

Synthesis of Research on Bilingual Education

Substantial research supports teaching language-minority children in their native language and suggests that bilingualism is a cognitive asset.



Students in New Haven's bilingual program learn a variety of skills in Spanish while preparing to enter all-English classes. The approach is based on research indicating that a strong native-language foundation makes learning English easier and faster.

Passions run high in the debate on bilingual education. Unfortunately, political static has often blocked the lines of communication between researchers and educators. Much confusion persists over both the phenomenon of bilingualism itself and the goals and methods of bilingual education. Until the terms of the debate are clarified, the policy debate will continue to be dominated by political rhetoric and folk notions.

What Is Bilingual Education?

Contrary to popular perceptions, the term *bilingual education* encompasses a broad range of programs. To begin with, there is a great variety in the extent to which the first language is used in the classroom. In some cases, the first few years of instruction are conducted in the native language with English introduced only gradually. In other cases, language-minority/limited-English proficient (LM/LEP) children are placed immediately in all-English classrooms (an approach usually called *submersion*). This tremendous variation in programs can be witnessed in a study done by Development Associates for the U.S. Department of Education (Development Associates, Inc., and Research Triangle Institute 1984). This study classified programs for LM/LEP students in the first grade by the amount of time they used the first language. Table 1 shows their results. Ninety-three percent of LM/LEP first-graders receive at least a substantial proportion of their instruction in English; 26 percent receive

only English instruction.

While these programs differ substantially in the role of the first language, they differ significantly less in terms of their goals. In the Development Associates study, *every district surveyed* listed as a goal the development of the students' English to the level of participation in all-English classrooms. Ninety-one percent listed as a goal the development of other academic skills concurrently with the students' language development. Only 15 percent listed as a goal the maintenance of the students' first language.

In addition to these broad programmatic variations, there are great differences in teaching methodology. McLaughlin (1985) discusses the range of second-language instructional practices used with non-English-speaking students. *English as a Second Language (ESL)* programs often run as a support for submersion programs; they traditionally emphasize dialogues and drills on grammatical structures (although most teachers expand on these methods). Following the example of certain fairly successful Canadian efforts to teach French to children from the majority English-speaking backgrounds, through a *total immersion* approach, some programs for language-minority students in the U.S. have developed their own version. Like submersion, immersion programs give instruction only in English. An immersion classroom, however, is composed of only LM/LEP students. (Unlike the Canadian programs that introduce instruction in the native lan-

guage after several years of immersion, however, the U.S. immersion programs do not include a native-language component.)

Recently, researchers and educators have begun to emphasize *individualized instruction*, in view of the heterogeneous array of English levels in the typical bilingual classroom. Some teachers have experimented with a *total physical response* technique, designed to develop English comprehension ability through physical activity. Others have tried the *natural* approach, trying to create a nonpressured environment, to help students "absorb" English much as they absorbed their first language. Still others have taken a *functional* approach, helping students to develop specifically those English skills that are necessary for success in an academic setting. Although some small attempts have been made to evaluate these methodologies, no systematic review has embraced the entire range of programmatic or instructional variations.

Evaluation Research

Several attempts have been made to evaluate the effectiveness of bilingual education programs, comparing them in most cases to submersion programs (possibly with a few hours of pull-out ESL). Most notable are the often-cited large-scale study by the American Institutes for Research (Danoff et al. 1977a, b, 1978) and Baker and de Kanter's (1981) synthesis of smaller evaluation studies. Many researchers have criticized these studies, which

Photograph by Rita Popozian



New Haven third-graders draw on their Spanish reading skills and rapidly master the principles of English.

have generally concluded that bilingual programs are no more effective in promoting English language and other school skills than alternative programs (McLaughlin 1985 provides an even-handed and thorough review of the criticisms). These evaluations typically compared bilingual programs with submersion programs (which included, perhaps, a few hours a week of ESL help). As we have already seen, however, an extreme diversity of instructional methodology exists *within* programs that are labeled "bilingual." Some classrooms in "bilingual programs" looked very similar to some "submersion" classrooms. Without actual classroom observation and description of the instructional characteristics of the various programs, we do not really know what was being compared with what. Quite possibly, the negative results reflect weaknesses in the studies themselves, rather than in the bilingual education programs they sought to evaluate.

