

# INVITATIONAL CONFERENCE ON TEACHING AND LEARNING ENGLISH AS AN ADDITIONAL LANGUAGE 

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Teaching and Learning of English as an Additional Language

# The Education of Language Minority Students: <br> United States Policies, Practices, and Assessment of Academic Achievement 

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The United States federal government uses the term "language minority students" to refer to all students in U.S. schools who come from a home where a language other than English is spoken, including recently arriving non-English-speaking immigrants as well as U.S. citizens who are members of long-standing ethnolinguistic communities within U.S. geographic boundaries. These students may be proficiently bilingual, or they may begin exposure to English on the first day of school, or they may be English-dominant and in the process of losing their first language. This paper is focused on education policies and practices in the U.S. for all language minority students who are studying English as a second (or additional) language or who have studied it sometime in their past. In the latest U.S. census (1990), it has been estimated that approximately 24 percent of the U.S. population speaks a language other than English at home.

## Federal and State Influence on Education Policy

U.S. school programs for language minority students are greatly varied. Since the U.S. education system is based on local control, local education agencies have almost all of the decisionmaking power in school programs and policies. The U. S. constitution does not mention education as a duty of the federal government; thus all duties not mentioned are reserved to the states. The federal government has some influence on schools through court decisions, through federal government funding to provide incentives for changes in schools, and through federal aid for special student populations, which can be denied to a school district out of compliance with federal guidelines. But in general, implementation of federal initiatives is left up to local school districts. Individual states can also have influence on school policies through state court decisions, state legislation, and state funding for special programs. Thus, federal and state court decisions and legislation regarding language minority education have had some impact on local schools, but all schools in the United States are out of compliance in a variety of ways with federal and state guidelines for language minority education. The issues are complex, and many schools are working hard to improve services for language minority students, but we still have a long way to go to provide the most effective programs.

The most important federal policy-making initiative in language minority education was the U.S. Supreme Court decision in Lauv v. Nichols in 1974, stating that "there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education." Since the Lau decision, many variations in school programs for language minority students have developed, and more is known about program effectiveness, but new immigrants are arriving in record numbers in recent years, and schools often feel overwhelmed with the need for professional development to train teachers and administrators regarding the most appropriate and effective
instructional and assessment practices. Twelve states with large numbers of language minority students mandate some form of bilingual instruction and in most court cases where a local school district or state has been found to be out of compliance, some form of bilingual education has been court-ordered, along with guidelines for development of effective education programs.

## Key Decisions in Education Policy for Language Minority Students

Variations in U.S. school programs for language minority students are complex. The discussion here will focus on several key decisions that educators have to make:
(1) the amount of instructional support to be provided in language minority students' home language;
(2) the amount of time that language minority students are integrated with language majority students;
(3) the sociocultural context of schooling;
(4) instructional approaches to teaching all subjects in the curriculum; and
(5) assessment decisions for language minority students.

## Program Variations

While there are varied approaches to instructional and assessment practices within each type of program designed for language minority students, the program models that have developed in the U.S. vary between programs by amount of instructional support provided in students' first language and the amount of time that language minority students are integrated with language majority students, both of which have implications for the sociocultural context of schooling. Therefore, we shall start this survey of program models by examining some issues regarding these first three program variations. The following chart provides a list of general program models developed in the U.S. for language minority students, organized by the amount of first language instruction provided, beginning with the most and ending with the least amount of instructional support in the minority language.

## RANGE OF PROGRAM MODELS IN LANGUAGE MINORITY EDUCATION IN U.S.: (ranging from the most to the least minority language support)

1. IMMERSION BILINGUAL PROGRAMS (originally developed for language majority students in Canada)
a. Early total immersion:

Grades K, 1: All academic instruction through minority language
Grade 2: One hour of instruction through majority language added
Grade 3: Two hours of instruction through majority language
Grades 4-12: Academic instruction @ half a day in each language
b. Late total immersion:

Grades K-6: Minority language instruction @ one hour per day
Grades 7-8: All academic instruction through minority language
Grades 9-12: Academic instruction @ half a day in each language
c. Partial-immersion:

