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8 Basic Research on Language Acquisition

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*M*ost educated Americans can testify to the difficulty of becoming bilingual. Despite years of schooling in French, Spanish, or German, how many can carry on a real-life conversation in a language other than English? The American Council on the Teaching of Foreign Languages estimated in 1987 that "only 3 percent of American high school graduates, and only 5 percent of our college graduates, reach a meaningful proficiency in a second language – and many of these students come from bilingual homes." No doubt those rates have increased somewhat, thanks to stiffer language requirements in higher education and the rapid growth of linguistic minority populations. Still, there is no

reason to believe that foreign-language instruction has markedly improved. While it may produce passable reading skills, rarely does it equip students to communicate. They may earn high marks for recalling grammatical rules or parroting classroom exercises or producing flawless compositions. Yet oral exchanges with native speakers can be an ego-jarring experience.

Frustrated at having invested so much effort for so little return, monolinguals tend to rationalize:

- *I started learning a language too late; the longer you wait, the harder it is.*
- *I never had a chance to use the language outside of class, and now I'm embarrassed to try.*
- *I just don't have any aptitude for memorizing grammar and vocabulary.*

Each of these reactions expresses a popular "theory" of second-language acquisition. As generalizations, they are inadequate to explain student failure, but they do reflect persistent problems with foreign-language teaching. Conversational facility is indeed difficult to acquire when there are limited opportunities to engage in actual conversations. An emphasis on grammar drills not only bores students; it seldom trains them to *speak* the target language. Older learners tend to be especially self-conscious when forced to participate in exercises detached from any purposeful context. For years students have lodged such complaints, with little effect on the way foreign languages are taught in this country.

Historically speaking, the focus on form over function seems to be a recent development in second-language education. During the Roman Empire scholars achieved a high level of grammatical knowledge of Latin and Greek, often in connection with the rhetorical arts. Yet apparently such studies were never regarded as a route to language acquisition. In the bilingual schooling of Roman children, conversational dialogues were used to develop fluency in Greek. Latin, the **lingua franca** of culture and scholarship in medieval Europe, was taught for centuries with a stress on oral skills as well as reading and writing.

"Toward the end of the Renaissance," writes psychologist Barry McLaughlin, when Latin began to die out as a spoken tongue,

> emphasis began to shift from the learning of language as a practical tool to the learning of language as a means to an end – that of developing the mind. Latin and Greek were taught because it was thought that the study of grammar was good mental discipline. Since these languages were not living languages, little attention was given to oral communication. Texts were read and translated, and this – together with the study of grammar – became the

By the 19th century the **grammar-translation approach** was being used to teach modern languages as well. Students spent their time conjugating verbs, memorizing vocabulary, learning syntactic rules and their exceptions, taking dictation, and translating written passages. Since communicative proficiency was not an important goal, oral use of the second language was minimal. In the United States such methods predominated well into the 1950s.

Acceptance of the grammatical approach has never been universal. The English philosopher John Locke wrote in 1693:

> Latin is no more unknown to a Child, when he comes into the World, than English. And yet he learns English without Master, Rule, or Grammar; and so might he Latin too, as Tully [Cicero] did, if he had some Body always to talk to him in this Language. . . . [In this way] a Child might without Pains or Chiding, get a Language, which others are wont to be whip'd for at School six or seven Years together.[1]

Perceptive educators have long recognized the potential of more natural approaches to language acquisition. Over the years a number of **direct methods** – the most famous being that of Maximilian Berlitz – have used varieties of partial or total immersion. Oral language is heavily emphasized and translation is avoided; students are encouraged to think in the second tongue. Meanwhile grammar is taught inductively, rather than through the application of rules. Such techniques have proved successful among diplomats, business people, and others with strong incentives to learn. Yet they make for highly structured, teacher-centered lessons that have been less appealing to younger learners. More recently, efforts to involve students actively, by engaging them in meaningful communication, led to innovations in ESL teaching such as the Natural Approach, Suggestopedia, and Total Physical Response. In high school and college foreign-language programs, however, communication-based methods remain the exception.

By 1957, when the shock of *Sputnik* revived Americans' interest in foreign languages, there was widespread dissatisfaction with the grammar-translation method, which was producing few if any functional bilinguals. The prevailing diagnosis was that, while students might become sophisticated grammarians, they were getting too little "practice" in conversation. Still, there was no rush to adopt direct methods, whose approach to grammar seemed haphazard to many educators. What filled the vacuum became known as the **audiolingual method**. With backing from the Modern Language Association, it emerged as a popular alternative to the grammar-translation approach and remains in use today.[2]

Influenced by the fields of behavioral psychology and structural linguistics, audiolingualism begins with the premise that each language is a distinct set of "speech habits." Since students already have well developed habits in their mother tongue, the logic goes, they need systematic practice to learn new habits in the second language. Special attention must therefore be paid to differences between the two grammars; otherwise learners tend to graft new vocabulary onto first-language syntax (a pitfall of direct methods, in the audiolingualists' view). Accordingly, the audiolingual method relies on oral "pattern drills" and "memorization and mimicry" to teach grammar in a planned sequence. The idea is that, through repetition, students' use of the second language becomes automatic, allowing them to produce sentences of their own. When it comes to communication skills, however, practice apparently does not make perfect. Evaluations have shown that audiolingual students, like their predecessors in grammar-translation classrooms, seldom reach more than a novice level of oral proficiency in the second language.

Revolutionary Theory

Audiolingualism suffered a major setback when the reigning **paradigm**, or theoretical system, that sponsored it was overthrown by the **Chomskyan revolution** in linguistics. In the **behaviorist** view espoused by B. F. Skinner, language learning is just another branch of learning – that is, the mind grasps grammatical forms in the same way it draws generalizations from all experience. Therefore, like other behavioral patterns, correct speech habits must be developed through imitation and reinforcement, assisted by frequent repetition. (This assumption also underlies the **time-on-task theory** of language acquisition; *see Chapter 9.*) Implicit in Skinner's premises is the notion that as children acquire language, they internalize a finite set of linguistic responses for all the stimuli they will encounter in life. This is an absurd claim, according to Noam Chomsky.

In any language the number of sentences is infinite, Chomsky points out; there is no limit to the grammatical combination of words. Moreover, while exposed to relatively small amounts of data, children master complex syntactic structures in their native tongue. Rather than merely repeating a limited linguistic repertoire, they learn to produce utterances that have never been heard before, by themselves or by others, which are nevertheless "correct" and comprehensible to fellow speakers of the language. Thus, in Chomsky's theory, language use is a creative, open-ended process rather than a closed system of behavioral habits. That this ability could be acquired empirically – entirely through generalizations from experience – is highly implausible.

Instead, Chomsky hypothesizes, human beings have an innate cognitive capacity for language. The mind is endowed with **linguistic universals** that enable us to formulate rules from the verbal sounds we hear. Such rules depend on the structure of language – for example, the subject-predicate relationship – rather than on easily mimicked features such as word order. Natural human languages differ in particulars while sharing a **universal grammar**, or set of principles that determines the grammars the mind may "construct." Conversely, according to Chomsky, these same universals "exclude other possible languages as 'unlearnable.'" Or, to use another metaphor, heredity has "hard-wired" the human mind with an ability to acquire certain kinds of linguistic structures. Environmental stimuli – messages received in a natural language – "throw switches" to activate the "circuits" of a possible grammar in the brain.

