

How Quickly Can Immigrants Become Proficient in School English?

Virginia P. Collier and Wayne P. Thomas

Over the last decade, as the field of bilingual/multicultural/ESL education has become more research-based and has matured professionally, educators in our field have focused on ways to assist our students with their English and their academic skills in hopes that we can somehow speed the process of acquisition of second language and culture, yet we have conducted very little research that analyzes the length of time required to reach sufficient proficiency in second language in an academic context as well as the major variables that influence that process. This article provides a summary of two studies the authors have conducted over the past two years that address these issues. These studies have been received with much

Dr. Collier is Associate Professor of Education and Associate Director of the Center for Bilingual/Multicultural/ESL Teacher Preparation at George Mason University in Fairfax, Virginia.

Dr. Thomas is Associate Professor of Education at George Mason University.

interest by professionals in our field as well as mainstream educators.

The studies (first reported in Collier, 1987, and Collier & Thomas, 1988) analyzed the length of time required for 2,014 limited-English-proficient immigrants to become proficient in academic English, with analysis of the influence of two major variables: age on arrival in the United States and number of years of schooling in native language in the student's home country. For purposes of these studies, academic English consists of a complex network of language and cognitive skills and knowledge required across all content areas for eventual successful academic performance at secondary and university levels of instruction. Academic language here is distinguished from basic language skills or minimal language needed to survive in everyday life in school within the lower grades.

The sample for the Collier and Thomas (1987, 1988) studies included students from 75 different first language backgrounds, 65 percent of whom were Asian and 20 percent of whom were Hispanic. A majority were members of low-income families as measured by U.S. standards when they arrived in the U.S. However, a large percentage of the families came from middle class or upper class backgrounds in their home countries, and they had aspirations of upward mobility. After one or two years of study in the U.S., these students' mathematics scores were at or above the math scores for the native speakers in the U.S. public school system which reflects the students' middle class or upper class background and previous educational achievement. Since the scores of the native speakers in this school district are themselves well above national averages in most cases, the initial performance of the ESL students in math is especially noteworthy.

The sample for the studies was limited to those students who were classified by the U.S. school system upon entry to be at or above grade level in native language schooling but also in need of beginning level ESL classes. Thus, we categorized these students as "advantaged" immigrants, those expected to achieve academically in their second language in the shortest amount of time possible. We expected the findings from this advantaged group would lead to conservative or minimum estimates of the time required for proficiency in academic English, and we expect that less advantaged groups might require longer periods of time, and we intend to examine these groups in future studies.

Long-term cross-sectional data from 1977 to 1987 were gathered on these 2,014 language-minority students attending a large, relatively affluent, suburban U.S. public school system on the East coast. Data collected included SRA (Science Research Associates) scores (tested in English only) for grade levels 4, 6, 8, and 11 in reading, language arts, mathematics, social studies, and science, with dependent variables including age on arrival, length of residence, and number of years of schooling in the native language. The standardized tests were first administered to the students no earlier than two years after entry into the United States, giving the students some time to develop basic skills in a second language before taking a test normed on native speakers.

Upon entry into the school system, these students were given part-time ESL instruction and spent the rest of their day in mainstream classrooms. Most students received pullout instructions from the ESL staff for a maximum of three years. These students received no academic classes taught in their native language after arrival in the U.S. because of the large number of languages represented among the language-minority population, nor did they receive any content-area ESL instruction.

Results of the two studies confirmed in a dramatic way Cummins' (1981) findings on immigrants in Canada. He found that it takes five to seven years for immigrants to reach grade-level norms in academic English. The Collier and Thomas studies (1987, 1988) found that students whose age on arrival was eight to eleven years were the fastest achievers, reaching the 50th percentile when tested in English on all five standardized tests (reading, language arts, mathematics, science, and social studies) after five to seven years' length of residence in the United States. These students reached well above the norms of native speakers on mathematics standardized tests in second language within only two years' length of residence, demonstrating extensive transfer of content knowledge from first to second language. They also reached the 50th percentile on the language arts standardized test in three years; however, this test measures easily-taught, low-level skills in second language such as spelling, punctuation, and simple grammar rules. The reading test is a more appropriate measure of pragmatic language acquisition, thinking skills, and the use of more complex cognitive processes, the kind of predictor of students' performance on language tests required for university admission. These students had strong aspirations to continue their studies at the university, and wanted to do well on standardized achievement tests in English. Their scores on the reading test were the lowest of all content areas, with those taking the test in the fourth and sixth grades reaching the 50th percentile after five years, but those taking the test in the eighth and eleventh grades were projected to take seven to ten years to reach the 50th percentile (See Figures 1-5 for results of the studies.).

