

Second-language acquisition for school:
Academic, cognitive, sociocultural,
and linguistic processes

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Ever since I began studying linguistics in the early 1970s, I have been intrigued with the unnecessary artificial distance often created between researchers in education and linguistics, feeling that both fields of inquiry have much to say to each other. As I have watched the field of second-language acquisition deepen its knowledge base over the past twenty-five years, I have worked on synthesizing this important research into information useful for educators. When training public-school superintendents, administrators, counselors and teachers, as well as university faculty, I am continually amazed at the misinformation that persists about second-language acquisition. At the same time, I find that too many linguists maintain a dangerously narrow focus on their chosen specialization in linguistics, without keeping up with the deepening and informative knowledge base in education and social science research on second-language acquisition.

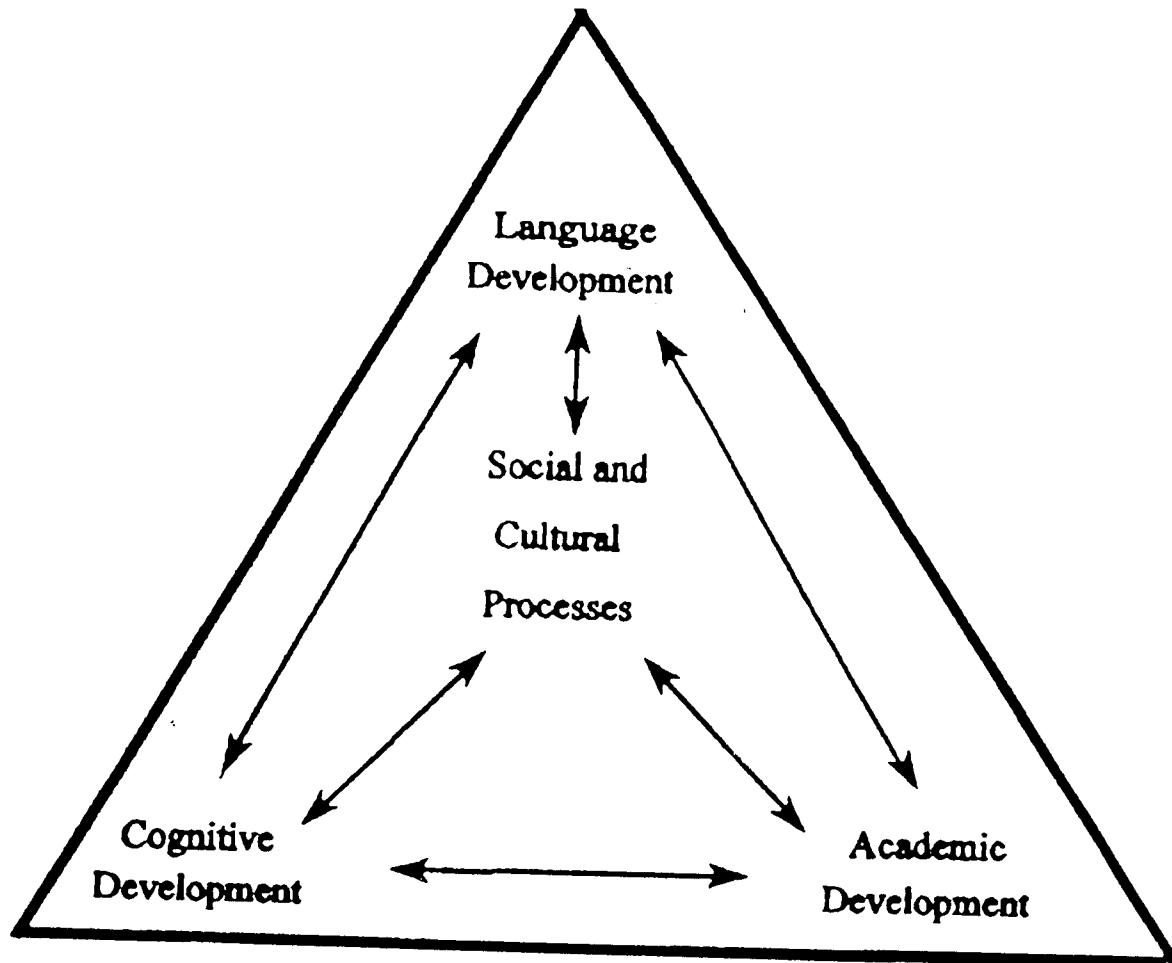
For these reasons, I have chosen in this paper to present a new theoretical perspective on second-language acquisition that addresses both audiences—educators and linguists—who are the focus of this Georgetown University Round Table. My proposed conceptual model on second-language acquisition for school is based on the work of many researchers in linguistics, education, and the social sciences, as well as my own work with co-researcher Wayne Thomas. For the past ten years we have been exploring the length of time needed for students attending school where instruction is conducted through their second language to reach deep enough levels of proficiency in the second language to compete on an equal footing with native speakers of that language. In this research, we have also worked on identifying the variables that seem to influence most strongly the process of second-language acquisition for school contexts. The conceptual model which has emerged from our research, is still in the initial stages of development and will continue to be refined in response to additional research findings. I hope this paper can at least stimulate dialogue among linguistics and education researchers and practitioners, as we continue to search for understanding and assist the process of second-language acquisition.

