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Bilingual Education and Second-Language Acquisition

Implications for Assessment and School-Based Practice

School-based practitioners who assess second-language learners need to have a theoretical background in regard to critical factors related to dual-language instructional programming and second-language acquisition. In order to provide this theoretical context, this chapter addresses the following seven factors: (1) reasons why having this theoretical context is important; (2) current educational attainment status of second-language learners in the United States; (3) states that offer bilingual programs and require teacher certification in this area; (4) an explanation of the different types of bilingual education programs available in the United States; (5) research on the effectiveness of bilingual education; (6) second-language acquisition; and (7) common linguistic characteristics frequently observed in second-language learners. Knowledge about each of these seven factors enables school psychologists and other school personnel to incorporate language-sensitive procedures into their assessment practices and the eligibility decision-making process.

WHY SHOULD SCHOOL-BASED PRACTITIONERS HAVE A THEORETICAL BACKGROUND IN SECOND-LANGUAGE ACQUISITION AND BILINGUAL EDUCATION?

There are several reasons why school-based practitioners need to have a theoretical background in second-language acquisition and bilingual education. Four main reasons are provided here, along with the implications of these reasons for school psychologists and other school personnel who assess second-language learners.

First, many myths are held by many educators and psychologists about bilingual education and how children can best acquire a second language. Cummins (1983) states that "many (but by

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no means all) of the difficulties minority students experience in school are the result of both inappropriate pedagogy and misconceptions about the nature of bilingualism among educational professionals" (p. 384). Bilingual education is a controversial educational topic in the United States. One misconception held by many individuals is that bilingual education delays, if not prevents, LEP students from learning English. Many believe that it is best for an LEP child to be completely immersed in English because the best way to learn English is to spend significant amounts of time using it. This myth is held by many people in the general public, non- or limited-English-speaking parents, school officials, and school psychologists. As a result, some parents of LEP students will reject bilingual education services because they fear that their child will only learn to use their native language and fear that their child will be limited English proficient like some of them. Some parents have commented to this author that they never want their child to encounter the discrimination they themselves experienced as a result of not being able to speak English well. In these situations, school personnel (including school psychologists) often fail to provide these parents with accurate information about how best to proceed with regard to their child's mastery of the English language. It is also not uncommon for school officials who espouse the immersion myth to recommend to non- or limited-English-speaking parents that they *not* place their child in a bilingual education program.

The decision to reject bilingual education, whether parent initiated or school induced, can have significant implications concerning second-language acquisition (i.e., English) and the academic trajectory of a given LEP student. These implications are discussed in more detail later in this chapter. It is crucial that school personnel and psychologists make decisions about LEP students that are based on theory and empirical research rather than personal opinions, biases, or myths.

Second, research (Ochoa, Robles-Piña, Garcia, & Breunig, 1999; Ortiz & Polyzoi, 1986; Rueda, Cardoza, Mercer, & Carpenter, 1985) indicates that LEP children are frequently referred for special education because of oral-language-related factors. In these situations, it is important for school psychologists to ascertain whether the apparent language-related difficulty commonly exists among second-language learners. Additionally, school psychologists need to examine whether the behavioral difficulties that the LEP student is displaying stem from his or her limited English skills. Some behavioral similarities exist between the LEP student population and the LD student population (Hoover & Collier, 1985; Ortiz & Maldonado-Colon, 1986). Many school psychologists, however, do not have the training to make these types of differentiations. Ochoa, Rivera, and Ford (1997) found that less than 25% of school psychologists employed in states that have large numbers of second-language learners self-reported that they were adequately trained by their university program "to understand second language acquisition factors and their relationship to assessment of culturally and linguistically diverse pupils" (p. 338). Moreover, more than 88% of the school psychologists who reported assessing second-language learners also self-reported that they were less than adequately trained on this same factor.

Third, as discussed in Chapters 2 and 3, legal provisions outlined in IDEA 1997 require that a lack of educational opportunity and limited English proficiency be ruled out as determining factors of the child's academic failure prior to qualifying him or her as having a disability. Kovaleski and Prasse (1999) define lack of educational opportunity to include academic problems that are "a direct result of ineffective instruction or the lack of opportunity to receive effective instruction" (p. 24). How can school-based practitioners truly meet the egalitarian intent of these legal provisions if they do not have knowledge about the second-language acquisition process and what types of bilingual education programming result in positive achievement outcomes?