The ESL graduates with ages on arrival of four to seven years were significantly below the appropriate performance level for their length of residence in comparison to arrivals at ages eight to eleven. These students had not yet reached the 50th percentile on the standardized tests within the six years for which data were available. Projecting their current rate of performance, it would take these younger arrivals seven to ten years to reach the 50th percentile. It appears that a minimum of two years of native language schooling in the students' home country is a significant variable influencing academic achievement in second language. These four to seven year old arrivals had received very little or no formal schooling in the first language before coming to the U.S. and did not have the opportunity to receive schooling in their native language after arrival.

ESL graduates with ages on arrival of twelve appeared to be doing well when they took the standardized test in eighth grade after three years of schooling in English,

Figure 1. SRA Reading

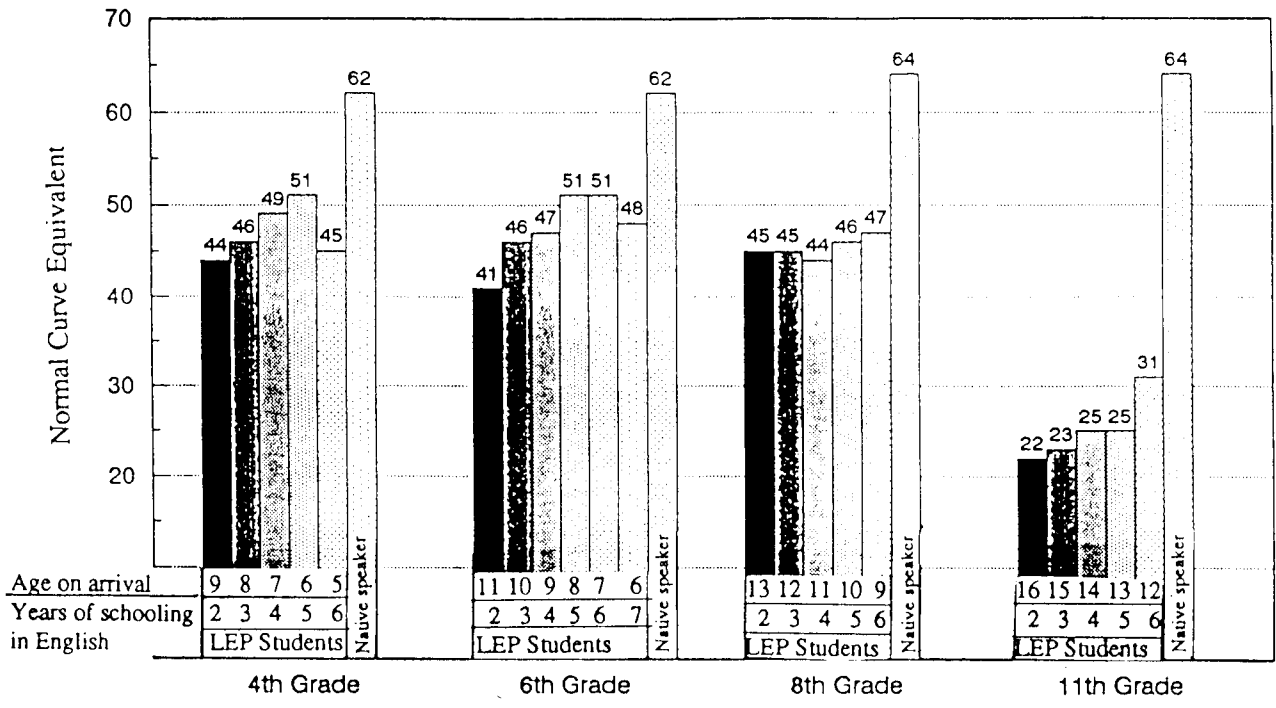
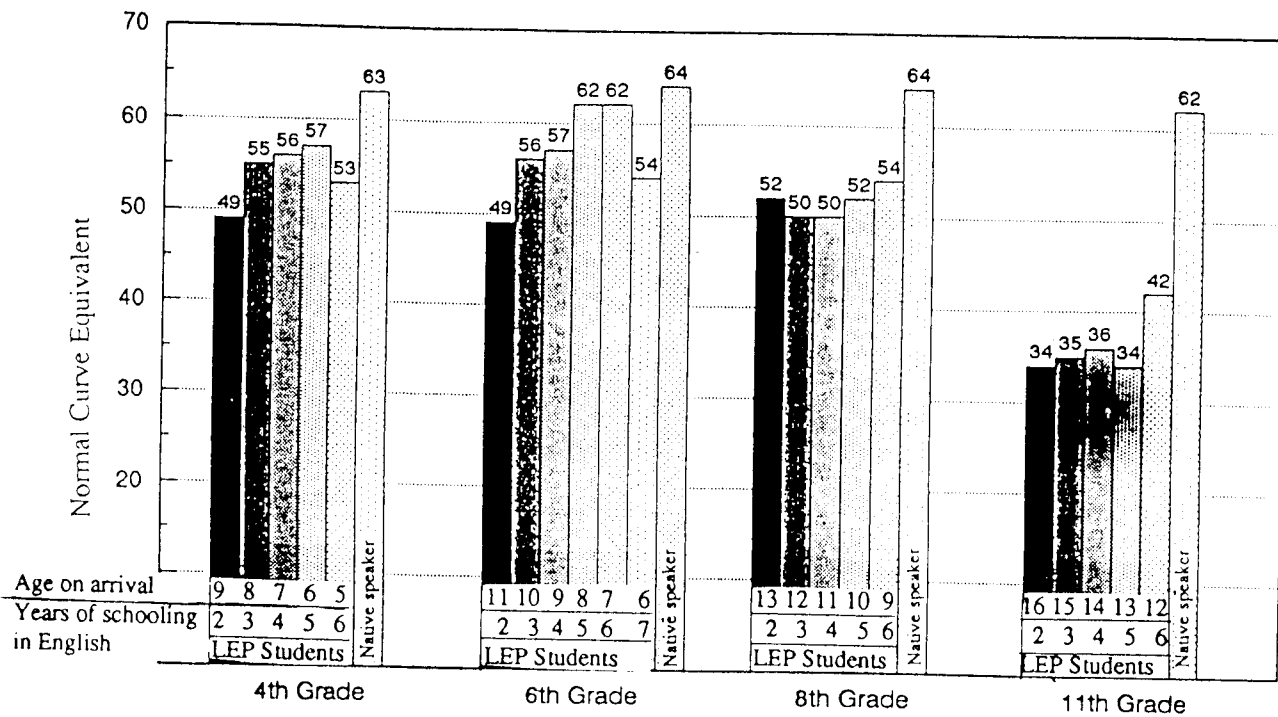