Another problem with the evaluation research is the selection of the comparison groups against which the bilingual education treatment groups were assessed. As Willig (1985) points out, very few studies use the ideal method of "random assignment." In some studies, the comparison group

included students who had themselves formerly been in bilingual programs, thus biasing the results in the direction of the comparison group (since students who exit from bilingual programs early tend to be the more academically gifted students).

Willig re-analyzed the same set of studies used in Baker and de Kanter's report. By employing a more rigorous method of analysis that systematically took into account the quality of the individual studies, she was able to derive conclusions that relied more strongly on higher quality research. In contrast to Baker and de Kanter, Willig found evidence in favor of bilingual education programs. Most important was her finding that the better the research methodology used in the studies, the greater was the effect in favor of bilingual programs.

While the studies discussed above, for the most part, compared various bilingual approaches with submersion strategies, there have been few attempts to evaluate the use of immersion programs for minority students in the United States. SRA Technologies is conducting a Department of Education-funded study comparing students in immersion programs with students in "early-exit" or transitional bilingual programs, and children in "late-exit"

or maintenance programs. Although the study has not yet been completed or released, in the first year of the four-year study, researchers found that students in bilingual programs with greater native-language components did considerably better on tests in reading, language arts, and mathematics (Crawford 1986, reporting in *Education Week*). Contrary to the expectations of the researchers conducting the study, the third group, which had the least exposure to English, made the greatest progress in both Spanish and English. These results, together with Willig's findings, suggest that programs with substantial native-language components may be very effective.

Cognitive and Linguistic Research

Less often quoted, but no less relevant, in the debate on bilingual education is the body of research on the cognitive effects of bilingualism and on the processes involved in language learning. The following are some of the broad issues addressed by this research. (For a more in-depth discussion of bilingualism and second-language learning, see Cummins 1984a, Grosjean 1982, Hakuta 1986, McLaughlin 1984, 1985.)

The nature of language proficiency. People tend to think of language, like intelligence, as a single, simple capacity that can be easily measured by a single test. However, recent research indicates that language is not a unified skill, but a complex configuration of abilities. Most important, it seems that language used for conversational purposes is quite different from language used for school learning, and that the former develops earlier than the latter (C. E. Snow 1983, Cummins 1984b).

In the context of bilingual education, this means that children become conversationally fluent in English before they develop the ability actually to use English in academic situations. Bilingual programs are commonly criticized for keeping students too long, even after their English is "adequate." But Cummins (1984b), for example, found evidence that while children may pick up oral proficiency in as little as two years, it may take five to seven years to acquire the "decontextualized" language skills necessary to

function successfully in an all-English classroom. A child's English skill may be judged as "adequate" in an informal conversation, or even on a simple test; but this may not mean that the child's skills are adequate for understanding a teacher's explanation, for reading a textbook, or for writing a composition. Snow and Hakuta (in press) point out that prematurely mainstreamed students run the risk of being diagnosed as slow, disabled, or even retarded because of their language handicap.

The relationship of the two languages. One major argument often leveled against bilingual education is that it does not develop English rapidly enough because of its emphasis on the native language. However, research overwhelmingly refutes the major premise of this argument—that the time spent in the classroom using the native language is wasted or lost. First, a strong native language foundation acts as a support in the learning of English, making the process easier and faster (Cummins 1984b). Second, most of the learning that goes on in the native language transfers readily to English (Goldman et al. 1984; Cummins 1981, 1984c; Lambert and Tucker 1972; Stern et al. 1976; Genesee et al. 1977; Swain 1978; Genesee 1979). This is true not only for content areas like math, science, and social studies, but also for language arts skills like speaking, reading, and writing. The child who already understands why "tres por ocho es igual a cuatro por seis" will not need to be taught in English that "three times eight equals four times six." Similarly, the child who knows how to write a topic sentence or look up a word in the dictionary in Portuguese or Chinese will be able to use these skills in the English classroom. Becoming fluent in a second language does not necessarily mean losing the first language, nor does maintenance of the first language retard the development of the second language.