Fourth, IDEA 1997 also stipulates that children be assessed in their native language unless it is clearly unfeasible to do so. School psychologists need to know when it is appropriate to test LEP/bilingual students in both languages, in their native language only, or in English only. It is not uncommon for school psychologists to assess an LEP student in English only because he or she is able to converse with them in English or because the child has exited the bilingual education program. In the former situation, school psychologists overestimate the child's English-language skills. Although the LEP/bilingual child can carry a conversation in English in informal social interactions with the school psychologist, teachers, and peers, this facility does not necessarily guarantee that his or her skills in this language are sufficiently adequate to be given an intelligence measure in English. In the latter situation, school psychologists should not assume that just because the child is no longer in bilingual education that he or she possesses adequate English skills. The LEP child could have been removed from bilingual education instruction because the school that he or she attends only offers the program up to a certain grade level. Moreover, the LEP child may have been illegally exited from a bilingual education program because he or she failed to meet established exit criteria. States have guidelines specifying the criteria an LEP child must meet in order to exit the bilingual program. School psychologists need to become familiar with their respective state's criteria to ensure that second-language learners have, in fact, met this criteria. Often, school administrators are not aware of these criteria; nevertheless, they are a part of the team that makes the decision to have the LEP child removed from a bilingual program. If an LEP student has not met the state's established exit criteria, how can we conclude that the limited English proficiency or lack of educational opportunity might not be a determining factor in this student's academic difficulties?

CURRENT EDUCATIONAL ATTAINMENT STATUS OF SECOND-LANGUAGE LEARNERS IN THE UNITED STATES

There are ample data to suggest that the collective academic performance of LEP students is significantly below that of their monolingual English-speaking peers. Data are consistent across different measures of academic performance, including performance on reading comprehension tests in native-language and English reading tests, retention, and the number of dropouts. Kindler's (2002) study on data obtained from 35 state education agencies and 3 U.S. territories (Guam, Palau, and Virgin Islands) found that only "16% of LEP students assessed scored above the state-established norm" on English reading comprehension measures (p. 8). Moreover, Kindler reported that data from 8 state educational agencies (Alaska, Iowa, Nebraska, New Jersey, New Mexico, Oklahoma, Rhode Island, and Texas) and the Virgin Islands indicated that "30% of LEP students assessed scored above the state-established norm" on Spanish reading comprehension measures (p. 9). This student population also evidences high retention rates (e.g., repeating a grade level). With regard to retention rates, Kindler's study on data obtained from 39 states, Guam, Northern Mariana Islands, and the Virgin Islands reported that 8.7% of LEP students in grades 7 to 12 had been retained.

The National Center for Educational Statistics (NCES, 1997b) reported major differences in the dropout rates between LEP students versus monolingual English-speaking students and students with learning disabilities (all study individuals were between the ages of 16 and 24 years in

1995). The NCES (1997) found that 24.2% students who came from homes in which English was not spoken (i.e., LEP students) dropped out of school. The dropout rate for students of the same ages who came from homes in which English was spoken was considerably lower: 9.6%. Notably, the dropout rate for students with learning disabilities was 17.6%. Thus, the dropout rate for LEP students was higher than it was for students with disabilities. As evidenced by their passing rates at or above their respective state norm on native-language and English reading comprehension tests, these data clearly indicate that a significant number of LEP students is experiencing academic difficulties. Moreover, approximately one-fourth of LEP students drop out of school. Given these data, it is not surprising that LEP students are referred for special education. The critical question to ask, however, is: "To what degree is the second-language learner's academic difficulty or failure due to an inherent disability versus pedagogically induced factors?" These data appear to reveal more about the instruction these students receive than their individual or collective academic potential. Thus, a review of the instructional pedagogy these students received is warranted.

AVAILABILITY OF BILINGUAL EDUCATION, ENGLISH AS A SECOND LANGUAGE, AND CERTIFIED TEACHERS

There is considerable variability across states with regard to the availability of bilingual education and ESL programs as well as certified teachers to staff them. Table 4.1 displays the results of McKnight and Antunez's (1999) study of state education agencies, in which they examined teacher certification for working with LEP students. As can be seen in Table 4.1, only 19 states provide certification or endorsement for teachers in the field of bilingual education, and only 17 states legally mandate that this training be provided. Nearly twice as many more states (n = 37) provide endorsement or certification in ESL, but it is only legally mandated in 23 states.