Figure 2. SRA Language



How Quickly Can Immigrants Become Proficient in School English?

Figure 3. SRA Math

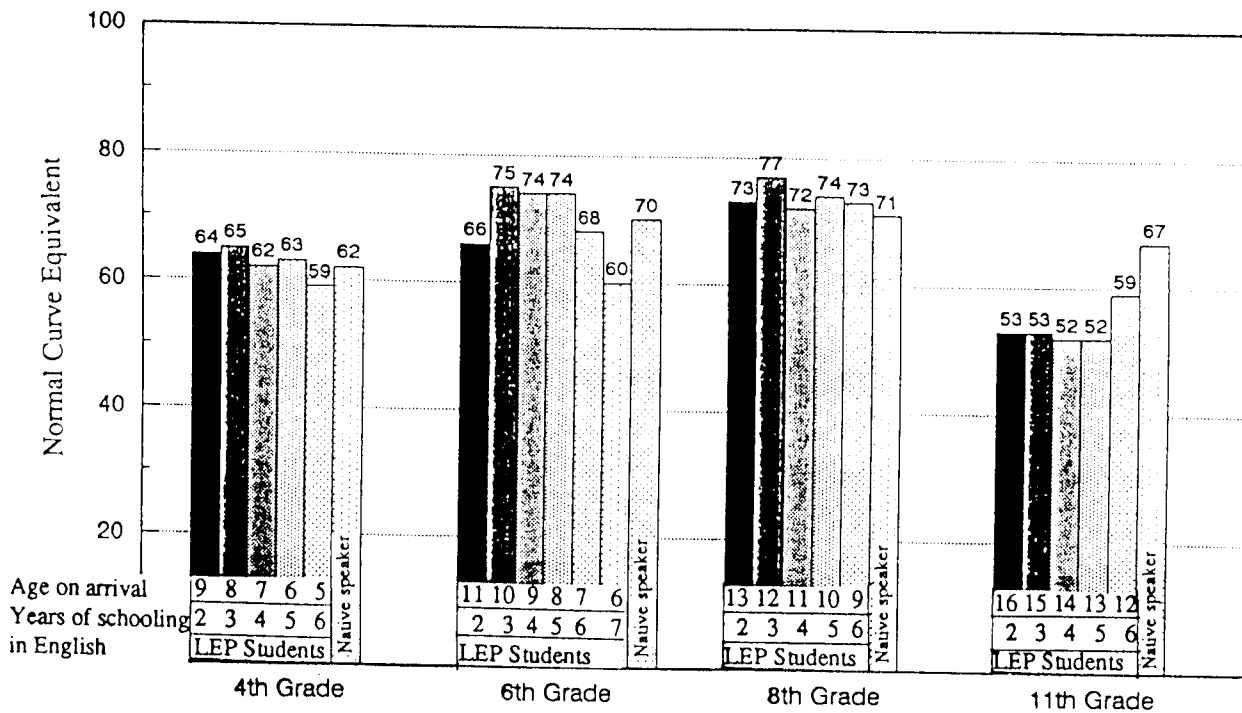


Figure 4. SRA Science

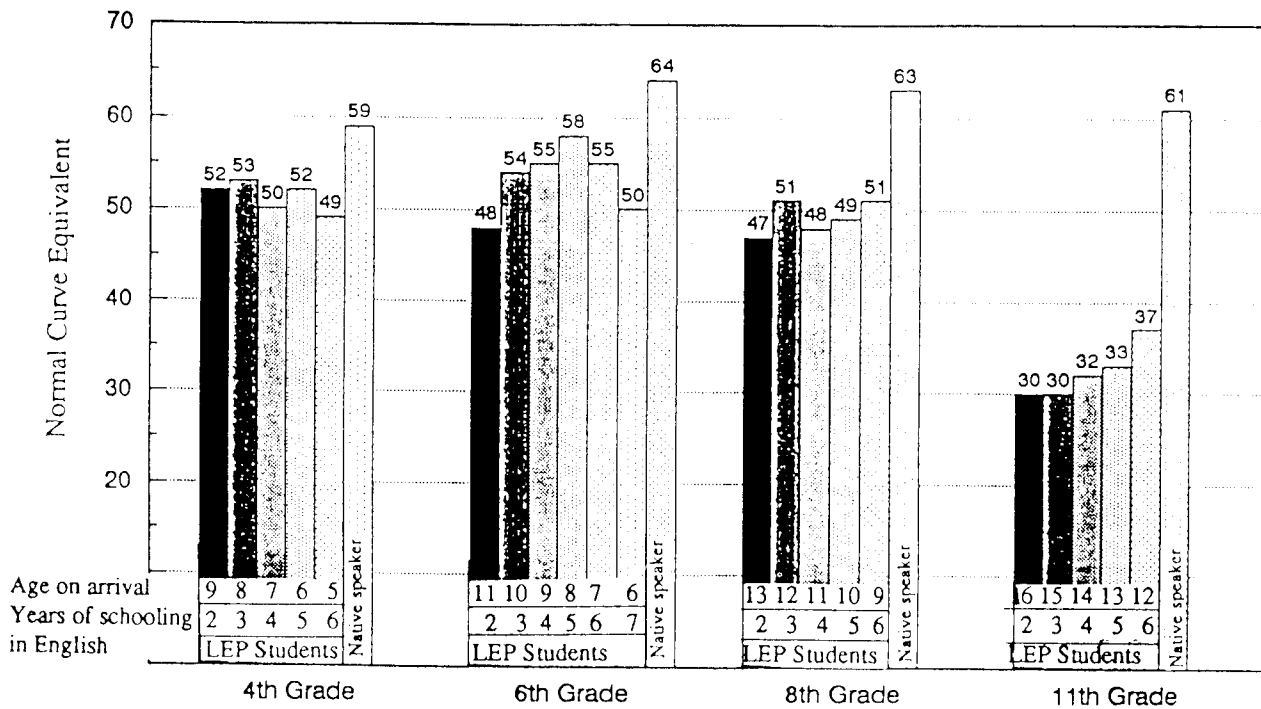
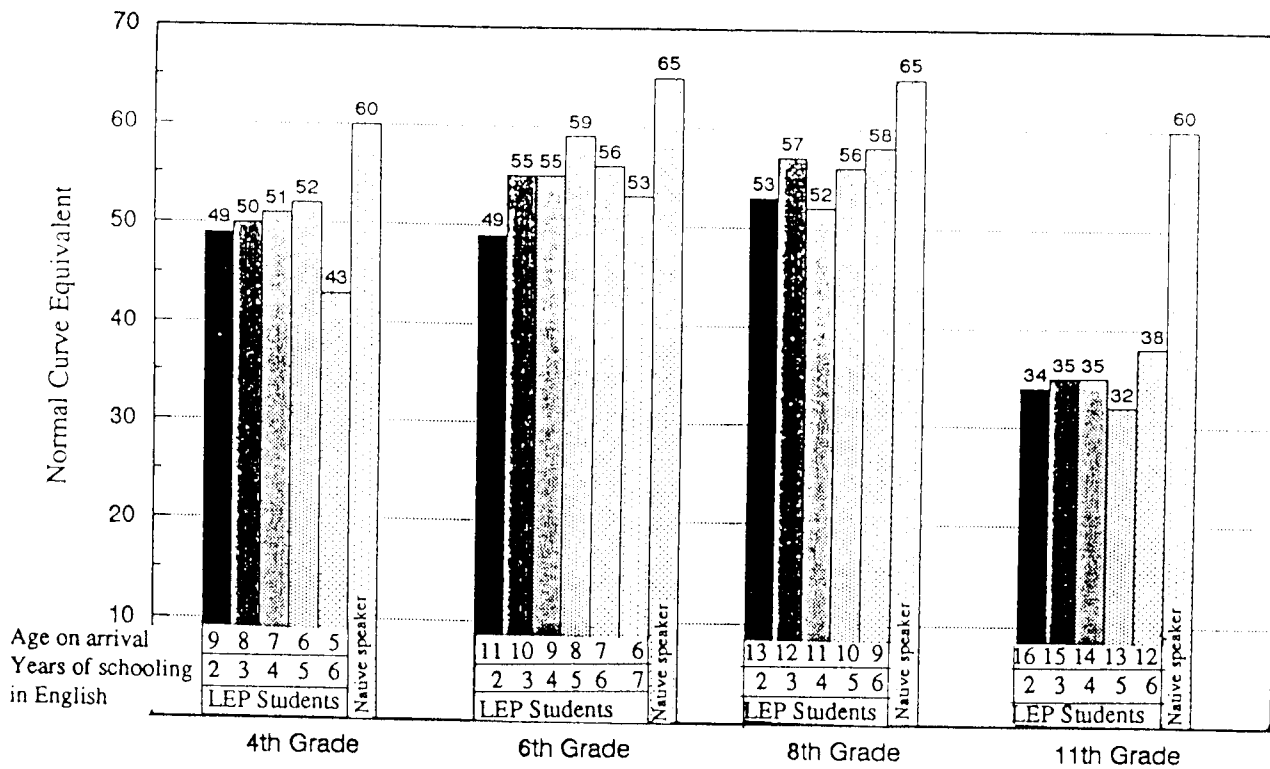


Figure 5. SRA Social Studies



but twelve to sixteen year old arrivals taking the test in eleventh grade had the lowest scores of all. After six years of schooling in English, eleventh graders had not yet reached the 50th percentile in any subject area except mathematics. They were projected to need seven to ten years which is not enough time before graduation from high school.

In addition to the important variable of schooling in first language, a second variable appeared to influence differences in academic performances: the increasing complexity of the tests at each succeeding grade level and comparable increasing cognitive skills and knowledge demanded of students. These studies imply that secondary students, with few remaining years in school, cannot afford the loss of one to three years of cognitive-academic development in all subject areas while mastering sufficient basic skills in English to receive meaningful content-area instruction in a second language.