The relationship of language and general mental functioning. There exists a persistent belief that for minority children, bilingualism confuses the mind and retards cognitive development (see reviews by Arsenian 1937, Jensen 1962, Diaz 1983). This belief has its roots in some early attempts to

explain why immigrants from southern and eastern Europe were performing poorly on IQ tests (Hakuta 1986). However, research now shows that there is no such thing as retardation caused by bilingualism; if anything, the development of a second language can have positive effects on thinking skills. A number of studies have shown that bilingual children may gain some measure of cognitive flexibility (Peal and Lambert 1962, Bain and Yu 1980, Hakuta and Diaz 1984), particularly where the bilingualism is additive (i.e., where the first language is maintained, rather than replaced). Bilingualism is definitely not an intellectual handicap; quite possibly, it is a cognitive asset.

The differences between individual children. Documented cases of children who rapidly acquire a second language do exist (see case studies in Hatch 1978), but research shows these cases to be the exception rather than the rule. There are tremendous variations in the rates at which children learn a second language, and the process is not as painless as we might like

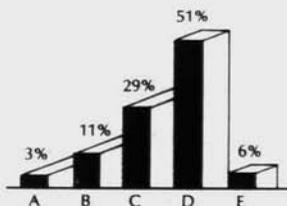
to believe. The rate of acquisition can be influenced by many factors, including cultural background, the strength of the native language, home language environment, personality, attitude, and linguistic aptitude (see discussion in Hakuta 1986).

Bilingual education programs should be adaptable to different children's needs. If individual and cultural factors support second-language learning, children may exit from bilingual programs fairly quickly. Other children, however, may need bilingual instruction for relatively long periods of time.

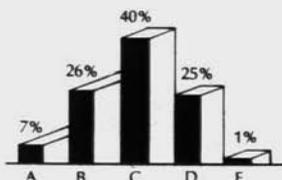
The optimal age for second-language acquisition. Many people believe that if children have not mastered the second language by early school years, they never will. But the belief that children are fast and effortless second-language learners has no basis in fact. Teenagers and adults are much more efficient learners than elementary school children, and fourth- to seventh-graders are faster than first- to third-graders (Snow and Hoefnagel-

Table 1
Types of Instructional Programs

Percentage of Schools Using Each Type of Instruction



Percentage of LM-LEP Students Receiving Each Type of Instruction*



Types of Instructional Service

- A. Primary language of instruction is the native language, and students are taught native language arts.
- B. Both the native language and English are used as the languages of instruction.
- C. Both the native language and English are used as the languages of instruction, with a decrease over time in the use of the native language and a corresponding increase in the use of English.
- D. All instruction is in English, with additional special instruction in English.
- E. All instruction is in English, but without special instruction in English.

*Column percentages do not add to 100 because of rounding.

Adapted from Development Associates, Inc., and Research Triangle Institute. *LEP Students: Characteristics and School Services*. Washington, D.C.: U.S. Department of Education, 1984.

Highlights of Research on Bilingual Education

Contrary to the expectations of some researchers, recent findings suggest that programs with substantial native-language components may be very effective. The reason is that a strong native-language foundation supports the subsequent learning of English, and most of the learning that goes on in the native language transfers readily into English. Thus, rather than being an intellectual handicap, bilingualism may be a cognitive asset.

Nevertheless, the rates at which children learn a second language vary widely; the process is not necessarily swift or painless. No evidence, however, supports the common sense of urgency about introducing children to English early and mainstreaming them as soon as possible thereafter. It is more important to offer basic literacy skills to children in their home language.

Policymakers need to consider three implications of the research in planning future directions.

- The intricacy and beauty of the developing child ought not to be overlooked in favor of political or programmatic concerns.
- No universal blueprint for bilingual education exists.
- An ideal bilingual program would aim at fluency in both languages, treating the non-English first language as an asset, rather than as a handicap.