Grades K-12: Academic instruction @ half a day in each language
2. TWO-WAY (or DEVELOPMENTAL) BILINGUAL PROGRAMS Language majority and language minority students schooled together in the same bilingual class--many variations possible (including immersion and maintenance)
3. MAINTENANCE (or LATE-EXIT) BILINGUAL PROGRAMS

Academic instruction @ half a day in each language, preferably for at least K-6; ideally for K-12
4. TRANSITIONAL (or EARLY-EXIT) BILINGUAL PROGRAMS

Academic instruction @ half a day in each language, with gradual transition to all-majority language instruction in @ 2-3 years
5. ENGLISH AS A SECOND LANGUAGE (ESL) INSTRUCTION:
a. Elementary education (K-6):
(1) Structured immersion (bilingual teacher, but all majority language instruction) (all day)
(2) ESL self-contained taught through academic content (all day)
(3) ESL pullout (from 30 minutes to half a day)
b. Secondary education (7-12):
(1) ESL taught through academic content or "sheltered English"
(2) ESL as subject
6. SUBMERSION (no support of any kind - illegal in U.S., Lau v. Nichols, 1974)

These variations provide very different sociocultural contexts for schooling. For example, two-way bilingual education assumes that bilingualism is cognitively, academically, and socioculturally beneficial for both language-minority and language-majority students. This program provides for both groups to be academically enriched by learning together and fosters respect and understanding for both languages and cultures. Submersion, a polar opposite, assumes an assimilationist philosophy, disregarding the importance of first language and culture and negating the rich experiences and knowledge base that language minority students bring to the classroom. Some of these sociocultural contrasts can be illustrated through discussion of the current research on program effectiveness.

## Examples of Effective Programs for Academic Development in K-12 Settings

Two-way developmental bilingual education. The academic development of language minority students' first language is a program decision that is especially crucial for students in Grades K-12, because children and young adolescents are still developing cognitively throughout these school years. And yet the United States has not experienced enormous success with improving the academic achievement of language minority students through the most common bilingual program model-transitional (or "early-exit") bilingual education programs. In transitional bilingual classes, students are provided academic development in first language for 2-3 years (most often in the lower elementary school grades), during which time they are isolated from their English-speaking peers for part or sometimes all of the school day. In general, transitional bilingual classes have subconsciously
been relegated to a lower or remedial status (Spener, 1988). Although transitional classes appear to have potential for success, the chief problem is the way they are perceived by school staff and students, as well as the limited number of years of first language academic development (Collier, 1989b; Ovando \& Collier, 1996).

In contrast, the most consistently successful academic achievement has occurred in two-way developmental bilingual education programs, where English speakers are schooled together with language minority students, and the English-speaking parents, along with language minority parents, can affirm the importance of learning in two languages (California Department of Education, 1991; Collier, 1989a, 1989b, 1992a, 1992c; O. García, 1991; Genesee, 1987; Krashen \& Biber, 1988; Lindholm, 1990, 1991; Thomas \& Collier, 1995). The chief difference between this type of program and other types of bilingual programs is that majority and minority students are integrated together and consequently the program tends to achieve a high social status. When majority parents believe that the program is great for their own children, attitudes toward the program can change dramatically. Language minority students do not "exit" from this program model, in contrast to transitional bilingual education, because they are educated in an integrated context, through the standard school curriculum, in an academically rigorous classroom.

Another big advantage for stimulation of the natural second language acquisition process is that students in a two-way bilingual program tend to develop a deeper level of proficiency in both languages, because they serve as peer teachers in a highly interactive classroom (Lindholm, 1990; Oller, 1993). Second language acquisition research has clearly demonstrated that the most important source of input in second language development comes from same-age peers, and peers are more important than the teacher as a model for the new language. Furthermore, deep proficiency develops in both languages, because the focus is on meaningful use of the two languages through academic content across the curriculum.