The rapidity and efficiency of the process is remarkable. "During the most active acquisition period (ages 2 to 6)," explain linguists Jeff MacSwan and Kellie Rolstad of Arizona State University, "children learn approximately 10 to 12 new words a day, often on one exposure and under highly ambiguous circumstances. Children know things about elementary aspects of sentence structure for which they have no evidence at all." By school age their mastery of the morphological and syntactic rules of their native language is "essentially indistinguishable from [that of] adults."

Under certain conditions – mental retardation or extreme social deprivation, for example – children may never fully acquire a natural language. But for the vast majority of the human species, the **language faculty** is part of our biological endowment. There are substantial variations in language usage, of course, depending on race, class, ethnicity, gender, education, work, interests, and a host of other characteristics. For example, **linguistic registers**, or communication styles, differ substantially between social groups and situations. Unfamiliarity with "school language" can be a source of academic difficulties, just as unfamiliarity with "street language" or Valley Girl speech or the jargon of computer geeks can cause problems in other **language domains**. But all normal children have the capacity to acquire new registers, given sufficient exposure to them. Chomsky makes an important distinction between **linguistic competence**, or underlying knowledge of language that enables the speaker to "generate" an infinite number of sentences, and **linguistic performance**, or how language is used in real-world contexts.

Beginning in the early 1960s, Chomsky's theory of generative grammar had an enormous impact. Language acquisition, no longer a subset of general learning theory, became the focus of experimental research by psychologists who were also

linguists. In studying the actual speech of children, these researchers departed from Chomsky's theoretical approach, which was unconcerned with linguistic behavior in its raw state. Nevertheless, the psycholinguists were able to confirm empirically many of Chomsky's hypotheses about the language faculty and its relation to other cognitive functions. Studies determined, for example, that there is a **natural order** for children's mastery of grammatical structures in both first and second languages, with certain forms acquired later than others.

The Chomskyan revolution raised unsettling questions for language educators. If normal children learn their first language naturally – without behavioral guidance and reinforcement – do teachers have a significant role to play? Indeed, are languages "teachable" in any meaningful sense? Some theorists have answered no to both questions. Yet empirical evidence has shown that individuals differ widely in their ability to learn second languages after early childhood. How could this be true if the process were genetically "programmed"?

One explanation is the **critical period hypothesis**, which posits that lateralization of the language function in the left hemisphere of the brain – a process completed before puberty – impairs the capacity for natural language acquisition. The strongest evidence for this hypothesis comes from case studies of **language deprivation**, unusual circumstances in which children fail to acquire a mother tongue in their early years. But its application to second-language acquisition is dubious, according to many researchers. After all, adults can and do learn one or more additional languages, sometimes approaching native-like fluency.[3] Some research indicates that older learners may be at a phonological disadvantage, unable to shed their "foreign accents" as easily as children. Other studies suggest that adults may experience a long, gradual decline in their aptitude for acquiring other aspects of language. As researchers Ellen Bialystok and Kenji Hakuta argue, however, the literature shows no point at which language-learning potential declines drastically. Indeed, there is considerable evidence that older language students outpace younger language students, at least in the short term.

Another finding relevant to the teachability question is that schoolchildren also vary substantially in second-language acquisition. In a study of LEP students aged 8 through 10, Lily Wong Fillmore and Barry McLaughlin found that 60 percent became "fairly proficient" in English after three years of schooling, 30 percent "were just beginning to make sense of the new language," and 10 percent "had learned virtually no English at all." While "differences in learners" played a role, these alone could not account for the dramatic disparities. At least as important, the researchers concluded, were "diff-

the native language, English instruction becomes more intelligible. "The first rationale for bilingual education," he postulates, "is that information, knowledge that you get through your first language, makes English input much more comprehensible. It can take something that is utterly opaque and make it transparent."

Krashen likes to illustrate this point with an exercise in decoding a nonsense word, *rouche*. It goes as follows:

> Favorable conditions are necessary to do this activity. That is, you have to have enough *rouche*. If there is too much *rouche*, the object might break. But if conditions are too calm, you will have problems because the *rouche* makes the object go up. If there are obstacles, a serious problem can result because you cannot control the *rouche*. Usually, the *rouche* is most favorable during the spring.

Confronted with this problem by researcher Shirley J. Adams, only 13 percent of experimental subjects could define *rouche*. After background information was provided, 78 percent guessed correctly. The context that made the difference was: "This passage is about flying a kite." (For the benefit of the remaining 22 percent, if they are still wondering, *rouche* means "wind.")

English instruction in subjects other than language can provide a rich source of comprehensible input for LEP children. In such high-context situations, students readily acquire new words and syntax in the second language, Krashen says, especially if they already know something about the subject being discussed: "For ESL students, a well-taught geography lesson, if it's comprehensible, is a language lesson. In fact, it's better than an ESL class, [where] we're always wondering what to talk about." This methodology, known as **sheltered instruction** – sometimes called **sheltered English** or **sheltered subject-matter instruction** – tailors lessons to LEP students' proficiency in English. Since the early 1980s it has increasingly been incorporated into bilingual education programs, with excellent results.

On the other hand, the input hypothesis explains the pitfalls of an early (and sometimes still practiced) methodology in bilingual education known as **concurrent translation**. Using this approach, a teacher gives a lesson in two languages at once, translating each idea on the spot. Naturally children tend to "tune out" the second language and wait for the translation. Having no reason to pay attention, they receive no comprehensible input in English. (For the same reason, Krashen notes, few Americans have learned the Celsius scale: our thermometers alternately display temperatures in the familiar Fahrenheit scale.) Meanwhile the teacher using

second language, that is, to help the students "negotiate meaning." The ineffectiveness of this method has been confirmed empirically by researchers including Dorothy Legaretta-Marcaida and Lily Wong Fillmore. Various ways of alternating language use – morning-afternoon, different days, "preview-review" lessons – have proven more beneficial. Without instantaneous translations, children become more attentive and motivated to figure out what the teacher is saying in English.

Krashen's theory also underscores the futility of traditional approaches to ESL and foreign-language teaching that stress form over function, whether through memorizing rules (grammar-translation and cognitive methods) or through mindless exercises to illustrate "the structure of the week" (audiolingual method). Because such techniques have nothing to do with real communication, students have trouble focusing on content; comprehensible input is limited.

"Learning about" a language, gaining conscious knowledge of its syntax and usage, can serve a **monitor**, or editing, function. By applying grammatical rules, we can produce more "correct" speech or writing. But conscious knowledge alone is inadequate in communicative situations, for three reasons. First, grammar books are woefully incomplete when compared with the complex set of rules internalized by native speakers of a language. Linguists "have described only a fraction" of the structure of any natural language (including English), Krashen says, and the percentage taught in class is even smaller. Second, most people are unable or unwilling to learn all these rules. Third, for the tiny minority who can successfully "focus on form" while communicating, the process of recall is still too slow to sustain a normal conversation.