Hohle 1977 and 1978). Research in Canada has shown that one year of immersion in the second-language classroom at seventh grade is worth three years' immersion starting at first grade (Genesee 1981). It is important to realize that, especially for primary grade children, second-language learning is likely to be a very slow process, but that it can still be successful if started much later than age five or six.

Bilingual programs should be designed with the expectation that young school-age children learn second languages rather slowly and will need several years of learning before their English is as good as that of children who have been speaking it since birth. Furthermore, starting to speak English even as late as high school is no barrier to learning to speak it very well. The common sense of urgency about introducing English immediately to LMLEP children, and about mainstreaming them as early as possible, has no basis in psycholinguistic fact.

Literacy. Perhaps the major task of schools is teaching children to read. Although reading scores for American children in general have improved during the last 15 years, the most recent results of the National Assess-

ment of Educational Progress indicate that Hispanic children still lag far behind English-speaking children in reading achievement. Furthermore, the gap widens at higher grades; poor reading skills handicap older children in *all* their school subjects.

Many factors influence a child's development of reading skills, according to the 1985 report of the Commission on Reading. Homes where children have access to time alone with adults,

where literacy is modeled, displayed, and valued; and where parents emphasize learning and school achievement typically produce children who have little difficulty learning to read. For children whose homes do not provide this kind of literacy support, learning to read is a difficult task. These children often don't really know "what reading is all about"—the nature and purpose of literacy. Such children are at serious risk for failure to learn to read. This risk is compounded if the problem of reading is presented in a language they control poorly. Bilingual programs should concentrate on providing literacy skills in the home language, especially for those children whose parents have little education and poor literacy skills. Once the basic principles of reading are mastered in the home language, reading skills transfer quickly and easily to a second language (C. E. Snow 1986).

Social interactional factors in second-language acquisition. One criticism often leveled at bilingual programs is that they isolate non-English-speaking children from the English speakers who should be their friends, and who should be helping them to learn the language. It is not the case, though, that merely playing with other children contributes much to the kind of language skills needed for school success. Young children can play, and have fun, and even "talk" together with rather little solid knowledge of each other's languages (Wong Fillmore 1976).



In the San Diego City Schools, a bilingual/immersion teacher introduces a new Spanish reading text to her kindergarten students.

Furthermore, putting minority children in mainstream classrooms does not ensure interaction. Children, like adults, only interact with people they like or admire. If non-English-speaking children in mainstream classrooms come from groups that are negatively stereotyped by the English speakers, interaction may be minimal (Genesee 1984, Giles and Byrne 1982). Bilingual education can upgrade the status of previously stigmatized languages and cultures if those languages are used in the school and teachers and administrators from that ethnic background are hired. In addition to facilitating social interaction between language-minority children and their English-speaking peers, such bilingual programs give an institutional boost to minority-group children's self-esteem (Inn 1983).

Conclusions and Future Directions

Although bilingual education policymakers often claim that there is little research to guide them, the deficiency is in program evaluation research, rather than in research on the developmental psychology of the bilingual child. Basic psychological and linguistic research, while not directly addressing the implementation of bilingual education programs, shows that many of the commonly stated concerns about bilingualism in children are unfounded. In general, the research supports the use of the native language in the instruction of language-minority children.

Cognitive research can also expose and counterbalance the often dangerously inaccurate labeling of the program evaluation studies. The concern of these studies is naturally with the differential impact of the programs, although little effort is made to find out what goes on in them. Evaluation research provokes political heat because programmatic labels often represent different partisan interests (e.g., U.S. English groups arguing against bilingual programs, or Hispanic groups opposing efforts to reduce the use of the native language). Basic research in which the unit of analysis is the individual child reminds policymakers that the intricacy and the beauty of the developing child should not be overlooked in favor of programmatic and political concerns.



Bilingual immersion programs could be an important step in the conservation and development of an invaluable national resource of language and culture.

Two promising and interesting directions build on our current knowledge of research in bilingual education.