I am purposely choosing to delimit the context of second-language acquisition for this conceptual model to a formal-schooling context. In other words, I am asking the question, "How does second-language acquisition happen within a school context? What processes occur and what factors make a difference?" By focusing on formal schooling as the context of second-language use, I am not referring to learning a foreign language in the formal classroom as contrasted with natural second-language acquisition outside of school. Rather, this model focuses on *how students acquire a second language when it is used in school for instructional purposes across the curriculum*. While the examples in this paper focus on the language-minority student (who comes from a home where a language other than the dominant language of the society is spoken) being schooled in a second language for at least part or perhaps all of the school day, the conceptual model may also be applied to the language-majority student who speaks the dominant language and is being schooled in a bilingual classroom.

Second-language acquisition for school: A conceptual model. First, I will introduce the components of the model; then, through discussion of the strong research base that informs the model, I will illustrate its usefulness, with examples that speak to education practitioners. The model has four major components: academic, cognitive, sociocultural, and linguistic processes. To understand the interrelationships among these four components of second-language acquisition for school, I have created a figure to symbolize the developmental second-language-acquisition process (Figure 1 below). While this figure looks simple on paper, it is important to imagine that this is a multifaceted prism with many dimensions. The four major components—sociocultural, linguistic, academic, and cognitive processes—are interdependent and complex.

Sociocultural processes. At the heart of the figure is the individual student going through the process of acquiring a second language in school. Central to that student's acquisition of language are all of the surrounding social and cultural processes occurring in everyday life with family and community and expanding to school, the region, and the society—in the student's past, present, and future. Examples of sociocultural processes at work in second-language acquisition include individual student variables such as self-esteem or anxiety and other affective factors; classroom variables such as a competitive versus a collaborative instructional environment; school variables such as majority-minority relations or administrative structures that create social and psychological distance between groups; community or regional variables such as prejudice and discrimination expressed through personal and professional

Figure 1. Second-language acquisition for school. (©Virginia P. Collier)



contexts; and societal variables such as the subordinate status of a minority group or patterns of acculturation versus forces of assimilation.

Language development. For second-language acquisition in school contexts, linguistic processes, a second component of the model, consist of the subconscious aspects of language development (an innate ability all humans possess for the acquisition of oral language), as well as the metalinguistic, conscious, formal teaching of language in school, *and* acquisition of the written system of language. This includes the acquisition of the oral and written systems of the student's second language across all language domains, such as phonology, vocabulary, morphology, syntax, semantics, pragmatics, paralinguistics, and discourse. Furthermore, to assure cognitive and academic success in the second language, a student's *first* language system, oral *and* written, must be developed to a high cognitive level across all these language domains at least through the elementary-school years. Thus, linguistic processes encompass the development of both first and second languages to a high degree of academic proficiency.

Academic development. A third component of the model, academic development, includes all schoolwork in language arts, mathematics, the sciences, and social studies for each grade level, kindergarten through twelfth grade and beyond. With each succeeding grade, academic work gets cognitively more complex, expanding vocabulary and the sociolinguistic and discourse dimensions of language to increasingly higher levels of development. Academic knowledge and conceptual development transfer from first language to second language; thus it is most efficient to develop academic work through students' first language, while teaching the second language during other periods of the school day through meaningful academic content. In earlier decades in the U.S., we emphasized teaching the second language as the first step, and postponed the teaching of academics. Research has shown us that postponing or interrupting academic development in first and second languages is likely to promote academic failure. In an information-driven society that demands more knowledge processing with each succeeding year, students cannot afford the lost time.

Cognitive development. The fourth component of this model, cognitive development, is also deeply interconnected to the other three components. The cognitive dimension had been mostly neglected by second-language educators in the U.S. until the past decade. In language teaching, we simplified, structured, and sequenced language curricula during the 1970s, and when we added academic content into our language lessons in the 1980s, we watered academics down into cognitively simple tasks. We also too often neglected the crucial role of cognitive development in the first language. Now we know from our growing research base that we must address all of these components equally if we are to succeed in developing deep academic proficiency in the second language.

Interdependence of the four components. All of these four components—sociocultural, academic, cognitive, and linguistic—are interdependent. If one is developed to the neglect of another, it may be detrimental to a student's overall growth and future success. The academic, cognitive, and linguistic components must be viewed as developmental, and for the child, adolescent, and young adult still going through the process of formal schooling, development of any one of these three components depends critically on simultaneous development of the other two, through both first and second languages. Sociocultural processes strongly influence, in both positive and negative ways, the students' access to cognitive, academic, and language development. It is crucial that educators provide a socioculturally supportive school environment that allows natural language, academic, and cognitive development to flourish.

Research evidence to support the model. Given the short format of GURT presentations, I have limited my discussion of the research evidence here to

syntheses of some important factors that have emerged in the Thomas and Collier research (1995). For those who want a more detailed discussion of the extensive research base for this conceptual model, see Collier (1995).

First- and second-language acquisition: A lifelong process. To understand what occurs in first- and second-language acquisition for school, it is important to recognize the complex, lifelong process that we go through in acquiring our first language and the parallels in second-language acquisition. Development of a complex oral-language system from birth to age five is universal, given no physical disabilities and no isolation from humans. But the most gifted five-year-old entering kindergarten is not yet halfway through the process of first-language development. Children from ages six to twelve continue to acquire subtle phonological distinctions, vocabulary, semantics, syntax, formal discourse patterns, and complex aspects of pragmatics in the oral system of their first language (Berko Gleason 1993; de Villiers and de Villiers 1978; Goodluck 1991; McLaughlin 1984, 1985). In addition, children being formally schooled during these years add reading and writing skills to those of listening and speaking, across all the domains of language, with each age and grade level increasing the cognitive level of language use within each academic subject. An adolescent entering college must acquire an enormous vocabulary in every discipline of study and continue to acquire complex writing skills. These processes continue through adulthood as we add new contexts of language use to our life experience. As adults we acquire new subtleties in pragmatics, as well as the constantly changing patterns in language use that affect our everyday oral and written communication with others. Thus first-language acquisition is an unending, lifelong process (Berko Gleason 1993; Collier 1992a; Harley, Allen, Cummins and Swain, 1990; McLaughlin 1985).