Another misplaced emphasis is teachers' impatience for oral production in the second language before students are ready. "Speaking per se does not cause language acquisition," Krashen argues, but follows from it as "a result of obtaining comprehensible input." This corollary of the input hypothesis explains why LEP children typically exhibit a **silent period** of as much as six months after entering school and then suddenly start speaking in English. "When they begin to speak, they are not beginning their acquisition," he says. "They are showing off their competence."

That this process occurs naturally does not mean it is smooth or easy. Psychological and attitudinal factors can, and usually do, interrupt the functioning of the language acquisition device. Krashen groups such negative influences under the term **affective filter**. These include anxiety, lack of self-confidence, and inadequate motivation to speak the second language, any of which can retard acquisition

cially hindered by such barriers.

In this respect young children appear to have an advantage over their elders. Before puberty they tend to be less self-conscious about performance in a new tongue and more comfortable in their interactions with native speakers, an important source of comprehensible input. On the other hand, **low self-esteem** – which is common among poor, minority children who speak a low-status language – often coincides with anxiety or hostility toward learning in general and toward English in particular. Such attitudes "raise the affective filter," or reduce the amount of input that is comprehensible, thus slowing the acquisition of English.

Instructional techniques have a strong impact in the affective realm, either reinforcing or reducing the obstacles to language acquisition. Teachers who encourage students' attempts to communicate real messages tend to "lower" the affective filter. By contrast, calling attention to students' errors is likely to heighten their self-consciousness. Failing to respect a child's silent period and attempting to force speech production, rather than allowing English to "emerge" on its own, can be counterproductive. According to Tracy Terrell, creator of the Natural Approach to ESL, this mistake "will at best delay language acquisition ... and at worst may create blocks to [it], blocks which later could prove to be quite difficult to remove."

It is here, in the affective realm, that native-language instruction can supply an antidote to common problems in second-language teaching. A bilingual-bicultural curriculum, merely by recognizing the value of a minority language and culture, can enhance a LEP child's self-esteem and provide a more comfortable environment for English acquisition. And this is only the beginning of bilingual education's benefits, Krashen says – benefits that he, as a longtime ESL professional, only came to recognize in mid-career.

While research is steadily demonstrating that native-language instruction facilitates English acquisition, the conclusion remains controversial. For many educators as well as lay persons, the notion of "go East to get West" – or study Spanish to learn English – appears to defy common sense. Krashen's own conversion, he recalls, came around 1980, during a discussion of Jim Cummins's work on native-language literacy.

Interaction of First and Second Languages

In exploring how first-language skills influence both second-language acquisition and academic achievement, Cummins challenged the conventional wisdom about bilingualism. He began in the mid-1970s with a critique of oversimplified

was the "intuitively appealing argument ... that deficiencies in English should be remediated by intensive instruction in English." In other words, teaching LEP students in their mother tongue seemed to be a costly diversion from English acquisition. Second, there was the popular rationale for bilingual instruction – indeed, the argument had shaped the first decade of federal policy – that children cannot learn in a language they have yet to master. Cummins believed that neither hypothesis could stand up to theoretical examination and that both were contradicted in practice by successful programs.

The "insufficient exposure" idea, still a mainstay of opposition to bilingual education, was summed up by the late Representative John Ashbrook of Ohio. He charged that Title VII was

> actually preventing children from learning English. Some day somebody is going to have to teach those young people to speak English or else they are going to become public charges. ... When children come out of the Spanish-language schools or Choctaw-language schools which call themselves bilingual, how is our educational system going to make them literate in what will still be a completely alien tongue?

Despite the persistence of such assumptions, Cummins says, they are strongly contradicted by research: "The results of virtually every bilingual program evaluated during the past 50 years show either no relationship or a negative relationship between amount of school exposure to the majority language and academic achievement in that language."

Moreover, there is no reason to believe that first and second languages function independently in the brain, or that knowledge and skills acquired in one are not transferable to the other. An implicit "theory" of **separate underlying proficiency** – which logically follows from the view that native-language development comes at the expense of second-language development – has "not one shred of evidence" to support it, Cummins says. Taken to its logical extreme, this cognitive model would "leave the bilingual in the curious predicament" of being unable to "communicate with himself." When switching languages, such persons would be hard-pressed to translate what they had heard or said.

In opposition to this notion, Cummins has advanced a theory of **common underlying proficiency**. That is, skills in different languages inhabit the same part of the brain, reinforcing each other at the base while differing at the surface. In this "dual iceberg" model of the bilingual mind, features that are most cognitively

pendent across languages." On the other hand, the "surface aspects" of language differ substantially between, say, English and Swahili. Cummins's **interdependence hypothesis** predicts that a child who has mastered the basics of reading and thinking in the first language will perform well on entering a second-language environment. Because of common underlying proficiency, students do not need to relearn these skills.

Successful bilingual programs provide empirical support for Cummins's theory. The full range of proficiencies known as literacy appears to transfer readily, an effect that has been documented even for languages whose writing systems differ radically, such as Vietnamese and English, Japanese and English, or Turkish and Dutch. Krashen puts it quite simply: "Once you can read, you can read." Empirical studies have also shown that knowledge and skills in subjects like mathematics or social studies, once acquired in the first language, are retained when instruction shifts to the second language. Given achievement tests in English, students often perform well even though they learned the material in Spanish.

For the input hypothesis, the implications are significant. An English learner who has kept up in math through Spanish instruction will benefit doubly when studying the subject in a sheltered English classroom. "He will not only get more math; he'll get more English," Krashen explains, as compared to a student who has less contextual knowledge to make math lessons comprehensible in English. He adds that "the goal of bilingual programs is English literacy. The route is through the first language. ... You learn to read by reading, by making sense out of print. Vocabulary grows, grammar grows, spelling ability grows, good writing style grows. It's easier to make sense out of print in a language you understand."

Two Types of Language Proficiency

Cummins also took issue with the dominant paradigm supporting bilingual education in the 1970s, the common-sense idea that children are inevitably handicapped when there is a "mismatch" between the languages of home and school. The U.S. Commission on Civil Rights articulated this view in 1975: "Lack of English proficiency is the major reason for language-minority students' academic failure. Bilingual education is intended to ensure that students do not fall behind in subject matter content while they are learning English." In other words, children cannot succeed academically in a language they have yet to fully acquire. Cummins responds that, however well intentioned, this explanation has been invalidated by the success of immersion programs for English-speaking children in Canada and the United States. From the outset such students learn through the medium of the

At a theoretical level, he argues, the **language mismatch hypothesis** reflects "an inadequate understanding of what is meant by 'English proficiency.'" Instruction in a child's first language is "much more than an interim carrier of subject matter content. Rather, it is the means through which the communicative proficiency ... is developed" that underlies literacy, in both English and the native language. Cummins is not referring to linguistic ability in general but to the kind of linguistic skills that are essential for success in school. Fostering, rather than disrupting, children's native-language development thus becomes critical to their long-term academic performance. Yet the heavy emphasis on transitional forms of bilingual education, long favored by policymakers in the United States, has worked against this goal. Cummins warns that hurrying children into the English mainstream "is likely to result in the creation of **academic deficits** in language-minority students" (emphasis added). This may well explain the disappointing results of many TBE programs.