1. *Assessing each community's linguistic needs.* There is no universal blueprint for a successful bilingual education program. Each community has its own unique linguistic and cultural composition, and consequently its own unique educational needs. While every school district is required to collect data on English language proficiency, few collect data on native-language proficiency, even though research has shown native-language proficiency to be an important predictor of eventual English achievement. Fewer still collect data on the different functions that the two languages might serve in the bilingual community. An assessment of a non-English-speaking population's linguistic strengths may be as important in designing an appropriate program as an assessment of their linguistic weaknesses.

Children's cultural as well as their linguistic backgrounds should be considered. Ethnographic research has shown that classroom strategies are most successful when matched with the children's cultural style of interaction (McLaughlin 1985). Wong Fillmore and McLaughlin (1986) report a study on the effects of various classroom

factors on the oral English acquisition of Hispanic and Chinese children. They found that children from the different ethnic groups responded best to different kinds of educational strategies. The Hispanic students with the poorest initial English skills, for example, gained a great deal from the opportunity to interact with their peers in English, while their Chinese counterparts benefited most from extended interaction with the teacher. When designing bilingual education programs, then, teachers and administrators should carefully consider their communities' cultural as well as linguistic features.

2. *Two-way bilingual programs.* Most of the bilingual education programs in the United States are agents of *subtractive* bilingualism—they aim to "replace" the child's first language with English. Yet, as we have seen, a well-maintained first language can be an important asset in the acquisition of second-language skills, and it might even give the child an extra edge in cognitive flexibility. These research results suggest that an ideal bilingual education program would aim at fluency in *both* languages, treating a non-English first language as an asset, rather than as a handicap.

"Research in Canada has shown that one year of immersion in the second-language classroom at seventh grade is worth three years' immersion starting at first grade."

Two-way bilingual programs seek to spread the benefits of bilingualism beyond the language-minority population. Also called "bilingual immersion," these programs bring language-minority and language-majority children together in the same classroom, with the intent of making all students functionally proficient in both languages. This approach avoids the isolation of the minority group, a phenomenon often criticized as a by-product of bilingual education. By granting it official status within the school, this approach adds prestige to the minority language and culture, thereby boosting both minority self-esteem and majority tolerance. Such programs may go a long way in encouraging intercultural understanding.

Bilingual immersion programs use the second language as a medium as well as an object of instruction. Instead of explicitly presenting the formal rules of the second language, teachers use that language to present the content material in the standard school curriculum. Typically, the first few years of such a program will reinforce the students' first language, developing literacy and other basic academic skills. In some schools the two groups are kept separate through second or third grade, and all students receive this initial instruction in their own native language. In other schools, all

students receive the first few years of instruction in the minority language, to counterbalance the greater exposure to English that all students have in American society. By fourth or fifth grade, instruction is divided equally between English and the minority language. All students are expected to become fully proficient in both languages (M. A. Snow 1986).

Studies of the Canadian programs that provided the inspiration for these American efforts show considerable success with immersion programs for language-majority students (Lambert and Tucker 1972). In addition to their second-language skills, these students equaled or surpassed monolingual students in first-language skills. A model bilingual immersion program in San Diego has also had positive results (Torrance 1982). Preliminary results show that by the end of elementary school, both groups of students in this program equal or surpass established norms for oral language development, reading, and math in both languages.

Americans are often frustrated by their failure to master foreign languages. Poor linguistic skills are clearly a disadvantage in diplomatic and commercial as well as intellectual spheres. Senator Paul Simon (1980) describes the irony of the American linguistic situation: "Because of our rich ethnic mix, the United States is home to millions whose first language is not English. . . . Yet almost nothing is being done to preserve the language skills we have or to use this rich linguistic resource to train people in the use of a language other than English" (p. 4). Bilingual immersion programs could be an important step in the conservation and development of an invaluable national resource. Careful monitoring of these programs from both evaluation and cognitive perspectives will enhance not only our understanding of program implementation, but also our appreciation of the general capacity that humans have for bilingualism, given the right environmental conditions. □

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