Second-language acquisition is an equally complex phenomenon, paralleling first-language acquisition in many ways. As in acquiring our first language, we move through developmental stages, relying on sources of input to provide modified speech that we can at least partially comprehend (Ellis 1985; Hakuta 1986). However, second-language acquisition is more subject to influence by other factors than is oral development in our first language. When the context of second-language use is school, where a deep level of proficiency is required, it is necessary to examine the role of a student's first language in relation to the second language, the type of input and interaction needed for the second language to flourish, and the sociocultural context of schooling.

Academic second-language proficiency: How long? Cummins (1979, 1981, 1986b, 1989a, 1991) popularized for educators the concept that different levels of language proficiency are needed, depending on the context of language use, basing his theories on the work of many other researchers before him. Given the complex definition of language required in an academic context, provided in the

previous section, my co-researcher, Wayne Thomas, and I have been exploring the "how long" question for the past ten years, following Cummins's initial examination (1981) of long-term academic achievement by immigrants to Canada. In the Thomas and Collier series of studies (Collier 1987, 1988, 1989c, 1992a, 1992b; Collier and Thomas 1988, 1989; Thomas and Collier 1995), we have carefully controlled for a wide variety of student-background variables and instructional treatments to examine student performance on many different types of outcome measures across time. The measures we use are the academic-achievement measures employed by school systems to monitor students' progress in school, including standardized tests and performance-assessment measures in language arts, reading, mathematics, science, and social studies. In contrast to a typical language-proficiency test, these are not static measures. Instead, they change with each succeeding grade level, because the academic and cognitive work expected with each additional year of schooling becomes increasingly more complex. Therefore, the results on these tests are very different from those on a language-proficiency instrument that uses the same form each time it is administered. We chose these tests because they are the ultimate measures of academic proficiency in a second language. When students being schooled in a second language reach proficiency levels in the second language deep enough to compete at the typical level of native-speaker performance (expressed on a standardized test as fiftieth percentile or normal curve equivalent [NCE]), it is a major achievement, because native speakers do not sit around waiting for nonnative speakers to catch up with them. During the school years, native speakers' first-language development continues at a rapid rate. Thus for nonnative speakers the goal of proficiency equal to that of a native speaker is a moving target (Thomas 1992).

In our studies we have found that in U.S. schools where all instruction is given through the second language (English), nonnative speakers of English with no schooling in their first language take seven to ten years or more to reach age- and grade-level norms of their native-English-speaking peers. Immigrant students who have had two to three years of first-language schooling in their home country before they come to the U.S. take at least five to seven years to reach typical native-speaker performance (similar to what Cummins 1981 found). This pattern exists across many groups, regardless of the particular home language that students speak, country of origin, socioeconomic status, and other student-background variables. In our examination of large datasets across many different research sites, we have found that the most significant student-background variable is the amount of formal schooling students have received in their first language. Across all program treatments, we have found that nonnative speakers being schooled in the second language for part or all of the school day typically do reasonably well in the early years of schooling (kindergarten through second or third grade). But from the fourth grade through middle school and high school, when the academic and cognitive demands of the curriculum increase

rapidly with each succeeding year, students with little or no academic and cognitive development in their first language do increasingly less well as they move into the upper grades.

What about students schooled bilingually in the U.S.? It still takes a long time to demonstrate academic proficiency in the second language comparable to a native speaker. But the difference in student performance in a bilingual program, in contrast to an all-English program, is that students typically score at or above grade level in their first language in all subject areas, while they are building academic development of their second language. When students are tested in their second language, they typically reach and surpass native speakers' performance across all subject areas after four to seven years in a quality bilingual program. Because they have not fallen behind in cognitive and academic growth during the four to seven years that it takes to build academic proficiency in a second language, bilingually schooled students typically sustain this level of academic achievement and outperform monolingually schooled students in the upper grades (Collier 1992b; Thomas and Collier 1995). Remarkably, these findings apply to students of many different backgrounds, including language-majority students in a bilingual program. For example, in Canada, English-speaking students who receive all their schooling bilingually, typically begin to reach native-speaker norms on academic tests given in their second language (French) around fifth or sixth grade, and when tested in their first language, they outperform monolingually schooled students (California Department of Education 1984; Collier 1992a; Cummins and Swain 1986; Genesee 1987; Harley, Allen, Cummins, and Swain 1990; Swain and Lapkin 1981).

Role of first language. Many studies have found that cognitive and academic development in the first language has an extremely important and positive effect on second-language schooling (Baker 1988; Bialystok 1991; Collier 1989, 1992c; Cummins 1991; Cummins and Swain, 1986; Díaz and Klingler 1991; Dolson 1985; Freeman and Freeman 1992; García 1993, 1994; Genesee 1987, 1994; Hakuta 1986; Lessow-Hurley 1990; Lindholm 1991; McLaughlin 1992; Snow 1990; Thomas and Collier, 1995; Tinajero and Ada 1993; Wong Fillmore and Valadez 1986). Academic skills, literacy development, concept formation, subject knowledge, and learning strategies developed in the first language will all transfer to the second language. As students expand their vocabulary and their oral and written communication skills in the second language, they can increasingly demonstrate their knowledge-base developed in their first language. Many literacy skills developed in any first language not only are easily transferred but also are crucial to academic success in a second language (Au 1993; Bialystok 1991; Cummins 1989a, 1989b, 1991; Cummins and Swain 1986; Freeman and Freeman 1992; Genesee 1987, 1994; Hudelson 1994;

Johnson and Roen 1989; Lessow-Hurley 1990; Lindholm 1991; Snow 1990; Tinajero and Ada 1993; Wong Fillmore and Valadez 1986).