Many studies of measures of cognitive-academic second language development demonstrate that students who begin study in a second language between the ages of eight and twelve are the fastest, most efficient acquirers of second language for schooling purposes (Collier, 1987; Cummins et al., 1984; Ekstrand, 1976, Ervin-Tripp, 1974; Lapkin et al., 1980; Snow & Hoefnagel-Hohle, 1978). These "efficient" acquirers, however, must still go through a developmental process that takes a long time. Language-minority students who receive at least three to four years of formal schooling in native language generally reach the 50th percentile on standardized tests in a second language in all subject areas after four to seven years of study in a second language (Malherbe, 1978; McConnell & Kendall, 1987; Plante, 1977; Skutnabb-Kangas, 1979, Swain & Lapkin, 1981; Tempes et al., 1984; Troike, 1978; Vorih & Rosier, 1978).

Language-majority students who receive most of their formal schooling in two languages also generally reach national norms on standardized tests in both first and second languages after four to seven years of bilingual schooling (Cummins & Swain, 1986; Genesee, 1987; Larter & Cheng, 1985; Swain & Lapkin, 1981). Few studies have been conducted on the longitudinal achievement of students studying exclusively in a second language, but it would appear that these students may possibly take as long as seven to ten years, (Collier, 1987; Collister & Thomas, 1988) or they may never reach national norms (See Collier, in press, for a more detailed research synthesis on these and other studies).

Implications

From these and other research and evaluation studies examining students' developing second language proficiency when used for academic purposes, combined with content-area achievement in second language, it can be seen that acquisition of cognitive-academic second language proficiency does not occur

quickly but is a developmental process that takes a significant number of years. How many years depends on the student's level of cognitive maturity in first language and subject mastery in first language schooling. Other factors may also influence the process, but little research has been done that examines limited-English-proficient students' long-term school achievement. In summarizing this and other related research studies, the following are proposed implications:

(1) The most successful long-term academic achievement for language-minority and language-majority students appears to occur in school programs that emphasize continuing cognitive-academic development in both first and second languages, such as maintenance, developmental, and two-way immersion bilingual programs. Key features of these models include strong cognitive-academic development for children in both first and second languages, more equal social status relations between minority and majority children, and no lost time on academic mastery of subjects at secondary level. Minority and majority students in these programs typically maintain or exceed grade level performance on standardized tests and frequently outperform comparable students being schooled monolingually.

(2) Transitional bilingual classes at the secondary level have the potential to be an effective means for mastery of complex academic coursework required of newly arrived high school students while they are working on acquisition of English. Subject knowledge acquired in first language transfers to second language. To be effective, these classes need to be well-taught academic courses with high social status. Unfortunately, this ideal is far removed from the reality. That the classes are taught in a minority language relegates them to a lower class status in the eyes of many English-dominant students and staff. Schools using this model need to be creative in ways to overcome the social stigma unconsciously placed on these classes, including language-minority students' low expectations in transitional classes.

(3) When there is no possibility for first language instruction to be offered because of lack of bilingual teacher resources or too many first languages among the language-minority school population, intensive academic instruction in the content areas through ESL is an important alternative. ESL classes should teach the second language through the content areas beginning as early as possible. For high school students, accelerated content-area classes might be offered in which students at advanced ESL levels would take academic ESL content-area courses covering two to three years' academic work in one to two years.

(4) These studies also imply that acquisition of a second language for academic purposes is a developmental process that takes a minimum of five to ten years for the most advantaged limited-English-proficient students. This means most of the students who move from segregated ESL and bilingual classes to mainstream classes after one to three years of special instruction probably have not yet fully developed English proficiency for academic purposes, and the second language acquisition process will be continuing within the mainstream class. Mainstream

teachers, therefore, need to be trained to understand the students' developmental processes and to teach the academic skills needed, not from a remedial, compensatory point of view, but from an enrichment point of view, developing higher-level cognitive-academic skills. We need a closer curricular link between transitional bilingual or ESL classes and mainstream classes.