In considering the nature of language proficiency, Cummins looked for ways to explain two well documented phenomena that the linguistic mismatch hypothesis could not account for:

- Disproportionate numbers of children from linguistic minority backgrounds, judged by their teachers to be fluent in oral English, were nevertheless falling behind academically after being reassigned to regular classrooms.
- Such students tended to perform poorly not only in English but also in their mother tongue, a syndrome sometimes described as "illiteracy in two languages."

One explanation, Cummins hypothesized, was that educators were failing to differentiate between two very different types of second-language proficiency. He termed these **basic interpersonal communications skills** (BICS) and **cognitive-academic language proficiency** (CALP). More than a simple dichotomy between conversational and academic language, the BICS/CALP distinction is based on a functional analysis of linguistic skills required in different situations. There is no sharp line of demarcation between the two types of proficiency, but rather a continuum of evolving skills.

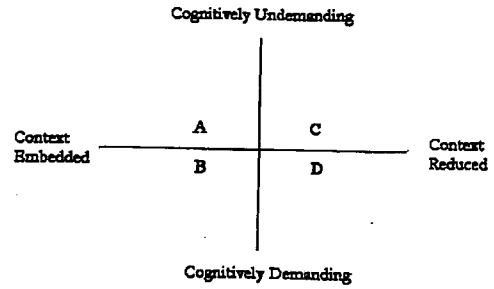
A good example of BICS is "playground English," which relies heavily on nonlinguistic cues and context – gestures, intonations, shared knowledge, etc. – to facilitate communication. In addition

"considerably less knowledge of language itself" – that is, a more restricted vocabulary and simpler syntax – than children need in academic pursuits.

At the other end of the continuum is CALP, or "classroom English." This is the kind of proficiency required for abstract, analytical thinking and the expression of complex meaning, with limited support from external context. Children need CALP, for example, when writing a journal entry describing what they have learned or when making a persuasive oral presentation on an issue of the day. While not limited to literacy, these advanced skills are, in Cummins's terms, "literacy-related"; thus they are acquired primarily *through* the written word.

Falling at points in between on the continuum[5] are activities such as copying words from the blackboard or filling out worksheets, which are decontextualized but cognitively undemanding, and reading or discussing books with plenty of illustrations, which may be cognitively demanding but are rich in context. Cummins's framework is represented by the matrix shown in Figure 8–1. The pedagogical implication he draws is that students should be challenged intellectually while being provided the "contextual and linguistic supports" to do academic work in the second language: "In other words, optimal instruction for linguistic, cognitive, and academic growth will tend to move from Quadrant A to B, and from Quadrant B to D. Quadrant C activities may be included from time to time for reinforcement or practice of particular points."

FIGURE 8–1
Conceptual Foundation of the BICS/CALP Distinction



Source: Jim Cummins, *Language, Power and Pedagogy: Bilingual Children in the Crossfire* (Clevedon, U.K.: Multilingual Matters, 2000).

In this developmental process, children are naturally quicker to master BICS – "context-embedded" skills that are linguistically less sophisticated. By contrast, CALP includes command of the "process" words and complex grammatical structures that are needed to succeed in the "context-reduced" tasks of schooling. Empirical studies have found that second-language learners tend to acquire age-appropriate oral skills within three to five years, while it typically takes them four to seven years to catch up academically with native speakers of the target language *(see Chapter 9)*.

Thus when English learners are "transitioned" into mainstream classrooms within three years or less – a common practice and, in some states, a legal requirement – they may have mastered BICS but are still acquiring CALP. No wonder these students are at a disadvantage, Cummins concludes. Lacking the tools needed to do grade-level academic work, they quickly fall behind and tend to stay behind, because English-proficient students "are not standing still waiting for English language learners to catch up."

Still the question remains: Why do these students fail to reap the benefits of bilingualism, such as the transfer of literacy skills and content knowledge, which have been documented for those who make a more gradual transition to English? While acknowledging that various sociopolitical factors are also involved, Cummins has proposed a linguistic explanation known as the **threshold hypothesis**. For the positive effects of bilingualism to be realized and for "cognitive deficits" to be avoided, he asserts, there is a "threshold level" of proficiency that children must reach in their first language, a certain degree of CALP, that is necessary to support academic achievement in the second language. Yet this is precisely what students are denied in subtractive educational programs. Pushing LEP children into the English mainstream prematurely interrupts the development of CALP in the native language. This fosters a gradual loss of mother-tongue skills or, at best, a failure to develop them beyond a basic level. **Partial** or **limited bilingualism** is often the fate of such students, according to Cummins. While they may acquire adequate conversational skills in both languages, they never fully develop their cognitive capacities in either.

Conversely, studies in Sweden, Canada, and the United States have shown that students who immigrate *after* acquiring literacy skills in their native language significantly outperform their counterparts who are schooled entirely through the second language. Indeed, in a relatively short time, "late arrivals" to American schools have scored higher when tested in English, despite having had less **time on task** in English-language classrooms *(see Chapter 9)*. This pattern lends support to

the hypothesis that reaching some level of CALP – or, at least, literacy and academic knowledge – in the native language brings important academic benefits.

'Empowering' Linguistic Minorities

Notwithstanding his hypotheses about the role of native-language development, Cummins has come to believe that language of instruction is probably not the most significant variable for English learners. He suggests that "sociocultural determinants of minority students' school failure are more fundamental than linguistic factors." Bilingual instruction is merely one feature of the "educational intervention" that is necessary. To be effective, he argues, schooling must "counteract the power relations that exist within the broader society." That is, it must remove the racial and linguistic stigmas of being a minority child. "Power and status relations between minority and majority groups exert a major influence on school performance," he explains. The lower the status of a "dominated group," the lower the academic achievement.

Cummins cites research on the school failure of Finnish immigrants in Sweden, where historically they have faced discrimination, as compared with their success in Australia, where being a Finn carries no social stigma. Children of the Burakumin minority "perform poorly in Japan, but just as well as other Japanese students in the United States." Rudolph Troike gives the example of Maori children in New Zealand, who enter school speaking English but are soon outperformed by Samoans, a nonstigmatized minority group that arrives with limited English skills. In other words, social expectations seem to exert a significant influence on academic outcomes. The late anthropologist John Ogbu hypothesized that **immigrant minorities**, who voluntarily adopt a new society and tend to see their lowly status as temporary, have an advantage over **caste minorities**, who are acutely aware of ethnocentrism, feel that their options for advancement are limited, and may internalize messages about their "inferiority." This could help to explain why the children of Mexican immigrants generally fare better in school than Mexican American students who have become acculturated to the United States *(see Chapter 1)*.