Furthermore, some studies indicate that if students do not reach a certain threshold in their first language, including literacy, they may experience cognitive difficulties in their second language (Collier 1987; Collier and Thomas 1989; Cummins 1976, 1981, 1991; Dulay and Burt 1980; Duncan and De Avila 1979; Skutnabb-Kangas 1981; Thomas and Collier 1995). The key to understanding the role of first language in the academic development of second language is to understand the function of uninterrupted cognitive development. When students switch to second-language use at school, and teachers encourage parents to speak in the second language at home, both students and parents function at a level cognitively far below their age. In contrast, when parents and children speak the language that they know best, they are working at their actual level of cognitive maturity. Cognitive development can occur at home even with nonformally-schooled parents through asking questions, solving problems together, building or fixing something, cooking together, and talking about life experiences. Once parents understand the importance of cognitive development in the first language, they are usually overjoyed to realize that the language that they know best will further their children's growth (Arnberg 1987; Caplan, Choy, and Whitmore 1992; Collier 1981, 1986; Delgado-Gaitán 1990; Dolson 1985; Genesee 1994; Moll, Vélez-Ibáñez, Greenberg, and Rivera 1990; Saunders 1988; Skutnabb-Kangas and Cummins 1988; Wong Fillmore 1991a).

Role of input and interaction in language development. In our current research (Thomas and Collier 1995) we have also found that classes in school that are highly interactive, emphasizing student problem-solving and discovery learning through thematic experiences across the curriculum, are likely to provide the kind of social setting for natural language acquisition to take place simultaneously with academic and cognitive development. For school contexts, this applies to both first- and second-language acquisition since both are still developing throughout the school years. Krashen's work (1981, 1982, 1985) on the optimal conditions for oral and written input to foster natural language acquisition provides insight here, along with Ellis's research (1985, 1990) on the supportive but not central role that formal language instruction plays in the acquisition process. Swain (1985) emphasizes the importance of developing students' speaking and writing skills in first and second languages through interactive classes. From a comprehensive model developed through dialogs with Swain and many other linguists, Wong Fillmore (1991b: 52-53) warns us that three conditions are essential to second-language acquisition: "(1) *Learners* who realize that they need to learn the target language and are motivated to do so; (2) *speakers of the target language* who know it well enough to provide the learners with access to the language and the help they need for learning it; and

(3) a *social setting* which brings learners and target language speakers into frequent enough contact to make language learning possible." Collaborative interaction in which meaning is negotiated with peers is central to the language-acquisition process, both for oral- and written-language development (Allwright and Bailey 1991; Chaudron 1988; Ellis 1985, 1990; Enright and McCloskey 1988; Freeman and Freeman 1992; Gass and Madden 1985; Goodman and Wilde 1992; Hatch 1983; Johnson and Roen 1989; Swain 1985; Wong Fillmore 1989, 1991b).

Sociocultural context of schooling. Research from anthropology, sociology, sociolinguistics, psycholinguistics, and education has provided insights into the powerful influence that sociocultural processes have on language acquisition. This brief section can only provide a glimpse of a few of these very complex issues.

External social factors that students bring to the classroom from their past experiences represent one category of sociocultural influences. For example, among our new arrivals to the U.S. are undocumented as well as legal refugees escaping war, political oppression, or severe economic conditions. These students bring to our classes special social, emotional, and academic needs, often having experienced interrupted schooling in their home countries. Students seeking refuge from war may exhibit symptoms of posttraumatic stress disorder, including depression, withdrawal, hyperactivity, aggression, and intense anxiety in response to situations that recall traumatic events in their lives (Coelho 1994). Studies of these refugees' adaptation to life in the U.S. and success in school have emphasized the importance of a bicultural schooling context, integrating first language, culture, and community knowledge into the curriculum, as well as the importance of parents' maintenance of the home language and cultural traditions (Caplan, Choy, and Whitmore 1992; Tharp and Gallimore 1988; Trueba, Jacobs, and Kirton 1990).

Another powerful student-background variable that has been cited extensively in education research is socioeconomic status, although changes in instructional practices and school contexts can lessen its influence. Research on effective schools for language-minority students has found that schools that provide a strong bilingual/bicultural, academically rich context for instruction can lessen or eliminate the influence of family income level or parents' lack of formal schooling (Collier 1992b; Cummins 1989a; Krashen and Biber 1988; Lucas, Henze, and Donato 1990; Ramírez 1992; Rothman 1991; Thomas and Collier 1995; Valdez Pierce 1991).

