develop greater

background knowledge in school subjects. This makes the English they hear and read more comprehensible, resulting in greater academic English development.

The empirical evidence supporting the practice of developing literacy in the first language now includes longitudinal research, and the underlying theoretical basis for “transfer” is reasonable. In fact, the majority of educators and non-educators interviewed in a series of studies agree that it is easier to develop literacy in a second language if one is already literate in the first language (Shin, 2000; Shin and Krashen, 1996; Shin, Anton, and Krashen, 1999; Young and Tran, 1999; Lao, 2003; Ramos, 2003).

Those who have been opposed to bilingual education in the United States have claimed, without empirical support, that it slows down the acquisition of English and the development of English literacy. The clear demonstration that early reading ability in the first language predicts subsequent reading ability in English is strong evidence in support of bilingual programs that promote first language literacy. There is now no reason to object to developing literacy in the primary language.

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