In current research with my colleague Dr. Wayne Thomas (Thomas \& Collier, 1995), we have found that two-way bilingual education provided for students at the elementary school level is the most promising program model for the long-term academic achievement 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 50th percentile in their second language generally after 4-5 years of schooling in both languages. They also generally sustain the gains they made when they reach secondary education, unlike the students in programs that provide little or no academic support in first language. The confidence that language minority students gain in classes where they are challenged with meaningful academic instruction through two languages is unparalleled. By adding to that the stimulus of working academically with English-speaking peers, learning appears to accelerate, as the two groups serve as peer tutors for each other.

Maintenance or "late-exit" bilingual education. Furthermore, in maintenance or "lateexit" bilingual education programs that continue through the upper elementary grades to provide first language academic instruction, along with balanced second language academic instruction, language minority students can also maintain their academic success at secondary level, even when the
instruction in middle and high school is delivered exclusively through second language (Krashen \& Biber, 1988; Medina, Saldate \& Mishra, 1985; Thomas \& Collier, 1995). Academic knowledge gained in first language transfers to second language. Thus, the more students have received highquality education in first language, the deeper their knowledge base across the two languages. Even though language minority students may be segregated from English speakers in this type of program for half the school day, they are able to build the self-confidence and academic skills needed to succeed in secondary school contexts all in second language.

## Effective Instructional Practices for Language Minority Students of All Ages

Academic development of first language is just one of many instructional decisions to be made. Other instructional practices that make a significant difference for second language acquisition center around a shift from "traditional" approaches to language teaching in the U.S. to "current" approaches. The following discussion highlights some aspects of current approaches, based on research on effective instructional practices in teaching English as a second language (ESL).

Thematic, interdisciplinary instruction. Teaching second language through meaningful academic content across the curriculum (language arts, mathematics, science, social studies,...) is now considered crucial to second language academic success (Cocking \& Mestre, 1988; Crandall, 1987; Fathman, Quinn \& Kessler, 1992; Mohan, 1986; Short, 1991). In the 1960s and 1970s our field focused on teaching language first and then later introducing students to academic content. Now we know that we cannot afford the lost time, since it takes 7-10 or more years for ESL students to reach academic proficiency in the second language when schooled all in second language (Collier, 1987, 1988, 1989c, 1992a, 1992c ; Collier \& Thomas, 1988, 1989; Thomas \& Collier, 1995). We know from research on bilingual education for language majority students (labeled "immersion education" by the Canadians), as well as research on bilingual education for language minority students, that second language can successfully be taught simultaneously with academic content (Collier, 1993a).

Thematic approaches to teaching provide a meaningful framework for exploring something of great interest to students and teachers, through an interdisciplinary journey that develops academic skills and learning strategies in each content area, through in-depth problem-posing and problemsolving. Teacher and students together choose themes to be developed and together explore knowledge gathering and knowledge producing. Themes generally focus on something that is a universal human experience, helping students connect to their past knowledge and experiences. Several studies have identified thematic, interdisciplinary teaching as a crucial ingredient in effective instruction with ESL students of all ages (Au, 1993; Brinton, Snow \& Wesche, 1989; E.García, 1988; Goodman \& Wilde, 1992; Henderson \& Landesman, 1992).

Multicultural, global perspectives. Many research findings in language minority education have clearly established that students learn best when lessons connect to their past experiences ( Au , 1993; Genesee, 1994; Tharp \& Gallimore, 1988; Trueba, 1991; Trueba, Guthrie \& Au, 1981). Activation of students' prior knowledge is considered the first step in any meaningful instructional activity (Chamot \& O'Malley, 1994; Freeman \& Freeman, 1992; E.García, 1994). However, too many teachers interpret multicultural perspectives to mean emphasizing a few points about other
nations or ethnic groups, or celebrating holidays and heroes of other cultures, which often degenerates into superficial glimpses that lead to stereotyping and terribly inaccurate misinformation. When a class is very diverse, a more appropriate multicultural perspective focuses on examining how we humans lead our lives everyday, reflecting on variations in other regions in response to each geographic and social environment, exploring the complexity of the human spirit and mind. In a teaching context that is mostly bicultural, instruction can successfully incorporate particular bicultural patterns of human experience of the two groups in that region, such as effective instructional practices discovered in working with Hawaiian-Americans (Au, 1993; Tharp \& Gallimore, 1988), Mexican-Americans (Ada, 1988; Delgado-Gaitán, 1987, 1990; Díaz, Moll \& Mehan, 1986; González, Moll, Floyd-Tenery, Rivera, Rendón, Gonzales \& Amanti, 1992; Moll \& Díaz, 1993), and NavajoAmericans (Tharp \& Yamauchi, 1994).

