

LANGUAGE PROFICIENCY AND ACADEMIC SUCCESS:
RELATIONSHIPS BETWEEN PROFICIENCY IN TWO
LANGAUGES AND ACHIEVEMENT AMONG MEXICAN
AMERICAN STUDENTS

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ABSTRACT

While considerable research has focused on second language development and academic success, the debate continues on how the development of the first language benefits the acquisition of the second. The intent of the present study was to examine the strength of the relation among proficiency in English and Spanish and academic success. Relations among oral language, literacy, and academic achievement were examined. A significant connection was found between proficiency in English and standardized achievement scores, as well as grade point averages. Similarly, the results reveal significant correlations between reading and writing in Spanish and achievement scores, as well as grade point average. The strongest relations were found between Written Language and academic success.

Early research among large groups of bilingual immigrant children in the first half of the twentieth century concluded that being bilingual contributed to “mental confusion” (Darcy, 1953). Researchers are now aware of the methodological errors made in some of the early research on bilingual children. For example, R. M. Díaz (1985) stated that researchers such as Peal and Lambert have shown evidence that there is a positive influence of bilingualism on children’s cognitive ability. This research responds to a long tradition of negative statements about childhood bilingualism. Díaz attributed the positive findings to the fact that their bilingual sample included children who had similar and age-appropriate abilities in two languages. This research method was not typically employed in previous studies.

Hakuta, Ferdman, and Díaz (1986) argued that early research on bilingualism failed to distinguish between the different levels of bilingualism. According to the researchers, if the goal of a study was to establish whether the extent of bilingualism in children had an effect on individual cognitive development, one should define bilingualism in terms of children’s abilities in the two languages. Futher, early research used a societal definition of bilingualism, referring to all Hispanic children from low socio-economic

backgrounds, emphasizing oral language competence and the experiences of newly arrived immigrants to the United States. Recent literature has used a cognitive definition of bilingualism emphasizing levels of language proficiency such as cognitive, academic language proficiency.

Current research has turned its attention to the broad cognitive development of language among all children. An increasing body of research has found evidence for a positive relation between bilingualism and reasoning abilities among children. Such reasoning abilities include nonverbal problem solving skills, divergent thinking skills, and field independence (Cummings, 1976). Research has also indicated that additive-bilingual children out-perform their monolingual counterparts on tasks requiring high levels of cognitive control (Bialystock, 1986a, 1986b).

The positive relation between bilingualism and exceptional nonverbal ability has also been observed in within-group analyses of children in primary grades who are enrolled in Spanish-English bilingual education programs (Hakuta & Díaz, 1985; Hakuta, 1987). Results of studies that examined classroom performance of these children indicated that proficient bilinguals are superior to their monolingual counterparts in the areas of general cognitive development (Duncan & DeAvila, 1979; Bain & Yu, 1980); academic achievement (Swain & Lapkin, 1981); and linguistic awareness (Cummins & Mulcahy, 1978). Additional studies have supported previous findings and have shown that bilingualism may be positively associated with cognitive and academic achievement (Duncan & DeAvila, 1979; Kessler & Quinn, 1980; Development Associates, 1980; Bain & Yu, 1980; Swain & Lapkin, 1981).

Another more important issue is that of the bilingual children's degree of literacy in the first and second languages. Studies by J. Cummins (1992, 1989, 1981, 1979a, 1979b) have shown that literacy in the primary and acquired language must be obtained in order for the child's cognitive abilities to be properly incited. From the research conducted on minority, majority, and handicapped populations, researchers have learned that the first step to academic success involves becoming literate. For example, C. E. Westby (1984) stated that being literate enables an individual to amass more information more quickly than is possible with an oral language system alone. Additionally, the goal of language therapy for any particular child must be carefully considered but should focus on the child acquiring basic linguistic structures, functions, and oral language skills (Westby, 1985). Thus, culturally different children must make the transition from using concrete oral home language styles to a more decontextualized, literate school language. Westby also found that systematically selecting language activities along the oral-literate continuum and facilitating the development of the child's narrative skills proves to be beneficial in promoting literacy among language minority children. Finally, Wallach and Miller (1988) noted that the shift from utterance-based communication to text-based communication means that children become able to engage in the manipulation of the language topics, forms, and functions

required in reading and/or writing. Wallach and Butler (1984) and Simon (1985) also found evidence for a positive relation between verbal language proficiency and academic achievement. According to these researchers, and those previously cited, becoming literate involves acquiring the ability to learn within a defined curriculum, and acquiring a specialized dialect of language, specifically the language of the school.