Schools have tended to perpetuate the marginalization of minority students, Cummins says, by mirroring the "coercive relations of power" that characterize the wider society. Cultures other than those of the dominant group are treated as substandard, primitive, threatening, exotic, or at best irrelevant to American life. Limited English speakers placed in all-English programs inevitably perceive a negative message about the language they brought from home. Even in transitional bilingual programs, the native language is often merely tolerated as a necessary evil

rather than respected as a resource. In reaction, many language-minority students exhibit what Cummins calls **bicultural ambivalence**, or shame of the first culture and hostility toward the second. Bilingual teachers often remark on the poignant spectacle of students who stop using their vernacular, even though their English skills remain poorly developed. Peer pressure plays a role here in perpetuating negative messages about minority languages and cultures. In large part, however, children are "disempowered" by their interactions with the school, including their experiences in classrooms where teachers may have the best of intentions but lack the sensitivity or the strategies to counteract the stigmas children feel.

An important part of the solution, Cummins argues, are interventions that lead to the **empowerment** of minority students. To take a simple example, activities that encourage them "to take pride in their cultural background" can bring both social and academic benefits. Ideally, this should include a prominent role for the native language. Where that proves impossible for logistical or political reasons, teaching techniques can still be used that recognize and value children's mother tongue (e.g., by asking them to share with English-speaking classmates a daily word or, for older students, an occasional poem or story from their language).

The success of many developmental bilingual programs, Cummins suggests, may owe more to their affirmation of the English learner's cultural identity than to their linguistic effects. Conversely, he asks, "Is the failure of many minority students in English-only immersion programs a function of cognitive/academic difficulties, or of students' ambivalence about the value of their cultural identity?" Either way, he says, additive bilingualism is the more appropriate treatment.

A 'Theoretical Framework' and Its Critics

The theories elaborated by Cummins and Krashen have considerable explanatory power, accounting for a wide range of classroom phenomena that earlier paradigms did not incorporate. They are also elegant in their simplicity, easy to grasp and communicate. Not surprisingly, the work of the two researchers has had intuitive appeal for educators familiar with the challenges facing English language learners, and it has been enormously influential in program design. In the early 1980s officials at the California Department of Education launched an effort to publicize and test what has become known as the Cummins-Krashen "theoretical framework." The pedagogical result was a research-based, **gradual-exit model** of bilingual education that stressed the development of students' native-language skills *(see Chapter 10)*. Generally speaking, the academic outcomes of such programs have been both impressive and consistent with the paradigm advanced by Cummins and

Krashen – which, it should be noted, is not a unified theory, but rather a constellation of several more or less compatible hypotheses.

Like all scientific theories, these remain "unproven" in any final sense, as the researchers themselves have repeatedly pointed out. Elements of the framework are continually being tested, refined, and debated. While it has provided important guidance to practitioners, many questions – and no doubt, many imperfections – remain.

Academic critics of bilingual education have had remarkably little to say about the theories of Cummins and Krashen, other than to challenge them as empirically unsupported.[6] Christine Rossell and Keith Baker, for example, assert that what they call "the facilitation hypothesis" – the transferability of literacy and academic knowledge between languages – relies on studies that have "major methodological problems," or that it "misinterprets" the findings of more rigorous research. "It is true," they concede, that such studies have shown

> it is easier to teach a second language to individuals who are literate in their native tongue, [but] this tells us nothing about how non-literate individuals should be taught, nor the language in which they should be taught. It is probably also true that a person who has been unable to learn to ride a bike is a harder person to teach to ski, but this does not necessarily mean that the best way to teach a non-bike rider how to ski is to spend years teaching them how to ride a bike. The bilingual education literature, however, is rife with such unwarranted inferential leaps.

This objection is compelling only if one subscribes to the notion of separate underlying proficiency: that children's first- and second-language skills, not to mention their oral and literate skills, develop in ways that are basically autonomous. No linguist in the Chomskyan era would endorse such a theory, for which Rossell and Baker themselves offer no empirical support. It is also worth noting that Cummins and Krashen have never insisted that LEP students must be taught literacy for several years in their first language before being instructed in English – indeed, they have counseled against such practices as unnecessary and possibly harmful. Rather, they have argued that the "transfer effect" has theoretical significance for how second languages are acquired.

More substantive criticisms of their work have come from researchers who acknowledge the effectiveness of well designed bilingual education programs but have raised questions about the adequacy and implications of theories such as the threshold hypothesis, the BICS/CALP distinction, or the input hypothesis. In other

words, these concerns are expressed not by opponents in a politicized debate over language of instruction, but by colleagues who share many of the same values and priorities. Hence they merit heightened attention.

Deficit Model?

Challenges to Cummins's work have centered primarily on whether his theories, notwithstanding their emphasis on "empowering minority students," imply what amounts to a **deficit model**. Specifically, does the threshold hypothesis locate the source of academic failure for language-minority children in their own cognitive inadequacies stemming from a failure to acquire full proficiency in any language? In a related vein, does the BICS/CALP distinction confuse academic skills such as literacy with linguistic development, in effect ascribing "superior" properties to the **standard language** of the educated classes?

These are more than semantic quibbles. It matters a great deal in the classroom whether students are conceived as linguistically different or linguistically disabled. "If teachers believe that some children have low language ability in both languages," notes linguist Jeff MacSwan, "then this belief may have a strongly negative effect on their expectations for these children and the curricular content and teaching practices [that] students receive." He argues that such misconceptions are fostered by the notion of **semilingualism**, or lack of full competence in any language.

Semilingualism stems conceptually from **verbal deprivation** theory (a close relative of **cultural deprivation** theory; *see Chapter 4*). An earlier example, proposed by the British sociologist Basil Bernstein, is the hypothesis that children reared in working-class homes acquire only **restricted codes**, defined as "particularistic ... context-bound ... inexplicit" forms of speech that are insufficient for analytical thinking. Higher cognitive activities, Bernstein asserted, require **elaborated codes**, the more abstract, "context-independent," explicit kinds of language that are acquired from literate parents. Applying this hypothesis in the 1960s, some U.S. researchers in educational psychology concluded that many poor, African-American children were so retarded in speech development by their family backgrounds that they effectively had "no language at all." Thus they had no hope of succeeding in school without intensive efforts to "fix" their language deficiencies.[7]

Yet this deficit model, which relied heavily on linguistic arguments, was advanced by social scientists who had no expertise in linguistics. Their methods of assessing children's language proficiency were not only crude but also permeated by class and ethnic prejudices. Essentially their research measured the distance of ...

standard English speakers from the grammar, vocabulary, and speech styles of middle-class speakers of English, and pronounced the former group inferior in logical and analytical capacity. William Labov, a linguist who reviewed some of the test questions used, found that they lacked any scientific basis: "We cannot conclude that the [black] child has no grammar, but only that the investigator does not understand the rules of grammar." Lavov's own research demonstrated that children who spoke **African-American Vernacular English** (AAVE) were just as capable of expressing complex ideas as those who communicated in Standard English. The AAVE speakers simply differed in their form of expression, which happened to carry a social stigma. "There is no reason to believe that any nonstandard vernacular is in itself an obstacle to learning," Labov concluded. "That educational psychology should be strongly influenced by a theory so false to the facts of language is unfortunate; but that children should be the victims of this ignorance is intolerable."