Collaborative, interactive learning. In the research on effective instructional practices with language minority students, it is very clear that when students and teachers work as partners in the learning process, rather than the teacher serving as the dispenser of knowledge, then the magic truly begins to happen (Au, 1993; Enright \& McCloskey, 1988; Faltis, 1993; Freeman \& Freeman, 1992; Gaies, 1985; E.Garcia, 1988, 1994; Genesee, 1994; Goodman \& Wilde, 1992; Hamayan, 1993; Harmin, 1994; Holt, 1993; Holt, Chips \& Wallace, 1992; Johnson \& Johnson, 1986; Kagan, 1986; Malamah-Thomas, 1987; McCaleb, 1994; Richard-Amato, 1988; Richard-Amato \& Snow, 1992; Scarcella \& Oxford, 1992; Shoemaker \& Shoemaker, 1991; Solís, 1989; Tharp \& Gallimore, 1988; Tharp \& Yamauchi, 1994; Tinajero \& Ada, 1993; Valdez Pierce, 1991). This shift in the teacherstudent relationship is a return to the thinking of two classic philosophers of education--John Dewey, U.S. educator of the early 20th century, and Paulo Freire. For both Dewey and Freire, studentcentered, discovery learning is the key. The teacher serves in an important role as guide and facilitator, helping to structure the ways that students and teacher will explore new knowledge or pose problems to be solved or acted upon (Freire, 1985; Freire \& Macedo, 1987; Shor \& Freire, 1987). Given the knowledge explosion in each field, we must prepare students to know how to gain access to new knowledge and to apply, evaluate, and solve problems based on changing knowledge (Cummins, 1986a, 1989a, 1989b).

Since in an interactive classroom, the teacher is no longer the authority figure around whom all activity is centered, teachers need to structure class activities so that all students are involved in intensive learning. In a collaborative classroom, peer interaction stimulates the natural second language acquisition process (Faltis, 1993; Gaies, 1985; Malamah-Thomas, 1987; Shoemaker \& Shoemaker, 1991; Wong Fillmore, 1989, 1991b). Other reasons for creating a classroom in which students spend considerable time working in small groups or pairs are that cooperative learning structures result in dramatic academic gains, especially for students at risk (Jacob \& Mattson, 1990; Johnson \& Johnson, 1986; Kagan, 1986; Slavin, 1988); that cooperative learning helps develop prosocial skills; and that students need to be prepared for an increasingly interdependent workplace (Kagan, 1992). Analyzing instructional practices in a high-achieving language minority school, E. García (1991, p. 4) found that "it was during student-student interactions that most higher order cognitive and linguistic discourse was observed. Students asked each other hard questions and challenged each other's answers more readily than they did in interactions with the teachers.

Moreover, students were likely to seek assistance from other students and were successful in obtaining it."

Cooperative learning (generally referred to as collaborative learning in higher education contexts) is a strategy for classroom management and structuring of curricular materials that provides the teacher with a wide range of techniques for small group work so that students remain on task and prosocial skills are developed. Given the multiple learning styles present in any classroom, the diversity of needs of learners, the varied levels of proficiency in the language of instruction, and the varied academic knowledge represented, teachers can organize the class to respond to these needs by alternating classroom structures between total-class, small-group, pair, and individual learning. Cooperative learning structures assist with heterogeneous small-group and pair work in which students share responsibility for completing each academic task (Holt, 1993; Holt, Chips \& Wallace, 1992; Johnson, Johnson \& Smith, 1991; Kagan, 1992).