External societal factors are another major influence on language acquisition for school. These include social and psychological distance created between first- and second-language speakers, perceptions of each group in interethnic comparisons, cultural stereotyping, intergroup hostility, the subordinate status of a minority group, or societal patterns of acculturation versus assimilation

forces at work (Brown 1994; McLaughlin 1985; Schumann 1978). Majority-minority and interethnic relations, as well as social-class differences, are at the heart of these factors influencing second-language acquisition and success in school. Researchers such as Ogbu (1974, 1978, 1987, 1992, 1993), Oakes (1985, 1992), and Minicucci and Olsen (1992) have found extensive evidence of institutionalized structures in U.S. schools—tracking, ability grouping, and special programs that segregate language-minority students—that deny access to the core curriculum. Segregated transitional bilingual classes and English as a second language (ESL) classes can sometimes heighten the social inequities and subconsciously maintain the status quo in majority-minority relations (Hernández-Chávez 1977, 1984; Spener 1988). The negative social perception of these classes that both English-speaking and language-minority students have often developed in U.S. schools has led to the social isolation of second-language students, which denies them the critical conditions that Wong Fillmore (1991b) says must be present for second-language acquisition to take place. To break the perception of special classes as remedial in nature, they must be a permanent, desired, integral part of the curriculum, taught through quality instruction that encourages interactive, problem-solving, experiential learning through a multicultural, global perspective (Cummins 1986a, 1989a, 1989b; Frederickson 1995; Walsh 1991). In our current research (Thomas and Collier 1995), we have found that the school program most conducive to language-minority students' academic success in a second language is two-way bilingual education. This program model integrates majority- and minority-language speakers and stimulates the academic success of both groups in two languages. Thus schools can serve as agents of change, or places where teachers, students, and staff of many varied backgrounds join together and transform tensions between groups that currently exist in the broader society.

Research-based recommendations for linguistic theory-building and for educators. Now let us revisit my conceptual model of second-language acquisition for school. While the model has emerged from the multiple variables we are analyzing in our current research (Thomas and Collier 1995), it has strong connections to the work of many linguists. Larsen-Freeman (1985), in an overview of theories in second-language acquisition, found linguistic, social, and cognitive factors to be major categorical dimensions of the second-language-acquisition process. Some theorists consider only one of these dimensions to play the central role; others make reference to at least some aspects of the three dimensions. For example, Wong Fillmore (1985, 1991b) refers to linguistic, social, and cognitive processes as equally important in the language acquisition process. In this paper, I have expanded Wong Fillmore's conceptions of these three dimensions and applied them to a schooling context. In Larsen-Freeman's latest synthesis (1993) of second-language-acquisition research, she challenges

those of us in the field to broaden our perspective, to take both learning and learner factors into account, as well as to answer questions about teaching. This conceptual model is an attempt to move the field of second-language acquisition towards a broader perspective.

Based on this model, our current research also leads to recommendations for educators (Thomas and Collier 1995). When examining interactions among student-background variables and instructional treatments and their influence on student outcomes, we have found that two-way bilingual education at the elementary-school level is the most promising program model for the long-term academic success of language-minority students. As a group, students in this program maintain grade-level skills in their first language at least through sixth grade and reach the fiftieth percentile or NCE in their second language generally after four to five years of schooling in both languages. They also generally sustain the gains they have made when they reach secondary education, unlike the students in programs that provide little or no academic support in their first language. Program characteristics include: (1) integrated schooling, with English speakers and language-minority students learning academically through each others' languages; (2) perceptions among staff, students, and parents that it is a "gifted and talented" program, leading to high expectations for student performance; (3) equal status of the two languages achieved, to a large extent, creating self-confidence among language-minority students; (4) healthy parent involvement among both language-minority and language-majority parents, for closer home-school cooperation; and (5) continuous support for staff development, emphasizing whole-language approaches, natural language acquisition through all content areas, cooperative learning, interactive and discovery learning, and cognitive complexity for all proficiency levels.

In our research, we have also found significant differences between "traditional" versus "current" approaches to language teaching for students schooled in the U.S. for kindergarten through twelfth grade. In the long term, students do less well in programs that focus on discrete units of language taught in a structured, sequenced curriculum in which the learner is treated as a passive recipient of knowledge. Students achieve significantly better in programs that teach language through cognitively complex content, taught through problem-solving and discovery learning in highly interactive classroom activities. ESL pullout in the early grades, when taught using a more traditional approach, is the least successful program model for students' long-term academic success. During Grades K-3, there is little difference among programs, but significant differences appear as students continue in the mainstream at secondary level.

For students entering U.S. schools at the secondary level, when first-language instructional support cannot be provided, the following program characteristics can make a significant difference in academic achievement for entering English language learners: (1) The second language taught through academic content; (2) a conscious focus on teaching learning strategies to help

develop thinking skills and problem-solving abilities; and (3) continuous support for staff development which emphasizes activation of students' prior knowledge, respect for students' home language and culture, cooperative learning, interactive and discovery learning, intense and meaningful cognitive and academic development, and ongoing assessment using multiple measures.

In summary, in this research we have begun a complex process of attempting to identify the variables that most strongly seem to influence the process of second-language acquisition for school contexts. While it is clear that the process of acquiring a second language is extremely complex and variable from one acquirer to another, we have been able to find patterns in large school databases that inform educators and linguists. When examining the factors that play an important role, we find that they form an interwoven complexity that schools need to understand to provide an appropriate context for second-language acquisition to occur.

We have found that for young children and adolescents in Grades K-12, uninterrupted cognitive, academic, and linguistic development is essential to school success, and the neglect or overemphasis of one of these three components may affect students' long-term growth. Our data show that extensive cognitive and academic development in the students' first language is crucial to second-language academic success. Furthermore, the sociocultural context in which students are schooled is equally important to students' long-term success in second-language schooling. Contrary to the popular idea that it takes a motivated student a short time to acquire a second language, our studies examining immigrants and language-minority students in many different regions of the U.S. and with many different background characteristics have found that four to twelve years of second-language development are needed for the most advantaged students to reach deep academic proficiency and compete successfully with native speakers. Given this extensive length of time, educators must understand the complex variables influencing the second-language process and provide a sociocultural context that is supportive, and yet academically and cognitively challenging.