The developmental-interdependence hypothesis proposed by Skutnabb-Kangas and Toukomaa (1979) predicted that a growth in the skills in one language would be reflected by a corresponding development of the same abilities in a second language. This interdependence of language is used to account for the success of bilingual programs, which focus their instruction in the second, as well as, the primary language. These programs found that language minority children do not demonstrate academic losses as the verbal skills in the majority language are acquired. Research, then, suggests that the development of the primary language entails no negative consequences for the overall academic or cognitive growth of the individual child.

Similarly, research has suggested that the better developed the child's first language (L1) is, the more likely s/he is to develop high levels of conceptual abilities in the second language (L2) (Cummins, 1992). Additionally, Ramírez, Yuen, Ramey, and Pasta (1991) found that children who receive the strongest opportunity to develop their primary language acquire growth in their English reading skills greater than that of the comparison group used in the study. The results indicated that if the first language was sustained, students were able to "catch up" to the achievement level of the same population.

Cummins (1989) also found an inverse relation between the amount of instruction in English, and English academic achievement among language minority students. This suggests that the greater instruction a bilingual student receives in English, the lower his or her academic achievement in the majority language. Cummins (1992) stated that "the bulk of evidence suggests that there is an inverse relation between exposure to English instruction and English achievement for Latino students in the United States" (p. 98).

Ramírez et al. (1991) compared the academic progress of Latino elementary school children in three programs: English immersion, early-exit, and late-exit. His results suggested that students in late-exit programs seemed academically similar to students in the general population. In spite of the lower degree of instruction in English, these students performed better than the students in the English immersion and early-exit programs. These results spurred debate and criticism by both advocates of bilingual education and those who question their merit. Baker (1998), using Ramirez et al. data, provided contradictory results. However, others such as Meier (1999), criticized Baker for "blatant misuse of data" (p. 704). Citing a number of inaccuracies and reporting on research by others, Meier concludes that Baker is incorrect in stating that structured English immersion programs are the most effective.

Research with high school students, by Thomas and Collier (1995), demonstrates that students in English language development and early-exit bilingual programs do not score at the same level as those in late-exit bilingual programs. These results suggest that sustained instruction enhances students' academic success in later years. Given such research findings, it is not surprising that bilingual education programs stress biliteracy (Cummins, 1992).

Advocates of two-way bilingual programs, rely on three theoretical principles (Fishman, 1976; Swain, 1979): (1) continued development of both languages to enhance the overall educational and cognitive development; (2) literacy-related abilities utilized across two languages so that linguistic skills acquired in the first language subsequently become available in the second language; and (3) the academic-related aspect of a second language takes five years to develop, whereas, the conversational abilities develop rapidly. Related to this point, research conducted by Collier (1989, 1987) and Cummins (1981) has suggested that language minority students acquire conversational skills (Basic Interpersonal Communicative Skills –BICS) in about two years, while academic language skills (Cognitive Academic Language Proficiency –CALP) are acquired in a period of four to nine years. Additionally, Cummins (1979a) reported that everyone is able to acquire basic interpersonal communication skills (BICS) in a first language regardless of IQ or academic aptitude. BICS, then, can be described as a language's surface fluency, which is not cognitively demanding. CALP, on the other hand, is the cognitive linguistic competence which is closely related to academic ability and literacy skills (Romaine, 1995). In light of such evidence, investigators have hypothesized that the cognitive-academic aspects of a first language and the second language are interdependent, and as a result, the development in the proficiency of the second language is partially a function of the level of proficiency of the first language (Cummins, 1979a; Skutnabb-Kangas & Toukoma, 1979).