Challenging students cognitively. Extremely crucial to second language academic success is uninterrupted cognitive development in first language (Thomas \& Collier, 1995). This can take place wherever possible, in bilingual classes, weekend schools, with parents, and through peer and sibling tutoring. But along with cognitive development in first language, development of thinking skills should also be consciously developed in ESL classes of all levels. To challenge students cognitively involves taking the standard curriculum or the course objectives as the base for a class to explore interesting and meaningful material at the deepest levels of knowledge possible through second language. Learning can be organized to assist each student with basic skills to be mastered through meaningful, thematic work that simultaneously addresses both language and academic content. Learning strategy acquisition also becomes a conscious and meaningful activity (Chamot \& O'Malley, 1994; Oxford, 1990).

Technology is also an integral aspect of cognitively complex learning in the late 20th century. Given the explosion of the uses of technology in the workplace, home, and school, language minority students need access to greatly varied uses of instructional multimedia--audiocassette players, video equipment, cellular phones, compact disc players, cameras, computers, interactive videodisc players, and other electronic devices bound to continue to appear in the near future. Using computers in instruction can expand students' language and academic skills through use of word processing software, spread sheets, database software, communications programs, graphics packages, hypermedia, and access to telecommunications such as electronic mail. However, students passively watching a movie for an hour, or working on mindless drill and practice exercises on the computer, is not considered effective instruction. Technology must be integrated in a meaningful way into interactive, cognitively complex lessons through second language (Ahmad, Corbett, Rogers \& Sussex, 1984; Gaer \& Ferenz, 1993; Hardisty \& Windeatt, 1989; Lonergan, 1984; O'Neil, 1993; Penfield, 1987; Susser, 1993).

Teaching reading and writing. Throughout our lives, we are always in the process of continuing acquisition of the written language, whether it is our first or second language. Today we teach reading and writing as a long-term, developmental process, that is never-ending. Thus reading
and writing are an integral part of any academic course or subject area, and all our students, native and non-native speakers, have reached many different stages in the reading/writing process. To give students continuing responsibility for their personal growth, we constantly challenge them to read and write more and more. Our overall goal is to enable students to use and enjoy reading and writing "to learn about and interpret the world and to reflect upon themselves in relation to people and events around them; ... and to explain, analyze, argue about, and act upon the world" (Hudelson, 1994, p. 130). Au (1993) emphasizes the importance of constructing meaning through written language by making students' background experiences central to the literacy process, using culturally responsive instruction. Other researchers in ESL reading and writing emphasize the importance of understanding that students of all ages best acquire reading and writing skills through many varied interactive, collaborative activities with peers, cross-age tutors, and adults (Adamson, 1993; Cantoni-Harvey, 1987, 1992; Carson \& Leki, 1993; Cook \& Urzua, 1993; Delgado-Gaitán, 1990; Enright \& McCloskey, 1988; Freeman \& Freeman, 1992; Goodman \& Wilde, 1992; Heath \& Mangiola, 1991; Johnson \& Roen, 1989; Peyton, 1990; Peyton \& Reid, 1990; Rigg \&Enright, 1986; Samway, 1992; Scarcella \& Oxford, 1992; Tharp \& Gallimore, 1988; Tinajero \& Ada, 1993; Williams \& Snipper, 1990).

Assessment practices. Major changes are currently taking place in assessment practices in U.S. education. The movement toward more authentic assessment and performance assessment has led to much greater variety in the types of measures used. For language minority students, keys to fair assessment practices are to use multiple measures across time and not to use one measure or test to make decisions that lead to placement of students in separate programs or groups or that deny students access to the full curriculum. It is also important to measure language minority students' progress regularly with multiple types of measures, keeping track of their long-term progress, since it takes a considerable number of years to become fully proficient in academic uses of second language, at the level of a native speaker (to be discussed below).