REFERENCES

- Allwright, Dick and Kathleen M. Bailey. 1991. *Focus on the language classroom: An introduction to classroom research for language teachers*. Cambridge, U.K.: Cambridge University Press.
- Arnberg, Lenore. 1987. *Raising children bilingually: The pre-school years*. Clevedon, U.K.: Multilingual Matters.
- Au, Kathryn H. 1993. *Literacy instruction in multicultural settings*. Fort Worth, Texas: Harcourt Brace Jovanovich.

- Baker, Colin. 1988. *Key issues in bilingualism and bilingual education*. Clevedon, U.K.: Multilingual Matters.
- Berko-Gleason, Jean. 1993. *The development of language, Third edition*. New York: Macmillan.
- Bialystok, Ellen (ed.). 1991. *Language processing in bilingual children*. Cambridge, U.K.: Cambridge University Press.
- Brown, H. Douglas. 1994. *Principles of language learning and teaching, Third edition*. Englewood Cliffs, N.J.: Prentice Hall Regents.
- California Department of Education. 1984. *Studies on immersion education: A collection for United States educators*. Sacramento, California: California Department of Education.
- Caplan, Nathan, Marcella H. Choy, and Kathryn Faye Whitmore. 1992. "Indochinese refugee families and academic achievement." *Scientific American* 266(2): 36-42.
- Chaudron, Craig. 1988. *Second language classrooms: Research on teaching and learning*. Cambridge, U.K.: Cambridge University Press.
- Coelho, Elizabeth. 1994. "Social integration of immigrant and refugee children." In Fred Genesee (ed.), *Educating second language children*. Cambridge, U.K.: Cambridge University Press. 301-327.
- Collier, Virginia P. 1981. "A sociological case study of bilingual education and its effects on the schools and the community." *Outstanding dissertations in bilingual education: Recognized by the National Advisory Council on Bilingual Education*. Washington, D.C.: National Clearinghouse for Bilingual Education. (Doctoral dissertation available from University of Southern California, 304 pp.)
- Collier, Virginia P. 1986. "Cross-cultural policy issues in minority and majority parent involvement." *Issues of parent involvement and literacy*. Washington, D.C.: National Clearinghouse for Bilingual Education. 73-78.
- Collier, Virginia P. 1987. "Age and rate of acquisition of second language for academic purposes." *TESOL Quarterly* 21(4): 617-641.
- Collier, Virginia P. 1988. *The effect of age on acquisition of a second language for school*. Washington, DC: National Clearinghouse for Bilingual Education.
- Collier, Virginia P. 1989. "How long? A synthesis of research on academic achievement in second language." *TESOL Quarterly* 23(3): 509-531.
- Collier, Virginia P. 1992a. "The Canadian bilingual immersion debate: A synthesis of research findings." *Studies in Second Language Acquisition* 14: 87-97.
- Collier, Virginia P. 1992b. "A synthesis of studies examining long-term language minority student data on academic achievement." *Bilingual Research Journal* 16(1-2): 187-212.
- Collier, Virginia P. 1995. *Promoting academic success for ESL students: Understanding second language acquisition for school*. Trenton, N.J.: New Jersey Teachers of English to Speakers of Other Languages-Bilingual Educators.
- Collier, Virginia P. and Wayne P. Thomas. 1988. "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, Louisiana, April 1988.
- Collier, Virginia P. and Wayne P. Thomas. 1989. "How quickly can immigrants become proficient in school English?" *Journal of Educational Issues of Language Minority Students* 5: 26-38.
- Cummins, Jim. 1976. "The influence of bilingualism on cognitive growth: A synthesis of research findings and explanatory hypotheses." *Working Papers on Bilingualism* 9: 1-43.
- Cummins, Jim. 1979. "Cognitive/academic language proficiency, linguistic interdependence, the optimal age question, and some other matters." *Working Papers on Bilingualism* 19: 197-205.
- Cummins, Jim. 1981. "The role of primary language development in promoting educational success for language minority students." *Schooling and language minority students*. Sacramento, California: California Department of Education. 3-49.
- Cummins, Jim. 1986a. "Empowering minority students: A framework for intervention." *Harvard Education Review* 56: 18-36.