There is a shortage of trained bilingual education and ESL teachers in the United States. Kindler (2002) reports that "there is an average of one teacher certified in ESL for approximately every 30 students . . . and an average of one teacher certified in bilingual education for every 76 LEP students" (p. 10). Ratios of certified bilingual and ESL teachers to LEP students vary considerably by state. According to Kindler, the following states had a certified bilingual education teacher-to-LEP student ratio that was larger than 1:1,000: Kansas, Maryland, Nebraska, Oregon, and South Dakota (Kindler, 2002). The following states had a ratio between 1:375 and 1:600: Minnesota, New Hampshire, North Dakota, Oklahoma, Tennessee, Utah, and Wyoming. Fourteen states had a ratio between 1:100 and 1:300, and 11 states had a ratio between 1:25 and 1:99. The two states with the lowest ratio were Massachusetts and Vermont (1:12). Kindler was unable to obtain ratios for 11 states and the District of Columbia.

The shortage of bilingual education teachers also exists in urban areas (Urban Teacher Collaborative, 2000). The Urban Teacher Collaborative's (2000) survey of 40 large urban school districts across the country revealed that there was an immediate demand for elementary level bilingual teachers in 67.5% of the districts and for both middle school level and high school level bilingual teachers in 57.5% of the districts.

Regarding the ratio of certified ESL teachers to LEP students, Kindler (2002) reported that eight states had a ratio that was larger than 1:2,000 (Alabama, Alaska, Michigan, Montana, North Dakota, New York, North Dakota, and Oklahoma). Five states (Hawaii, Mississippi, New Mexico,

TABLE 4.1. State Legislative Requirements

State	Does the state have legislative provisions for: LEP student instructional programs?	Does the state have legislative provisions for: Instructional program funding for LEP students?	Does the state offer teacher certification/endorsement for: English as a second language?	Does the state offer teacher certification/endorsement for: Bilingual/dual language
Alabama	No	No	Yes	Yes
Alaska	Yes	Yes	No	No
Arizona	Yes	Yes	Yes	Yes
Arkansas	Yes	Yes	Yes	No
California	Yes	Yes	Yes[a]	Yes[a]
Colorado	Yes	Yes	Yes[a]	Yes[a]
Connecticut	Yes	Yes	Yes[a]	Yes[a]
Delaware	Yes	Yes	Yes	Yes
District of Columbia	Yes	No	Yes	Yes
Florida	Yes	Yes	Yes	No
Georgia	Yes	Yes	Yes	No
Hawaii	No	No	Yes	No
Idaho	Yes	Yes	No	No
Illinois	Yes	Yes	Yes[a]	Yes[a]
Indiana	Yes	Yes	Yes[a]	Yes[a]
Iowa	Yes	Yes	Yes	No
Kansas	Yes	Yes	Yes[a]	Yes[a]
Kentucky	Yes	No	Yes[a]	No
Louisiana	No	No	No	No
Maine	Yes	Yes	Yes	Yes
Maryland	Yes	Yes	Yes[a]	No
Massachusetts	Yes	Yes	Yes[a]	Yes[a]
Michigan	Yes	Yes	No	Yes[a]
Minnesota	Yes	Yes	Yes[a]	Yes[a]
Mississippi	No	No	No	No
Missouri	Yes	Yes	Yes[a]	No
Montana	Yes	No	Yes[a]	No
Nebraska	Yes	Yes	Yes[a]	No
Nevada	Yes	Yes	Yes[a]	Yes[a]
New Hampshire	Yes	Yes	Yes	No
New Jersey	Yes	Yes	Yes[a]	Yes[a]
New Mexico	Yes	Yes	Yes	Yes
New York	Yes	Yes	Yes[a]	Yes[a]
North Carolina	Yes	Yes	Yes[a]	No
North Dakota	Yes	Yes	No	Yes
Ohio	Yes	No	Yes[a]	Yes[a]
Oklahoma	Yes	Yes	No	No
Oregon	Yes	Yes	Yes	No
Pennsylvania	Yes	No	No	No
Rhode Island	Yes	Yes	No	No
South Carolina	No	No	No	No
South Dakota	Yes	No	No	No
Tennessee	No	No	Yes	No
Texas	Yes	Yes	Yes[a]	Yes[a]
Utah	Yes	Yes	Yes[a]	Yes[a]
Vermont	Yes	Yes	No	No
Virginia	Yes	Yes	Yes[a]	No
Washington	Yes	Yes	Yes[a]	Yes[a]
West Virginia	No	No	No	
Wisconsin	Yes	Yes	Yes[a]	Yes[a]
Wyoming	Yes	No	No	Yes

Note. From McKnight and Antunez (1999). Reprinted by permission from the National Clearinghouse for Language Acquisition and Language Instruction Educational Programs.