## Effective School Management Practices

Second language acquisition research also speaks to educational administrators regarding the sociocultural climate present in an educational setting. The total school context is a critical factor influencing language minority students' academic achievement. Within the public school context, the current school reform movement in the United States has potential to address a number of sociocultural concerns, if the dialogue is thoughtful and reflects research findings from language minority education (National Coalition of Advocates for Students, 1988, 1991).

For example, one aspect of school reform--shared decision-making, or collaborative leadership--can strongly assist language minority students' academic achievement when diverse groups are represented and they can successfully collaborate (McKeon \& Malarz, 1991), as has been shown in the "accelerated schools" model for at risk students (Rothman, 1991). In this model, the entire school community--teachers, parents, students, and administrators--are actively involved in curricular changes and meaningful connections to the culturally diverse communities the school serves.

Another major change in the administrative structure of schools is the movement toward eliminating tracking and ability grouping (Gamoran, 1990; Oakes, 1985, 1992; Wheelock, 1992), through development of more team teaching, use of heterogeneous cooperative learning structures, and exploration of experiential, discovery learning at a high cognitive level, even when basic skills are an integral goal of coursework, with high expectations of all students (Collier, 1992b; E.García, 1988, 1994; Rivera \& Zehler, 1990). Minicucci \& Olsen (1992) found that even when secondary schools work very hard to provide an appropriate learning environment for language minority students, the structural rigidity of departmentalized secondary schools works against students' needs. The middle school reform movement, with increasing flexibility in school structures, has been able to respond better to diverse needs of learners. An urgent need in U.S. school reform at secondary school level is to assist language minority students with access to the core curriculum needed to graduate from high school.

Other issues center around providing an appropriate school climate. In schools with strong support for language minority students, researchers have found that administrators and all school staff have a commitment to empowering language minority students through providing bilingual/bicultural role models, serving as community advocates, providing bicultural counseling support with knowledge of postsecondary opportunities, being available after school and organizing meaningful extracurricular activities, and creating a school climate that values cultural and linguistic diversity (Lucas, Henze \& Donato, 1990; Tikunoff, Ward, van Broekhuizen, Romero, Castañeda, Lucas \& Katz, 1991; Valdez Pierce, 1991).

## Second Language Acquisition for School: A Conceptual Model

To provide a theoretical base for the practical points presented above, I would like to add to this paper some of the results of our current (Thomas \& Collier, 1995) research, with the conceptual model that helps to explain what we are finding. First, I will introduce the components of the conceptual model and then I will illustrate its usefulness through discussion of the strong research base that informs the model, 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. 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.

Figure 3. Second language acquisition for school

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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 through 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 can range from individual student variables such as self-esteem or anxiety or other affective factors, to classroom variables such as a competitive or collaborative instructional environment, to school variables such as majority-minority relations or administrative structures in school that create social and psychological distance between groups, to community or regional variables such as prejudice and discrimination expressed through personal and professional contexts, to societal variables such as subordinate status of a minority group or societal patterns of acculturation vs. assimilation forces at work.

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 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, 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, to assure cognitive and academic success in second language. 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 school work 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 higher and 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 second language during other periods of the school day through meaningful academic content. In earlier decades in the U.S., we emphasized teaching 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 has been mostly neglected by second language educators in the U.S. until the past decade. In language teaching, we simplified and structured and sequenced language curricula during the 1970s, and when we added academic content into our language lessons in the 1980 s , we watered academics down into cognitively simple tasks. We also too often neglected the crucial role of cognitive development in first language. Now we know from our growing research knowledge base that we must address all of these components equally if we are to succeed in developing deep academic proficiency in 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, this 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, 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 happen.

## Research Evidence to Support the Model

First and second language acquisition: A lifelong process. To understand the processes occurring 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 parallel processes that occur 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 half-way through the process of first language development. Children from ages 6 to 12 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 \& de Villiers, 1978; Goodluck,

1991; McLaughlin, 1984, 1985). In addition, children being formally schooled during these years add reading and writing to the language skills 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 enormous amounts of vocabulary in every discipline of study and continue acquisition of complex writing skills, processes that continue through our adult life 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 process throughout our lifetime (Berko Gleason, 1993; Collier, 1992a; Harley, Allen, Cummins \& Swain, 1990; McLaughlin, 1985).