- Cummins, Jim. 1986b. "Language proficiency and academic achievement." In Jim Cummins and Merrill Swain (eds.), *Bilingualism in education*. New York: Longman. 138-161.
- Cummins, Jim. 1989a. *Empowering minority students*. Sacramento, California: California Association for Bilingual Education.
- Cummins, Jim. 1989b. "The sanitized curriculum: Educational disempowerment in a nation at risk." In Donna M. Johnson and Duane H. Roen (eds.), *Richness in writing: Empowering ESL students*. New York: Longman. 19-38.
- Cummins, Jim. 1991. "Interdependence of first- and second-language proficiency in bilingual children." In Ellen Bialystok (ed.), *Language processing in bilingual children*. Cambridge, U.K.: Cambridge University Press. 70-89.
- Cummins, Jim and Merrill Swain. 1986. *Bilingualism in education*. New York: Longman.
- Delgado-Gaitán, Concha. 1990. *Literacy for empowerment: The role of parents in children's education*. New York: Falmer Press.
- de Villiers, Jill G. and Peter A. de Villiers. (1978). *Language acquisition*. Cambridge, Massachusetts: Harvard University Press.
- Díaz, Rafael M. and Cynthia Klingler. 1991. "Towards an explanatory model of the interaction between bilingualism and cognitive development." In Ellen Bialystok (ed.), *Language processing in bilingual children*. Cambridge, U.K.: Cambridge University Press. 167-192.
- Dolson, David P. 1985. "The effects of Spanish home language use on the scholastic performance of Hispanic pupils." *Journal of Multilingual Multicultural Development* 6: 135-155.
- Dulay, Heidi and Marina Burt. 1980. "The relative proficiency of limited English proficient students." In James E. Alatis (ed.), *Georgetown University Round Table on Languages and Linguistics 1980*. Washington, D.C.: Georgetown University Press. 181-200.
- Duncan, Sharon E. and Edward A. De Avila. 1979. "Bilingualism and cognition: Some recent findings." *NABE Journal* 4(1): 15-20.
- Ellis, Rod. 1985. *Understanding second language acquisition*. Oxford: Oxford University Press.
- Ellis, Rod. 1990. *Instructed second language acquisition*. Oxford: Blackwell.
- Enright, D.Scott and Mary L. McCloskey. 1988. *Integrating English: Developing English language and literacy in the multilingual classroom*. Reading, Massachusetts: Addison-Wesley.
- Frederickson, Jean. (ed.). 1995. *Reclaiming our voices: Bilingual education critical pedagogy and praxis*. Ontario, California: California Association for Bilingual Education.
- Freeman, Yvonne S. and David E. Freeman. 1992. *Whole language for second language learners*. Portsmouth, N.H.: Heinemann.
- García, Eugene. 1993. "Language, culture, and education." In Linda Darling-Hammond (ed.), *Review of research in education* 19: 51-98.
- García, Eugene. 1994. *Understanding and meeting the challenge of student cultural diversity*. Boston: Houghton Mifflin.
- Gass, Susan and Carolyn Madden (eds.). 1985. *Input in second language acquisition*. Cambridge, Massachusetts: Newbury House.
- Genesee, Fred. 1987. *Learning through two languages: Studies of immersion and bilingual education*. Cambridge, Massachusetts: Newbury House.
- Genesee, Fred (ed.). 1994. *Educating second language children: The whole child, the whole curriculum, the whole community*. Cambridge, U.K.: Cambridge University Press.
- Goodluck, Helen. 1991. *Language acquisition*. Oxford: Blackwell.
- Goodman, Yetta M. and Sandra Wilde (eds.). 1992. *Literacy events in a community of young writers*. New York: Teachers College Press.
- Hakuta, Kenji. 1986. *Mirror of language: The debate on bilingualism*. New York: Basic Books.
- Harley, Birgit, Patrick Allen, Jim Cummins, and Merrill Swain. (eds.). 1990. *The development of second language proficiency*. Cambridge, U.K.: Cambridge University Press.
- Hatch, Evelyn. 1983. *Psycholinguistics: A second language perspective*. Cambridge, Massachusetts: Newbury House.

- Hernández-Chávez, Eduardo. 1977. "Meaningful bilingual-bicultural education: A fairytale." *NABE Journal* 1(3): 49-54.
- Hernández-Chávez, Eduardo. 1984. "The inadequacy of English immersion education as an educational approach for language minority students in the United States." *Studies on immersion education: A collection for United States educators*. Sacramento, California: California Department of Education. 144-183.
- Hudelson, Sarah. 1994. "Literacy development of second language children." In Fred Genesee (ed.), *Educating second language children*. Cambridge, U.K.: Cambridge University Press. 129-158.
- Johnson, Donna M. and Donna H. Roen (eds.). 1989. *Richness in writing: Empowering ESL students*. New York: Longman.
- Krashen, Stephen D. 1981. *Second language acquisition and second language learning*. Oxford: Pergamon.
- Krashen, Stephen D. 1982. *Principles and practices in second language acquisition*. Oxford: Pergamon.
- Krashen, Stephen D. 1985. *The input hypothesis: Issues and implications*. New York: Longman.
- Krashen, Stephen D. and Douglas Biber. 1988. *On course: Bilingual education's success in California*. Sacramento, California: California Association for Bilingual Education.
- Larsen-Freeman, Diane. 1985. "Overview of theories of language learning and acquisition." *Issues in English language development*. Washington, D.C.: National Clearinghouse for Bilingual Education. 7-13.
- Larsen-Freeman, Diane. 1993. "Second language acquisition research: Staking out the territory." In Sandra Silberstein (ed), *State of the art TESOL essays: Celebrating 25 years of the discipline*. Alexandria, Virginia: Teachers of English to Speakers of Other Languages. 133-168.
- Lessow-Hurley, Judith. 1990. *The foundations of dual language instruction*. New York: Longman.
- Lindholm, Kathryn J. 1991. "Theoretical assumptions and empirical evidence for academic achievement in two languages." *Hispanic Journal of Behavioral Sciences* 13: 3-17.
- Lucas, Tamara, Rosemary Henze, and Ruben Donato. 1990. "Promoting the success of Latino language-minority students: An exploratory study of six high schools." *Harvard Educational Review* 60: 315-340.
- McLaughlin, Barry. 1984. *Second language acquisition in childhood: Vol. 1. Preschool children, Second edition*. Hillsdale, N.J.: Lawrence Erlbaum.
- McLaughlin, Barry. 1985. *Second language acquisition in childhood: Vol. 2. School-age children, Second edition*. Hillsdale, N.J.: Lawrence Erlbaum.
- McLaughlin, Barry. 1992. *Myths and misconceptions about second language learning: What every teacher needs to unlearn*. Santa Cruz, California: National Center for Research on Cultural Diversity and Second Language Learning.
- Minicucci, Catherine and Laurie Olsen. 1992. *Programs for secondary limited English proficient students: A California study*. Washington, D.C.: National Clearinghouse for Bilingual Education.
- Moll, Luis C., Carlos Vélez-Ibáñez, James Greenberg, and Charlene Rivera. 1990. *Community knowledge and classroom practice: Combining resources for literacy instruction*. Arlington, Virginia: Development Associates.
- Oakes, Jeanie. 1985. *Keeping track: How schools structure inequality*. New Haven, Connecticut: Yale University Press.
- Oakes, Jeanie. 1992. "Can tracking research inform practice? Technical, normative, and political considerations." *Educational Researcher* 21(4): 12-21.
- Ogbu, John. 1974. *The next generation: An ethnography of education in an urban neighborhood*. New York: Academic Press.
- Ogbu, John. 1978. *Minority education and caste: The American system in cross-cultural perspective*. New York: Academic Press.

