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ACQUIRING A SECOND LANGUAGE FOR SCHOOL

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During the past two decades, rapidly increasing language minority demographics have had a major impact on U.S. schools. Yet even with all the varied instructional approaches that U.S. educators have undertaken to address the concern for providing a "meaningful education" for language minority students (Lau v. Nichols, 1974), we are still struggling to identify the most effective education practices. When newcomers arrive, a school district's first response is usually to provide additional staff development training. To provide current information, trainers work hard to keep up with the latest research, but the issues are complex and difficult to present in a short training session. Given the misinformation that persists about second language acquisition among both educators and the public, this short publication is written to guide the reader through the substantial research knowledge base that our field has developed over the past 25 years.

Much misunderstanding occurs because many U.S. policy makers and educators assume that language learning can be isolated from other issues and that the first thing students must do is to learn English. To understand the reasons why this oversimplistic perception does not work, a conceptual model that explains the process that students are going through when acquiring a second language during the school years was developed. This conceptual model 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 provided in 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 key variables that have major impact on the acquisition of a second language for school contexts.

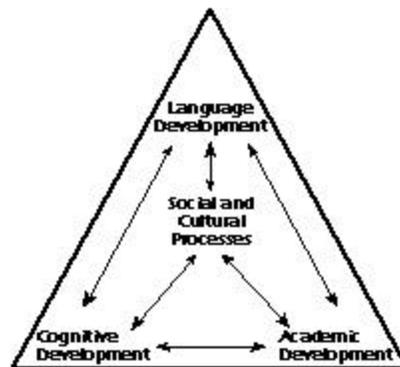
We believe that the conceptual model that has emerged from our research helps to explain many complex interacting factors that the school child experiences when acquiring a second language during the school years, especially when that second language is used in school for instructional purposes

across the curriculum. This process of acquiring a second language through the school curriculum is very different from foreign language learning taught as a subject in school. The examples in this paper will focus on the language minority student, who comes from a home where a language other than the dominant language of the society is spoken, and is 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.

Acquiring a Second Language for School: A Conceptual Model

The model has four major components: sociocultural, linguistic, academic, and cognitive processes. To understand the interrelationships among these four components, figure one illustrates the developmental second language acquisition process that occurs in the school context. 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 1
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 within the student's past, present, and future, in all contexts-home, school, community, and the broader society. For example, sociocultural processes at work in second language acquisition may include individual student variables such as self-esteem or anxiety or other affective factors. At school the instructional environment in a classroom or administrative program structure may create social and psychological distance between groups. Community or regional social patterns such as prejudice and discrimination expressed towards groups or individuals in personal and professional contexts can influence students' achievement in school, as well as societal patterns such as subordinate status of a minority group or acculturation vs. assimilation forces at work. These factors can strongly influence the student's response to the new language, affecting the process positively only when the student is in a socioculturally supportive environment.

Language development. 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 first and second languages across all language domains, such as phonology (the pronunciation system), vocabulary, morphology and syntax (the grammar system), semantics (meaning), pragmatics (the context of language use), paralinguistics (nonverbal and other extralinguistic features), and discourse (formal thought patterns). To assure cognitive and academic success in a second language, a student's first language system, oral and written, must be developed to a high cognitive level at least through the elementary-school years.

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, Grades K-12 and beyond. With each succeeding grade, academic work dramatically expands the vocabulary, sociolinguistic, and discourse dimensions of language to higher cognitive levels. Academic knowledge and conceptual development transfer from the first language to the 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 United States, 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 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, the cognitive dimension, has 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 down academics 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 a 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 flourish.

Research Evidence to Support the Model

First and second language acquisition: A lifelong process. To understand the processes occurring in language acquisition during the school years, 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). 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 the 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). Second language acquisition is an equally complex phenomenon. We use some of the same innate processes that are used to acquire our first language, going through developmental stages and relying on native speakers 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, a very deep level of proficiency is required.

Academic second language proficiency: How long? Cummins (1989) 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 level of language development needed to succeed in an academic context, 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 in Canada. In the Thomas and Collier series of studies (Collier, 1987, 1989, 1992b; Collier & Thomas, 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 a second language. When students being schooled in a second language reach deep enough proficiency levels in a 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 data sets 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 a 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 a 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 in the 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 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 & 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 (Collier, 1992a; Genesee, 1987).

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 (e.g. Bialystok, 1991; Collier, 1989, 1992b; Garcia, 1994; Genesee, 1987, 1994; Thomas & Collier, 1995). 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 the first language.

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 the second language (Collier, 1987; Collier & Thomas, 1989; Cummins, 1981, 1991; Thomas & Collier, 1995). The key to understanding the role of the first language in the academic development of the 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 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, for example, asking questions, solving problems together, building or fixing something, cooking together, and talking about life experiences.

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. Collaborative interaction in which meaning is negotiated with peers is central to the language acquisition process, both for oral and written language development (Ellis, 1985; Enright & McCloskey, 1988; Freeman & Freeman, 1992; Goodman & Wilde, 1992; Swain, 1985; Wong Fillmore, 1991).

Sociocultural context of schooling. Research from anthropology, sociology, sociolinguistics, psycholinguistics, and education has provided insights into the powerful and complex influence that sociocultural processes have on language acquisition. Just a few examples are provided here. Among our new arrivals to the U.S. are undocumented as well as legal refugees seeking refuge from 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

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).

External societal factors in the U.S. may have major influence on language acquisition for school. Examples are the social and psychological distance often 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. 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 (1993), Oakes (1985), 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 (Hernandez-Chavez, 1984; Spencer, 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 (1991) 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 (Frederickson, 1995). 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 Educators

In our current research (Thomas & 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 50th percentile or NCE 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 the 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 of the curriculum for all proficiency levels.

In our research, we have also found significant differences between "traditional" vs. "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 with the learner treated as a passive recipient of knowledge. Students achieve significantly better in programs that teach language through cognitively complex content, taught through problem-solving, discovery learning in highly interactive classroom activities. ESL pullout in the early grades, when taught traditionally, is the least successful program model for students' long-term academic success. During Grades K-3, there is little difference between programs, but significant differences appear as students continue in the mainstream 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 English language learners entering U.S. schools at the secondary level: (1) second language taught through academic content; (2) conscious focus on teaching learning strategies needed to develop thinking skills and problem-solving abilities; and (3) continuous support for staff development emphasizing activation of students' prior knowledge, respect for students' home language and culture, cooperative learning, interactive and discovery learning, intense and meaningful cognitive/academic development, and ongoing assessment using multiple measures.

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 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 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 4-12 years of second language development are needed for the most advantaged students to reach deep academic proficiency and compete successfully with native speakers. Given the extensive length of time, educators must understand the complex variables influencing the second language process and provide a sociocultural context that is supportive while academically and cognitively challenging.

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