Second language acquisition is an equally complex phenomenon, with many parallels with first language acquisition. We use some of the same innate processes that are used to acquire our first language, going through developmental stages and 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 from other factors than was oral development in our first language. When the context of second language use is school, the deep level of proficiency required necessitates our examination of the role of a student's first language in relation to second language, the type of input and interaction needed for 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 of different levels of language proficiency 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 needed 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' initial examination (1981) of long-term academic achievement of immigrants to Canada. In the Thomas and Collier series of studies (Collier, 1987, 1988, 1989c, 1992a, 1992c; Collier \& Thomas, 1988, 1989; Thomas \& 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 are using are the academic achievement measures used 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, results on these tests are very different from the results on a language proficiency instrument that uses the same form each time it is administered. We choose to use these tests because they are the ultimate measures of academic proficiency in second language. When students being schooled in second language reach deep enough proficiency levels in second language to compete at the typical level of native speaker performance (expressed on a standardized test as 50th percentile or normal curve equivalent [NCE]), this is a major achievement, because native speakers are not sitting around waiting for non-native speakers to catch up with them. During the
school years, native speakers' first language development is continuing at a rapid rate. For non-native speakers, the goal of proficiency equal to 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), non-native speakers of English with no schooling in their first language take 7-10 years or more to reach age and grade-level norms of their native English-speaking peers. Immigrant students who have had 2-3 years of first language schooling in their home country before they come to the U.S. take at least 5-7 years to reach typical native-speaker performance (similar to what Cummins [1981] found). This pattern exists across many student 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 non-native speakers being schooled in 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 fourth grade on 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 less and 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 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 second language. When students are tested in their second language, they typically reach and surpass native speakers' performance across all subject areas after 4-7 years in a quality bilingual program. Because they have not fallen behind in cognitive and academic growth during the 4-7 years that it takes to build academic proficiency in second language, bilingually schooled students typically sustain this level of academic achievement and outperform monolingually schooled students in the upper grades (Collier, 1992c; Thomas \& 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 first language, they outperform monolingually schooled students (California Department of Education, 1984; Collier, 1992a; Cummins \& Swain, 1986; Genesee, 1987; Harley, Allen, Cummins \& Swain, 1990; Swain \& Lapkin, 1981).

Role of first language. Many studies have found that cognitive and academic development in first language has an extremely important and positive effect on second language schooling (Baker, 1988; Bialystok, 1991; Collier, 1989c,1992c; Cummins, 1991; Cummins \& Swain, 1986; Díaz \& Klingler, 1991; Dolson, 1985; Freeman \& Freeman, 1992; García, 1993, 1994; Genesee, 1987, 1994; Hakuta, 1986; Lessow-Hurley, 1990; Lindholm, 1991; McLaughlin, 1992; Snow, 1990; Thomas \&

Collier, 1995; Tinajero \& Ada, 1993; Wong Fillmore \& Valadez, 1986). Academic skills, literacy development, concept formation, subject knowledge, and learning strategies developed in first language will all transfer to second language. As students expand their vocabulary and their oral and written communication skills in second language, they can increasingly demonstrate their knowledge base developed in first language. Many literacy skills developed in any first language not only are easily transferred but also are crucial to academic success in second language (Au, 1993; Bialystok, 1991; Cummins, 1989a, 1989b, 1991; Cummins \& Swain, 1986; Freeman \& Freeman, 1992; Genesee, 1987, 1994; Hudelson, 1994; Johnson \& Roen, 1989; Lessow-Hurley, 1990; Lindlholm, 1991; Snow, 1990; Tinajero \& Ada, 1993; Wong Fillmore \& Valadez, 1986).