(5) We need to gather long-term evaluation information on language-minority students' academic achievement. Two or three years of data do not adequately measure limited-English-proficient students' educational progress. From bilingual program evaluations we know that strong academic gains begin to emerge only after three to five years of academic study in both languages. From other program evaluations, we know that younger limited-English-proficient children schooled in English appear to do academically well in school in the early elementary grades but frequently begin to do less well in the upper grades as they work on more complex academic subjects.

(6) The studies summarized here do not include measures of second language academic achievement for students with interrupted or little formal schooling. Many of the studies on second language acquisition represent the most advantaged second language acquirers who arrive with a good educational background in their native language and who have high aspirations for academic success in second language. Given the five to ten years required for advantaged second language acquirers to develop proficiency in second language cognitive-academic skills and content area subjects, it is an important challenge to create school programs to meet the needs of language-minority students who may be quite capable intellectually but who have been caught in circumstances where they have not had the opportunity to attend school in their native language. Future studies will need to address the needs of these students as well.

References

- Collier, V. P. (1987). Age and rate of acquisition of second language for academic purposes. TESOL Quarterly, 21, 617-641.
- Collier, V. P. (1988). The effect of age on acquisition of a second language for school. New Focus, No. 2. Wheaton, MD: National Clearinghouse for Bilingual Education.
- Collier, V. P. (in press). How long? A synthesis of research on academic achievement in second language. TESOL Quarterly, 23.
- Collier, V. P., & Thomas, W. P. (1988, April). Acquisition of cognitive-academic second language proficiency: a six-year study. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: A reassessment. Applied Linguistics, 2, 132-149.
- Cummins, J., & Swain, M. (1986). Bilingualism in Education. New York: Longman.
- Cummins, J., Swain, M., Nakajima, K., Handscombe, J., Green, D., & Tran, C. (1984). Linguistic interdependence among Japanese and Vietnamese immigrant students. In C. Rivera (Ed.), Communicative competence approaches to language proficiency assessment: Research and application (pp. 60-81). Clevedon, England: Multilingual Matters.
- Ekstrand, L. (1976). Age and length of residence as variables related to the adjustment of migrant children, with special references to second language learning. In G. Nickel (Ed.), Proceedings of the Fourth International Congress of Applied Linguistics (Vol. 3, pp. 179-197). Stuttgart: Hochschulverlag.
- Ervin-Tripp, S. M. (1974). Is second language learning like the first? TESOL Quarterly, 8, 111-127.
- Genesee, F. (1987). Learning through two languages: Studies of immersion and bilingual education. New York: Newbury House.
- Lapkin, S., Swan, M., Kamin, J., & Hanna, G. (1980). Report on the 1979 evaluation of the Peel County late French immersion program, grades 8, 9, 10, 11 and 12. Mimeo. Toronto: Ontario Institute for Studies in Education.

- Larter, S., & Cheng, M. (1984). Bilingual education and bilingualism: A review of research literature. Toronto: Research Department, Board of Education.
- Malherbe, E. G. (1978). Bilingual education in the Republic of South Africa. In B. Spolsky & R. Cooper (Eds.), Case studies in bilingual education (pp. 167-202). Rowley, MA: Newbury House.
- McConnell, B. B., & Kendall, J. R. (1987, April). Application of the cohort model to evaluate bilingual programs: The "BELEPS" program. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Plante, A. J. (1977). The Connecticut "pairing" model proves effective in bilingual/bicultural education. Phi Delta Kappan, 58, 427.
- Skutnabb-Kangas, T. (1979). Language in the process of cultural assimilation and structural incorporation of linguistic minorities. Rosslyn, VA: National Clearinghouse for Bilingual Education.
- Snow, C., & Hoefnagel-Hohle, M. (1978). The critical period for language acquisition. Evidence from second language learning. Child Development, 49, 1114-1128.
- Swain, M., & Lapkin, S. (1981). Bilingual education in Ontario: A decade of research. Toronto: Ministry of Education.
- Tempes, F., Burnham, L., Pina, M., Campos, J., Matthews, S., Lear, E., & Herbert, C. (1984, January). Implementing theoretically sound programs: Do they really work? Paper presented at the annual conference of the California Association for Bilingual Education, San Francisco.
- Troike, R. (1978). Research evidence for the effectiveness of bilingual education. NABE Journal, 3(1), 13-24.
- Vorih, L., & Rosier, P. (1978). Rock Point community school: An example of a Navajo-English bilingual elementary school program, 263-269.