[a]State has a legal *mandate* to provide certification or endorsement.

Oregon and Wyoming) had ratios between 1:100 and 1:199; 27 states had ratios between 1:25 and 1:99; only four states had a ratio below 1:25 (Rhode Island at 1:20, Texas at 1:16, Louisiana at 1:11, and Virginia at 1:9). Kindler's study was unable to obtain ratios for six states and the District of Columbia.

These data clearly indicate that a significant number of LEP students in the United States is not being taught by teachers who have certification in ESL and bilingual education. For example, in Texas, many of the teachers who were hired in 2000–2001 (48%) and 2001–2002 (40%) in the elementary bilingual/ESL field were "less than fully certified" (Texas A&M University System, 2002). Moreover, the teachers who were hired in the secondary bilingual/ESL field in 2000–2001 (41%) and 2001–2002 (35%) were "less than fully certified" (Texas A&M University System, 2002). The impact of not being taught by a certified teacher should not be ignored by school-based practitioners when second-language learners are referred for special education testing due to low academic performance.

INSTRUCTIONAL PROGRAMS PROVIDED TO LEP STUDENTS

Instructional programs for LEP students in the United States have existed for well over 200 years (Weaver & Padron, 1999). Bilingual education has a long history in our country, which was a country of immigrants when it was founded. However, despite this long history bilingual education has not gone without controversy. Indeed, bilingual education was not permitted in U.S. schools in the earlier part of the 20th century (Crawford, 1995). In 1968 President Johnson signed the Bilingual Education Act that appropriated funds for the development of dual-language programs. In 1974, the Supreme Court ruled on the case of *Lau v. Nichols* that pertained to education of LEP students. In this case Chinese pupils in the San Francisco School District contended that they did not have equal educational opportunity as a result of not being educated in their native language. The Supreme Court ruled that equal educational opportunity did not exist if students were not educated in a language which they understood. "While the Supreme Court ruling did not specifically mandate the implementation of bilingual programs, it did offer bilingual education as one means by which a school could provide an educational opportunity for its non-English speaking population students" (Weaver & Padron, 1999, p. 80). In the 1980s, the English Only movement attempted to make English the official language in the country. In the mid to late 1990s, the Unz movement started in California, the goal of which was to get voter approval for Proposition 227 that would abolish most types of bilingual education in California. Residents of California approved Proposition 227.

Currently, there are five types of instructional programs provided to LEP students. These five programs can be classified into one of two categories: bilingual education or ESL. Bilingual education differs from ESL in that instruction is provided in both native and English languages; ESL programs provide instruction in English only. There are three types of bilingual education programs and two types of ESL programs in the United States. Many of the different types of instructional programs provided to LEP students have multiple names. As each of the five types of programs is described below, the various names given for it are provided to minimize confusion. It is also important to note that each type of program can vary with regard to how it is implemented.

Transitional/Early-Exit Bilingual Education Program

The first type of bilingual education program offered to LEP students is an early-exit or transitional program. Transitional bilingual education classrooms are primarily, if not exclusively, comprised of LEP students who are from the same language group. This program varies in length but generally is provided for 2–4 years. The philosophy of a transitional program is to initially use the child's native language as a foundation from which to transition him or her to an English-speaking learning environment. Both English and the child's native language are used for instructional purposes at the beginning of this program. Spanish language arts instruction is provided for a short period of time and eventually terminated and replaced with language arts instruction in English. The use of the child's native language during instruction in other content areas is severely limited or terminated within a short period of time. The goal of this program is to teach the child a second language, English, at the expense of his or her native language. Thus, this program is considered to be a *subtractive* bilingual education program.

Many individuals philosophically support transitional programs because they recognize that LEP students need some period of time in which to adjust to the culture of a U.S. school, which can be significantly different from their home culture and language. However, they believe that this transition period should be brief because the child needs to be exposed to English as quickly and as often as possible in order to master it. The validity of this view is examined later in this chapter.