- Ogbu, John. 1987. "Opportunity structure, cultural boundaries, and literacy" In J. Langer (ed.), *Language, literacy, and culture: Issues of society and schooling*. Norwood, N.J.: Ablex.
- Ogbu, John. 1992. "Understanding cultural diversity." *Educational Researcher* 21(8): 5-24.
- Ogbu, John. 1993. "Variability in minority school performance: A problem in search of an explanation." In Evelyn Jacob and Cathie Jordan (eds.), *Minority education: Anthropological perspectives*. Norwood, N.J.: Ablex. 83-111.
- Ramírez, J. David. 1992. "Executive summary." *Bilingual Research Journal*, 16(1-2): 1-62.
- Rothman, R. 1991. "Schools stress speeding up, not slowing down." *Education Week* 11(9): 14-15.
- Saunders, George. 1988. *Bilingual children: From birth to teens*. Clevedon, U.K.: Multilingual Matters.
- Schumann, John. 1978. "The acculturation model for second language acquisition." In Rosario Gingras (ed.), *Second language acquisition and foreign language teaching*. Washington, D.C.: Center for Applied Linguistics. 27-50.
- Skutnabb-Kangas, Tove. 1981. *Bilingualism or not: The education of minorities*. Philadelphia: Multilingual Matters.
- Skutnabb-Kangas, Tove and Jim Cummins (eds.). 1988. *Minority education: From shame to struggle*. Clevedon, U.K.: Multilingual Matters.
- Snow, Catherine E. 1990. "Rationales for native language instruction: Evidence from research." In Arnado M. Padilla, Halford H. Fairchild, and Concepción M. Valadez (eds.), *Bilingual education: Issues and strategies*. Newbury Park, California: Sage.
- Spener, David. 1988. "Transitional bilingual education and the socialization of immigrants." *Harvard Educational Review* 58: 133-153.
- Swain, Merrill. 1985. "Communicative competence: Some roles of comprehensible input and comprehensible output in its development." In Susan Gass and Carolyn Madden (eds.), *Input in second language acquisition*. Cambridge, Massachusetts: Newbury House. 235-253.
- Swain, Merrill and Sharon Lapkin. 1981. *Bilingual education in Ontario: A decade of research*. Toronto: Ontario Institute for Studies in Education.
- Tharp, Roland G. and Ronald Gallimore. 1988. *Rousing minds to life: Teaching, learning, and schooling in social context*. Cambridge, U.K.: Cambridge University Press.
- Thomas, Wayne P. 1992. "An analysis of the research methodology of the Ramírez study." *Bilingual Research Journal* 16(1-2): 213-245.
- Thomas, Wayne P. and Virginia P. Collier. 1995. *Language minority student achievement and program effectiveness*. Washington, D.C.: National Clearinghouse for Bilingual Education.
- Tinajero, Josefina V. and Alma F. Ada (eds.). 1993. *The power of two languages: Literacy and biliteracy for Spanish-speaking students*. New York: Macmillan/McGraw-Hill.
- Trueba, Henry T., Lila Jacobs, and Elizabeth Kirton. 1990. *Cultural conflict and adaptation: The case of Hmong children in American society*. New York: Falmer Press.
- Valdez Pierce, Lorraine. 1991. *Effective schools for language minority students*. Washington, D.C.: The Mid-Atlantic Equity Center.
- Walsh, Catherine E. 1991. *Pedagogy and the struggle for voice: Issues of language, power and schooling for Puerto Ricans*. New York: Bergin and Garvey.
- Wong Fillmore, Lily. 1985. "Second language learning in children: A proposed model." In *Issues in English language development*. Washington, D.C.: National Clearinghouse for Bilingual Education. 33-42.
- Wong Fillmore, Lily. 1989. "Teachability and second language acquisition." In Mabel Rice and Richard L. Schiefelbusch (eds.), *The teachability of language*. Baltimore: Paul Brookes. 311-332.
- Wong Fillmore, Lily. 1991a. "A question for early-childhood programs: English first or families first?" *Education Week*, June 19, 1991.

- Wong Fillmore, Lily. 1991b. "Second language learning in children: A model of language learning in social context." In Ellen Bialystok (ed.), *Language processing in bilingual children*. Cambridge, U.K.: Cambridge University Press. 49-69.
- Wong Fillmore, Lily and Concepción Valadez. 1986. "Teaching bilingual learners." In Merlin C. Wittrock (ed.), *Handbook of research on teaching, Third edition*. New York: Macmillan. 648-685.