Cummins attributed the failure of minority children within school systems to the lack of instruction in their first language (Romaine, 1995). That is, these students have not had the opportunity to develop their CALP before being introduced to a new and distinct language system. Under these circumstances, then, many minority children become "semi-literate," not quite reaching native-like levels of literacy in both languages (Cummins, 1979b). For majority language children, the instruction through the second language (L2) has been shown to be just as, or more, effective in promoting first language proficiency as instruction through the second language (Swain, 1979). Similarly, for minority language children, instruction through the first language has shown to be just as, or more, effective in promoting second language proficiency as instruction through the second language (Cummins, 1979a, 1979b; Skutnabb-Kangas, 1979).

Much research has focused on second language development and academic success. However, the debate continues on which instructional approach is the most effective with second language learners. Ramírez et al. (1991), reporting on the status of bilingual programs, indicated that the most effective type is the two-way program where individuals from different cultural and lingual backgrounds learn each other's language. Additionally, students in late-exit programs seemed to benefit the most in the long run. Nonetheless, continued research is needed to determine the relation between language proficiency, including oral language and literacy, and academic success. The intent of this study reported here was to examine the strength of the relations between English and Spanish language skills and academic success. Relations among oral language, literacy, and academic achievement were examined.

METHODOLOGY

PARTICIPANTS

Hispanic students in grades six through twelve from a midwestern school district were randomly selected to participate in this study. The selection procedures yielded a sample of 100 students. Permission letters were sent to guardians to obtain parental consent. In the first wave, 50 parents granted permission. A second group from the original student body was randomly sampled to produce another group (permission from an additional sample size of 101). The participants ranged from 12 years to 18 years of age. The highest percentage (18%) of students was 15 years old. Seventeen percent of the students were 12 years old. Sixteen percent were 13 years old. Of the 100 participants, 54% were female and 46% were male. The highest percentage of students (17%) was in eighth grade.

PROCEDURE

English and Spanish proficiency were measured through individual assessments. Three second-year school psychology doctoral students conducted the assessments. Participants who did not speak English were administered the tests by a bilingual school psychologist, or a translation was provided by the students' bilingual/ESL teachers. Language proficiency using the Woodcock Language Proficiency Battery was conducted in English and Spanish. Data on academic achievement, such as grade point averages and scores on standardized tests, were obtained from students' cumulative folders. Standardized tests (Iowa Tests of Basic Skills/Educational Development) were administered only in English.

MEASURES

WOODCOCK LANGUAGE PROFICIENCY BATTERIES (ENGLISH AND SPANISH EDITIONS).

This test was developed by Richard W. Woodcock (1980) to measure abilities and achievement in oral language, writing, and reading proficiency. The Woodcock Language Proficiency Battery is a wide age-range battery of eight subtests with norms for age three to geriatric level. The individually administered tests may be used for various educational needs (Noyce, 1985). On the whole, corrected split-half, internal consistency reliability coefficients and standard errors of measurements are in the high .80s and low .90s for the tests.

IOWA TESTS OF BASIC SKILLS.

This battery was developed under the direction of E. F. Lindquist and A. N. Hieronymus (Herrick, 1959). It was devised to test functional skills of children, grades three through nine, in the areas of vocabulary, reading comprehension, language skills, work-study skills, and arithmetic (Herrick, 1959). The tests are revised annually. The reliability coefficients range from .84 to .96 for the major tests and from .70 to .93 for the subtests. The composite reliabilities for the whole test range from .97 to .98 for the different grades. Intercorrelations among the various subtests range from .37 to .83 with the average ranging from .60 to .70.

IOWA TESTS OF EDUCATIONAL DEVELOPMENT.

Developed by K. W. Vaughn, J. Peterson, W. Mauker, and P. Blommers, under the direction of E. F. Lindquist, the test is designed to measure the important and lasting outcomes of secondary education. It consists of 784 multiple-choice item tests, which are grouped into nine subtests. The first four subtests deal with principles and relations in social studies, the natural sciences, and the mechanics of writing and problem solving. The next three are reading tests, designed to measure interpretative ability for social studies, scientific, and literary content. The eighth subtest is a general vocabulary test (Froehlich, 1949). A major use of the test is to reveal the pattern of the individual student's development and to show growth in this development from year to year. A table of the intercorrelations among the nine tests is presented in the technical manual. The range is from .40 (between Tests 2 and 3) to .78 (between Tests 5 and 7). Reliabilities range from .86 to .94.