The concept of semilingualism extends verbal deprivation theory to children whose vernacular is undergoing displacement by a socially dominant language, either through subtractive bilingualism in the classroom, unstable bilingualism in the community, or both. It asserts that many such children never achieve "native-like" command of either language, remaining limited in their vocabulary and syntactic knowledge and thus poorly equipped to perform "cognitive tasks" that are essential to school learning: manipulating abstract concepts, drawing analogies and inferences, organizing thoughts systematically, and so forth.

If this reasoning sounds familiar, it is because semilingualism is an essential component of the threshold hypothesis (although Cummins has repudiated the term as pejorative and renamed it "limited bilingualism"). Its purpose is to explain why knowing two languages sometimes has negative rather than positive effects on intellectual growth. Among other limitations, semilingual children are said to have a restricted **repertoire**, or vocabulary size, in literacy-related aspects of both languages – for example, lacking the "process" words needed for abstract thinking. The concept is also relevant to the BICS/CALP distinction because acquiring conversational but not academic English would be considered one, and arguably the most important, form of semilingualism.

At a practical level this theory has exerted a strong influence on language assessment practices. In several states language-minority students enrolling in school, unlike English-background students, are routinely tested for proficiency in their mother tongue. Using assessment instruments based on the threshold hypothesis, schools have classified substantial numbers of children as "non-nons" – that

is, "nonverbal in both English and their native language." In Los Angeles, for example, there were 6,800 students in this category in 1996. Although the validity of these assessments is questionable, such children are typically tracked into "low ability groups" or assigned to special education.[8]

Prescriptivism

Cummins has insisted that he is not advancing a deficit theory, in the sense of a blame-the-victim analysis, because he attributes limited bilingualism to sociopolitical and pedagogical factors rather than to inherent deficiencies of language-minority children. For linguists like MacSwan, however, this is a distinction without a difference. Semilingualism and the BICS/CALP dichotomy add up to a deficit theory, he argues, because they assert a form of **prescriptivism**.[9] That is, they imply superior language abilities for those who have acquired the **discourse styles** typical of the middle class, in particular the literary discourse used in the classroom and on achievement tests. It goes without saying that children of any background must learn academic language to succeed in academic domains. Yet MacSwan argues there is no reason to believe that mastery of academic language represents a higher "level" of linguistic competence than, say, the language of boatbuilders or farmers, "who will know many concepts and words utterly foreign to academics." Each of these discourse styles, or **speech registers**, is culturally specific – whether to the school, the shipyard, or the barnyard. Few would argue that, in itself, a lack of cultural knowledge denotes a cognitive deficit.

In effect, however, the concepts of semilingualism and BICS/CALP assert that failure to master one prestigious form of culture – literacy – means failure to acquire full competence in any language. Presumably this linguistic disability would affect not only limited bilinguals but all **nonliterates**, including entire cultures that lack writing systems (MacSwan notes that a majority of the world's languages have none), not to mention the vast majority of humans who lived before 1455, when Gutenberg's invention of movable type began to make literacy accessible on a mass scale. Such persons are no doubt at a disadvantage in print-saturated Western societies. But, by lacking literacy skills, are they less able to use language for higher cognitive functions? Or is this merely a value judgment based on social prejudice? MacSwan adds:

> There are numerous literate practices that are not normally taught in school, such as storytelling, text recital, rapping, songwriting, Morse Code, and Braille, to name a few. Why should an inability to read and write correspond

> to deficient levels of linguistic competence in a way that inabilities in these other literate practices do not?

In fact, he says, there is no evidence that nonliterate individuals have less than fully acquired "the linguistic principles that govern their language." Reading and writing skills are not aspects of language competence per se; they are more like "technologies" for using language in various ways. To be sure, mastering these technologies takes time. Children from educated homes have an important advantage because, by the time they start school, they are already quite familiar with the speech registers that are used for educational purposes. Students who have never encountered those registers outside of school have to work much harder to acquire them. Yet they are perfectly capable of doing so, building on the basic competence they have acquired in their native language by age 5 or 6.

English learners naturally face additional hurdles. Simultaneously they must struggle to acquire (1) an entirely new linguistic system, and (2) content knowledge and literacy skills, *including* the literate registers of English. MacSwan and coauthor Kellie Rolstad argue that the tasks should be differentiated in this way – language proficiency on the one hand, academic learning on the other – because confusing the two tends to result in a deficit analysis. They warn that it is not only misleading but potentially harmful to label children as linguistically (and thus cognitively) deficient when they are merely lagging in academic achievement, a lag that is usually due to an incomplete acquisition of English.

In place of BICS/CALP, the two linguists have proposed an alternative construct, which they call **second language instructional competence** (SLIC). It does not refer to native-language proficiency, but simply to the stage of second-language development at which a child is able to function at grade level in a second-language classroom. A student who is still acquiring SLIC "is not considered cognitively less developed; she simply has not yet learned enough L2 to effectively learn through it." To do so, it is necessary to master not one but numerous aspects of academic language. As Kellie Rolstad explains, LEP students

> need to learn all the registers of the subjects they study in school, each with its peculiar vocabulary and whatever other linguistic features that … [are] required for that student to engage the subject matter at hand. In other words, it matters less what a student scores on some global test of English proficiency than whether that student is able to understand the language of instruction sufficiently well at that moment, in that context, to participate in that lesson and learn from it. …

> Imagine a student who was schooled in Mexico, where she was very good at math, who can easily participate in most math lessons taught in English. She can be said to have SLIC in math, although she may need support whenever word problems are involved. This same student may not have SLIC in social science – except for when her class begins a unit on Mexico. … SLIC is situational, perhaps even quixotic, and only a teacher who understands the apparent paradox of a student seeming to take two steps forward, then one step back, can recognize by working closely with that student where she has SLIC and where she does not, and hence where she can participate with minimal support and where she needs substantial, perhaps native-language, support.

In response to such criticisms, Cummins has denied any intent to suggest that CALP is "superior" to BICS, or that it is necessarily acquired later in developmental sequence. The two types of language proficiency simply "follow different developmental patterns": basic conversational skills reach an early "plateau," generally by the time children start school, while literacy-related skills such as vocabulary continue to develop "throughout our lifetimes." In addition, he has recently begun to describe BICS and CALP as different "functional registers," albeit with different cognitive-academic properties. The key point to recognize, Cummins argues, is that "conversational fluency in English is [not] a good indicator of 'English proficiency'" in general. Confusing the two "has resulted in countless bilingual children being 'diagnosed' as learning disabled or retarded" – in other words, they have been victimized by a deficit hypothesis. On the importance of avoiding that outcome, he and his critics can firmly agree. Meanwhile the theoretical debate continues.

Other Frameworks

Krashen's input hypothesis has come under criticism of a different sort: as a premature attempt to synthesize existing knowledge about second-language acquisition. Its claims are too "broad and sweeping," argues Barry McLaughlin of the University of California, Santa Cruz. "If the field of second-language acquisition is to advance, it cannot, at an early stage of its development be guided by a theory that provides all the answers. … More limited and more specific theories are needed at this stage, not a general, all-inclusive theory."