Furthermore, some studies indicate that if students do not reach a certain threshold in first language, including literacy, they may experience cognitive difficulties in second language (Collier, 1987; Collier \& Thomas, 1989; Cummins, 1976, 1981, 1991; Dulay \& Burt, 1980; Duncan \& De Avila, 1979; Skutnabb-Kangas, 1981; Thomas \& 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 second language at home, both students and parents are functioning at a level cognitively far below their age. Whereas, 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 non-formally-schooled parents through asking questions, solving problems together, building or fixing something, cooking together, and talking and talking about life experiences. Once parents understand the importance of cognitive development in 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 \& Whitmore, 1992; Collier, 1981, 1986; DelgadoGaitán, 1990; Dolson, 1985; Genesee, 1994; Moll, Vélez-Ibáñez, Greenberg \& Rivera, 1990; Saunders, 1988; Skutnabb-Kangas \& Cummins, 1988; Wong Fillmore, 1991a).

Role of input and interaction in language development. In our current research (Thomas \& 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 dialogues with Swain and many other linguists, Wong Fillmore (1991b, pp. 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 \& Bailey, 1991; Chaudron, 1988; Ellis, 1985, 1990; Enright \& McCloskey, 1988; Freeman \& Freeman, 1992; Gass \& Madden, 1985; Goodman \& Wilde, 1992; Hatch, 1983; Johnson \& 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 seeking refuge from war or severe economic conditions or from political oppression. These students bring to our classes special social, emotional, and academic needs, often having experienced interrupted schooling in their home countries. Students escaping war may exhibit symptoms of post-traumatic stress disorder, such as 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 home language and cultural traditions (Caplan, Choy \& Whitmore, 1992; Tharp \& Gallimore, 1988; Trueba, Jacobs \& Kirton, 1990).

Another powerful student background variable that has been cited extensively in education research is socioeconomic status, but 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, 1992c; Cummins, 1989a; Krashen \& Biber, 1988; Lucas, Henze \& Donato, 1990; Ramirez, 1992; Rothman, 1991; Thomas \& Collier, 1995; Valdez Pierce, 1991).

External societal factors are another major influence on language acquisition for school, such as social and psychological distance created between first and second language speakers, perceptions of each group in inter-ethnic comparisons, cultural stereotyping, intergroup hostility, subordinate status of a minority group, or societal patterns of acculturation vs. assimilation forces at work (Brown, 1994; McLaughlin, 1985; Schumann, 1978). Majority-minority and inter-ethnic 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 that deny access to the core curriculum through tracking, ability grouping, and special programs that segregate language minority students. 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 second-language students' social isolation, denying them the critical conditions that Wong Fillmore (1991b) says must be present for second language acquisition to take place. To break the cycle of special classes being perceived 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 \& Collier, 1995), we have found that the most successful school program for language minority students' academic success in second language is two-way bilingual education, a program model that integrates majority and minority language speakers and stimulates their academic success in two languages. 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.

## Conclusion

Language minority students are an invaluable resource. They are our key to the future. By the turn of the century, they will be at least 25 percent of the newly entering workforce in the U.S. Past immigrant groups have provided a constant stimulus for new ideas as well as strong commitment to the ideals upon which the U.S. is founded. All of the most recently arrived groups have shown the same kind of persistent hope that they can succeed in a new life in the U.S., and they want to take responsibility for their own lives. To leave home and start life over in a new land involves great risk taking. Educators can create blocks to language minorities' progress through continuation of school policies that reinforce the inequities and that widen the gap between majority and minority. Or we can examine the research findings and discover that the changes needed for language minority students to succeed academically will benefit all students. It is our choice. Why not provide a meaningful, motivating academic environment, for everyone to succeed?
(NOTE: Excerpts for this paper were taken from Collier, V.P. (1995a). Promoting academic success for ESL students: Understanding second language acquisition for school. Princeton, NJ: New Jersey Teachers of English to Speakers of Other Languages - Bilingual Educators; and from Collier, V.P. (1995b). Second language acquisition for school: Academic, cognitive, sociocultural, and linguistic processes. Georgetown University Round Table on Languages and Linguistics, 1995. Washington, DC: Georgetown University Press.)

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