GRADE POINT AVERAGE.

Several grade point averages (GPAs) were computed at the students' school. For this study, the GPAs included overall language, math, and non-language. The non-language GPA was comprised of content areas such as art, physical education, and drama.

ANALYSIS

Correlational analysis was used to determine the relations between scores on the Oral Language, Reading, Written Language, and Broad Language on

Standardized Achievement Subtest						
Language Proficiency	Composite Score	Language	Math	Reading	Vocabulary	
<u>English</u>						
Broad	<i>r</i>	.84*	.81*	.69*	.75*	.67*
Lang.	<i>p</i>	.0001	.0001	.0001	.0001	.0001
Oral Lang.	<i>r</i>	.79*	.64*	.65*	.70*	.78*
	<i>p</i>	.0001	.0001	.0001	.0001	.0001
Reading	<i>r</i>	.75*	.75*	.61*	.62*	.57*
	<i>p</i>	.0001	.0001	.0001	.0001	.0001
Written	<i>r</i>	.84*	.84*	.67*	.73*	.61*
Lang.	<i>p</i>	.0001	.0001	.0001	.0001	.0001
<u>Spanish</u>						
Broad	<i>r</i>	.13	.05	.10	.17	.18
Lang.	<i>p</i>	.24	.63	.36	.11	.08
Oral Lang.	<i>r</i>	-.03	-.12	-.04	.03	.06
	<i>p</i>	.74	.24	.67	.79	.58
Reading	<i>r</i>	.21*	.17	.15	.24*	.21*
	<i>p</i>	.04	.10	.16	.02	.04
Written	<i>r</i>	.30*	.25*	.26*	.30*	.26*
Lang.	<i>p</i>	.004	.01	.01	.004	.01
*significant						

the Woodcock battery, and scores on the ITBS. In addition, correlations were computed among Written Language, Reading, and Oral and Broad Language and GPAs.

<u>Type of Grade Point Average</u>						
Language Proficiency	Overall		Language	Math	Non-Language	
<u>English</u>						
Broad	<i>r</i>	.43*	.38*	.37*	.46*	
Lang.	<i>p</i>	.0001	.0001	.0003	.0001	
Oral Lang.	<i>r</i>	.43*	.6438*	.37*	.46*	
	<i>p</i>	.0001	.0001	.0003	.0001	
Reading	<i>r</i>	.40*	.36*	.33*	.46*	
	<i>p</i>	.0001	.0001	.0009	.0001	
Written	<i>r</i>	.52*	.41*	.37*	.56*	
Lang.	<i>p</i>	.0001	.0001	.0002	.0001	
<u>Spanish</u>						
Broad	<i>r</i>	.15	.18	-.03	.17	
Lang.	<i>p</i>	.15	.19	.81	.07	
Oral Lang.	<i>r</i>	.04	.02	-.09	.07	
	<i>p</i>	.73	.83	.40	.52	
Reading	<i>r</i>	.17	.17	-.01	.21*	
	<i>p</i>	.10	.11	.91	.04	
Written	<i>r</i>	.35*	.35*	.11	.38*	
Lang.	<i>p</i>	.0004	.0007	.31	.0002	
*significant						

Results

Results of the correlations revealed varying strengths in relations between the variables of interest. The results for language proficiency and standardized achievement tests revealed significant relations between English proficiency and all tests of the achievement battery (see Table 1). The strongest relations were noted between all components of English proficiency (Reading and Broad, Oral, and Written Language) and the Composite Achievement Score (.84, $p = .001$). This suggests that as English proficiency increases, so does achievement as measured by standardized tests.

Significant correlations were also observed between Spanish proficiency and standardized achievement scores (see Table 1). Most notably in Reading and Written Language. A positive correlation was shown among Reading and the Composite Achievement, the Reading subtest, and Vocabulary subtest scores. The strongest significant correlations were found between Written Language and all of the standardized achievement scores. These findings indicate that literacy in Spanish positively influences scores on standardized achievement tests.