McLaughlin is one of several critics who believe it is simplistic to claim, as Krashen does, that languages are acquired in "one fundamental way," by "understanding messages." While few would deny a role for comprehensible input, they have advanced hypotheses incorporating other f…

en's theory, these contending explanations put at least some stress on conscious knowledge of grammatical rules and vocabulary, arguing in effect that "learning becomes acquisition." For example:

- The **skill-building hypothesis** asserts that "practicing" the consciously learned rules of a language gradually makes them "automatic."
- The **output plus correction hypothesis** assigns an important role to the negative feedback a student may receive when making errors in speaking the second language.
- The **comprehensible output hypothesis** claims that learning occurs when students struggle to make themselves understood, adjusting their output and internalizing (consciously or otherwise) rules that prove successful.

Krashen has responded that there are virtually no empirical data – from method comparison studies, for example – to support any of these hypotheses, whereas "comprehensible input-based methods are consistent winners." At a theoretical level, he advances the Chomskyan argument that "language is too complex to be consciously learned one rule at a time." While educated speakers of English are estimated to know about 156,000 words on average, "this could not be the result of 156,000 trips to the dictionary, 156,000 flash cards, or 156,000 fill-in-the-blank exercises." Moreover, the most sophisticated rules for English spelling have been shown to produce incorrect results more than 50 percent of the time. Thus it is hard to see how all these elements of language could be mastered through the relatively limited amount of error correction or skill-building that formal instruction can provide. On the other hand, Krashen notes, "clear gains and even high levels of proficiency can take place without ... skill-building, error correction, or comprehensible output. Each time this has occurred, acquirers had obtained comprehensible input."

Another contending framework, advanced by Lily Wong Fillmore of the University of California, Berkeley, portrays second-language acquisition as a multidimensional activity. That is, it incorporates the interactions among learners, speakers of the target language who serve as sources of input, and "the social setting in which the learning takes place." These components are involved in three complex "processes," which she terms

> *cognitive* – what goes on in the heads of learners when they interact with the data on which they base their language learning; ... *linguistic* – how linguistic knowledge figures in second language learning [including] knowledge ... possessed by persons who provide input for the learners and the knowledge of a first language possessed by the learners; ... [and] *social* – the steps by which learners and speakers jointly create social contexts or situations in which communication in the target language is possible.

Wong Fillmore postulates that cognitive strategies differ significantly between first- and second-language acquisition. Unlike young children, second-language learners tend to be old enough to have well developed capacities for "memory, pattern recognition, induction, categorization, generalization, inference, and the like." Naturally they draw upon such skills to analyze "relationships between forms, functions, and meanings" in the target language. While specialized language-learning mechanisms still operate (Chomsky's language acquisition device), she argues that these are less prominent than in the case of first-language learning.

According to this theory, linguistic processes also differ since, unlike young children, second-language learners have first-language knowledge. Awareness of "linguistic categories such as lexical item, clause, and phrase" helps them make "educated guesses" about comparable features of the second language. Meanwhile speakers of the target language consciously simplify its form and content, using feedback from learners, to make input more comprehensible. Finally, social processes create an environment in which learners use their background knowledge, such as understanding of social rituals, to decipher what target-language speakers are saying. The latter must participate actively to ensure that real communication takes place in a context that is meaningful to both sides.

Notwithstanding differences in explaining how language acquisition/learning takes place, Wong Fillmore's model intersects with Krashen's theory in numerous ways. The pedagogical implications are virtually identical; indeed, they represent an area of wide agreement among researchers in the field. Amid all the sound and fury, even McLaughlin endorses Krashen's "prescriptions about language teaching ... basic assumptions about the need to move from grammar-based to communicatively oriented instruction, the role of affective factors in language learning, and the importance of acquisitional sequences in second-language development."

Bilingualism and the Brain

Preservation of languages and cultures was the overriding goal of bilingual education in the 19th century. Today, however, despite the growing popularity of two-way bilingual programs *(see Chapter 12)*

States strive to develop lasting bilingualism. Continuing native-language instruction beyond the point at which children become proficient in English is often viewed as politically suspect. At least in part, this resistance is due to lingering suspicions that fluency in more than one language may unduly tax the mind.

Until not long ago, a majority of educational psychologists regarded bilingualism as a cognitive liability for young children. As George Thompson insisted in a widely used college textbook in 1952:

> There can be no doubt that the child reared in a bilingual environment is handicapped in his language growth. One can debate the issue as to whether speech facility in two languages is worth the consequent retardation in the common language of the realm.

This conclusion relied largely on studies conducted in the 1920s and 1930s, when anti-immigrant biases may have influenced researchers. As an example, Kenji Hakuta cites a 1926 study by Florence Goodenough that compared language use among several ethnic groups and found an inverse correlation between median IQ and the amount of foreign speech in the home. Goodenough concluded that either the persistence of minority tongues was "one of the chief factors in producing mental retardation," or that "those nationality groups whose average intellectual ability is inferior" were slow to learn English. In this period, adds Barry McLaughlin, a number of experiments determined that "bilingual children often must think in one language and speak in another, with the result that they become mentally uncertain and confused ... [or that] bilingualism is a mental burden for children, causing them to suffer mental fatigue."

Such studies, however, lacked controls for subjects' socioeconomic status and other factors that could affect test performance, Hakuta explains. Typically the experiments compared lower-class bilinguals with higher-class monolinguals. On the other hand, he expresses some skepticism about research that has reached the opposite conclusion: that proficiency in more than one language is a decided intellectual advantage.

A 1962 study by Elizabeth Peal and Wallace Lambert was the first of several to conclude that bilingualism enhances cognitive flexibility. Testing a group of 10-year-old French Canadian children, Peal and Lambert found that bilinguals significantly outperformed their monolingual counterparts on verbal and nonverbal intelligence tests. The study has been criticized, however, for selecting bilingual subjects whose English and French were equally developed. At a young age, the critics

intellectual edge may have accounted for their bilingualism, rather than vice versa.

In his own research Hakuta sidestepped this methodological problem by focusing solely on children with varying degrees of bilingualism. In a three-year longitudinal study of Hispanic elementary school students in New Haven, Connecticut, he measured nonverbal intelligence (using Raven's Progressive Matrices) and **metalinguistic awareness**, or the aptitude for abstract thinking about language. The results were mixed. More balanced bilingual children clearly performed better on Raven's, but metalinguistic awareness was only weakly related to ability in both languages (it was linked more closely with Spanish proficiency). This was puzzling, Hakuta says, because "the most logical route for bilingualism to have an effect on intelligence is through language."

Over time, however, children in the study who started out with stronger Spanish skills were more likely to become balanced bilinguals. That is, as students progressed through school, there was an increasingly strong correlation between native-language proficiency and English proficiency.[10] This finding is consistent with Cummins's interdependence hypothesis. At the same time, Hakuta observes that bilingualism has social and economic advantages that are unquestionable, if often ignored. He echoes the frustration of many bilingual educators who complain that as a nation we are squandering linguistic resources. Spanish-speaking children, for example, are seldom given an opportunity to continue native-language study after making the transition to English, usually by the 2nd or 3rd grade. As a result, their mother-tongue skills erode or, at best, "fossilize" at that level. On reaching high school, they may enroll in Spanish I – if they are still interested.