Correlations between language proficiency and GPA also revealed significant findings. English proficiency correlations with grade point average were significant among all areas examined. The strongest relation was seen between Oral Language proficiency in English and Language GPA. The next highest correlation was noted between Written Language and the Non-Language (.56), and Overall (.52) GPAs (see Table 2).

The correlations between Reading in Spanish and the Non-Language GPA proved to be significant. Other significant findings were found between Written Language proficiency in Spanish and Overall, Language, and Non-Language GPAs (see Table 2).

DISCUSSION

For many years, researchers have examined the impact of bilingualism on various areas such as intelligence and academic success. While early thought and practice was to eliminate first languages and replace them with English, current research suggests that bilingualism is an asset (Romaine, 1995). To further understand the connection between proficiency and academic success, the research reported in this paper examined relations between language proficiency (including oral language and literacy) in English and Spanish and academic achievement. With the increase in the Latino population and a need to increase retention in elementary, secondary, and higher education, it will be important to determine the role that language proficiency plays in academic success.

In some respects, the findings of this study were not surprising. It is logical to assume that English proficiency influences scores on standardized tests and grade point average. The results of this study were no different. However, an important finding was the stronger relation found between English proficiency and the standardized test administered (Iowa Tests), rather than with GPA. GPAs have been noted to be low in reliability. Grade point averages can be influenced by a variety of factors such as teacher biases, and student effort and behavior. These results may reflect the low reliability seen with GPAs. In addition, the test used to measure language proficiency may not mirror the curriculum accurately, and the two normed tests are more similar in the content that they measure.

The more surprising results were found between Spanish skills, specifically reading and written language proficiency, and a test of academic achievement in English. Small relations were found between Oral and Broad Language, but significant correlations were noted in the literacy areas. Reading in Spanish correlated with the Composite, Reading, and Vocabulary achievement scores. This suggests that reading skills in Spanish appear to influence performance on standardized achievement tests in English. This could be due to the notion of the interdependence of languages (Cummins, 1979a). Perhaps reading abilities in Spanish assist the students' performance on standardized tests in English. Written Language significantly correlated with all of the standardized achievement subtests. It seems that writing skills in Spanish, like proofing, spelling, and grammar, positively influence achievement scores. Again, the interdependence of language helps to explain these findings. However, the requirements of Written Language are different than the reading skills assessed by the Woodcock (1980) language proficiency battery. In reading, students are assessed on their ability to recognize and attack words. Reading comprehension is tested by having students fill in blanks with the word that best fits the item. In the Written Language subtest, students are required to spell and use grammatical and punctuation rules. A subtest on proofing or identifying spelling, grammatical, and punctuation rules is also included. As a result, individuals are required to use different and more complex language skills. Having better developed writing abilities in Spanish thus requires more cognitive academic language proficiency (Cummins, 1976).

While the purpose of this study was not to evaluate bilingual programs, these results substantiate recent findings by Thomas and Collier (1995), which show that continued development of first language skills enhances scores in high school. In addition, these findings indirectly demonstrate that late-exit programs can lead to increased performance on standardized tests in English. Indeed, learning two languages will, enhance mental flexibility and superior concept formation (Cataldi, 1994). The overall findings are important to parents and educators alike. On the one hand, Latino parents can be reassured that

maintenance of Spanish is beneficial. On the other, educators are justified in recognizing that English proficiency influences academic success. However, equally important is the role that proficiency, specifically literacy, in Spanish plays on academic success.

A clearer connection could have been drawn to the interdependence of languages had significance been found in both the oral and literacy aspects of Spanish. The fact that relations were found between reading and Written Language points to the importance of developing literacy skills in Spanish to enhance academic achievement. The findings of this study support the development of CALP to increase academic success; yet, more research is needed to determine the point of proficiency in Spanish from which the most notable results can be obtained. In addition, the indirect benefits need to be systematically studied to fully comprehend the role that language proficiency, including oral language and literacy, plays in achievement. It is crucial, as the 20th century comes to a close, to determine what factors will contribute to the success of Latino youth. While many understand the importance of speaking both the native language and English, more important is developing literacy in the first language. As future leaders, our children must be well educated in a system that encourages, develops, and supports their language and identity.

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