Whether the lack of language maintenance programs also represents a wasted opportunity for cognitive development remains a question for further study. Jim Cummins, however, expresses the leaning of most researchers in second-language acquisition when he says, "Bilingualism is not bad for the brain, and it's probably good."

Suggested Reading

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Cummins, Jim. *Language, Power, and Pedagogy: Bilingual Children in the Crossfire.* Clevedon, U.K.: Multilingual Matters, 2000.

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MacSwan, Jeff, and Rolstad, Kellie. "Linguistic Diversity, Schooling, and Social Class: Rethinking Our Conception of Language Proficiency in Language Minority Education." In Christina Bratt Paulston and G. Richard Tucker, eds., *Sociolinguistics: The Essential Readings.* Oxford: Blackwell. 2003.

See also pp. 398–400.

Online Resource Guide

Collier, Virginia P. *Acquiring a Second Language for School.* National Clearinghouse for Bilingual Education (1995).

Gándara, Patricia. *Review of Research on the Instruction of Limited English Proficient Students: A Report to the California Legislature.* Linguistic Minority Research Institute (1999).

See also companion CD-ROM.

Internet Links

Cummins, Jim. "Putting Language Proficiency in Its Place: Responding to Critiques of the Conversational/Academic Language Distinction." In Jasone Cenoz and Ulrike Jessner, eds., *English in Europe: The Acquisition of a Third Language.* Clevedon, UK: Multilingual Matters, 2000.
http://www.iteachilearn.com/cummins/converacademlangdisti.html

Hakuta, Kenji; Bialystok, Ellen; and Wiley, Edward. "Critical Evidence: A Test of the Critical Period Hypothesis for Second Language Acquisition."
http://www.stanford.edu/~hakuta/Docs/Critical%20Evidence.pdf

MacSwan, Jeff. "The Threshold Hypothesis, Semilingualism, and Other Contributions to a Deficit View of Linguistic Minorities." *Hispanic Journal of Behavioral Sciences* 22, no. 1 (2000): 3–45.
http://www.public.asu.edu/~macswan/hjbs2000.pdf

See also companion CD-ROM.

Notes

1. Echoing the view of classical rhetoricians, Locke acknowledged a place for grammar studies in the native tongue: "If Grammar ought to be taught at any time, it must be to one that can speak the Language already, how else can he be taught the Grammar of it. ... Grammar being to teach Men not to speak, but to speak correctly and according to the exact Rules of the Tongue"; quoted in Dennis E. Baron, *Grammar and Good Taste: Reforming the American Language* (New Haven: Yale University Press, 1982), pp. 120–21.
2. The audiolingual method was also blessed by its timing. The National Defense Education Act of 1958 opened federal coffers to foreign-language teaching for the first time, authorizing grants for the purchase of costly "language lab" equipment and facilities.
3. Indeed, Eric Lenneberg, the leader of the critical period school, has argued that first-language acquisition in childhood is the key, because "the cerebral organization for language acquisition as such has taken place. ... Since natural languages tend to resemble each other in many fundamental respects, the matrix for language skills is present"; quoted in Ellen Bialystok and Kenji Hakuta, *In Other Words: The Science and Psychology of Second-Language Acquisition* (New York: Basic Books, 1994).
4. Krashen calls this "the Paris argument." As he explains in *Under Attack: The Case Against Bilingual Education* (Culver City, Calif.: Language Education Associates, 1996):

   > Pretend that you have just received, and accepted, an attractive job offer in Paris. Your French, however, is limited. (You had two years of French in high school and one semester in college, and it was quite a while ago.) Before your departure, the company that is hiring you will send you the following information, in English: What to do when you arrive in Paris, how to get to your hotel, where and how to find a place to live, where to shop, what kinds of schools are available for your children, how French companies function (how people dress in the office, what time work starts and ends, etc.), and specific information about the functioning of the company and your responsibilities.
   >
   > It would be very useful to get this information right away in English, rather than getting it gradually as you acquire French. If you get it right away, the world around you will be much more comprehensible, and you will thus acquire French more quickly. Anyone who agrees with this, in my opinion, agrees with the philosophy underlying bilingual education.

5. Technically speaking, there are two continuums – relating to contextual support and cognitive demands – as represented by the horizontal and vertical axes of Figure 8–1. Cummins maintains that he is not postulating any direct developmental progression from BICS to CALP.
6. In a 1997 presentation to policymakers in California, Christine Rossell went so far as to claim that "Jim Cummins doesn't do research. ... Nevertheless, he does do theories." Perhaps the most charitable response to this charge is that Rossell must be ignorant of Cummins's work, which includes approximately 300 research-related publications over a 30-year career. For a complete listing, see Colin Baker and Nancy H. Hornberger,

eds., *An Introductory Reader to the Writings of Jim Cummins* (Clevedon, U.K.: Multilingual Matters, 2001).

7. This was the genesis of the federal Head Start program.
8. Children were classified using the Language Assessment Scales (LAS) Español. According to Jeff MacSwan, the test is seriously flawed, allowing "very little opportunity for children to demonstrate their linguistic abilities." For example, if they shyly fail to respond, or answer *No sé* ("I don't know"), to questions about a Spanish-language story, a score of zero is entered, which is usually sufficient to classify them as "nonverbal." A study that independently assessed a sample of such students in Los Angeles found them to be no less competent in Spanish than students who had been rated fluent. MacSwan argues that, absent indications of some language disability, there is no reason to assess the native-language proficiency of normal children simply because they are from linguistic minority backgrounds. Yet the states of Arizona, California, Hawaii, New Jersey, and Texas require schools to do so, while Illinois, Indiana, New Hampshire, and Oklahoma recommend the practice; "The Threshold Hypothesis, Semilingualism, and Other Contributions to a Deficit View of Linguistic Minorities," *Hispanic Journal of Behavioral Sciences* 22, no. 1 (2000): 3–45.
9. Early forms of prescriptivism, typified by the European language academies of the 17th and 18th centuries, sought to enforce grammatical "correctness" – which just happened to coincide with the speech patterns of the upper classes. The tradition continues among self-appointed language mavens who bemoan the "corruption" of English by slang, neologisms, and nonstandard dialects. No doubt there is a case to be made for defending literary standards. But such judgments are essentially aesthetic. They have nothing to do with the scientific insights of the past century, which include the following:
   - In living languages, change is constant and unstoppable.
   - Variations in language usage are just that – differences that imply neither superiority nor inferiority.
   - **Language varieties**, often called "dialects," may differ in the number and power of their speakers, but not in expressive potential.
   - As a Yiddish linguist once said, "A language is a dialect with an Army and a Navy."
10. According to Hakuta, "when [children] first entered the bilingual program, their abilities in Spanish and English were unrelated. However, by the end of three years, there were correlations as strong as $r = .70$ between the languages"; see "Cognitive Development in Bilingual Children," paper presented at a meeting sponsored by the National Clearinghouse for Bilingual Education and the Georgetown University Bilingual Education Service Center, Rosslyn, Va., July 24, 1985.