Maintenance/Late-Exit/Developmental Bilingual Education Program

Maintenance programs are similar to, yet different from, transitional programs in several important ways. A maintenance program is similar to a transitional bilingual program in that classrooms implementing this approach are primarily, if not exclusively, comprised of LEP students who are from the same language group. However, maintenance education programs are offered to LEP students for a greater length of time than transitional programs: generally 4–6 years. Maintenance programs also use the child's native language for instructional purposes to a greater extent and for a longer period of time than transitional programs. Maintenance programs vary in the amount of time they provide instruction in the child's native language and English. Various models exist. Two of the more common models use language ratios of 90:10 and 50:50. The 90:10 model initially offers 90% of the instructional time in the child's native language and 10% in English. With time (across grade levels), the amount of instructional time in the child's native language is reduced as the amount of time in English is increased. The 50:50 model provides approximately equal amounts of instruction in English and the native language. It should be noted that language arts instruction occurs in both languages throughout a maintenance program. The goal of this program is to help the child maintain his or her first language as he or she acquires a second language, English. Thus, this program is considered *additive* in nature, because the child adds a second language to his or her linguistic repertoire.

Educators and the general public view this type of program both positively and negatively. Those in favor contend that this type of program allows the child to recognize the strengths of his or her culture and language. Moreover, proponents also recognize the economic value of being bilingual. Those who view this program unfavorably state that not enough time is

devoted to instruction in English, which will result in lower academic achievement in English. The validity of these views is discussed in the section that discusses the effectiveness of bilingual education.

Two-Way/Dual-Language Bilingual Education Program

Two-way programs differ from the preceding two types of programs in that these children are either English speakers or LEP students. The goal of this program is for the English-speaking student to become bilingual by developing English and the language spoken by his or her LEP classmates. The goal for the LEP student is to become bilingual by developing his or her native language and English. Thus, this program is an *additive* bilingual program. Both of these groups are approximately equally represented in a two-way/dual language bilingual education classroom. The makeup of each language group, however, can vary from one-third to two-thirds of the entire classroom (Center for Applied Linguistics, 2001). LEP students take part in this program because of their limited English skills. Parents of English-speaking children are recruited for the program on a volunteer basis or go through a lottery system. This program is provided for at least 4–6 years. Students who participate usually enter at the kindergarten level and are encouraged to remain in the program until it is no longer offered. As in the maintenance program, two popular models, among others, are the 90:10 and 50:50 model. Language arts is provided in both English and the native language of the LEP student group in the class. Some two-way bilingual programs alternate the language in which an academic subject is taught. For example, math is taught in Spanish in kindergarten, second, and fourth grades and in English in first, third, and fifth grades.

Dual-language programs are generally viewed positively. Many English-speaking parents want their children to learn a second language as long as it does not have a detrimental effect on their English skills. Moreover, these parents recognize the benefits of their children obtaining information about different cultures and developing multicultural sensitivity and understanding. Many non-English-speaking parents appreciate the fact that their child will not be segregated along with other LEP students but, rather, interact with children who are from the dominant culture and who are good English-language models for their children.

Content-Based ESL/Sheltered English

This program model differs from the aforementioned bilingual models in that students receive instruction in English only. ESL classrooms can consist entirely of students from the same language subgroup or can be comprised of pupils from many different language groups. This type of program focuses on teaching academic material in English by using the total physical response (TPR). TPR consists of physical gestures and visual cues that are used to facilitate the second-language learner's understanding of the curriculum context. In sheltered English, "students receive subject matter instruction in English, modified so that is understandable to them at their level of English proficiency" (August & Hakuta, 1998, p. 6). The amount of time the child spends in a content-based ESL classroom can vary from approximately 50 to 100% of the day (Thomas & Collier, 1997). The intent of this program is for the LEP student to acquire English and not to maintain his or her native language.

Pullout ESL

This program is very similar to the content-based ESL model but differs in three important dimensions. First, the focus of instruction in this ESL model is not on teaching academic material but rather on developing the student's English-language skills. Second, LEP students leave their classroom and receive instruction from a teacher who is (hopefully) certified in the ESL field. Third, the length of time the student is educated in this setting varies but is generally less than half a day (Thomas & Collier, 1997).

Prevalence of Each Type of Program

Pullout and content-based ESL programs are common. Of the three types of bilingual education programs, transitional programs are the most frequently offered to LEP students, and maintenance programs are not common (August & Hakuta, 1998). Two-way bilingual programs are also not very common. According to data maintained by the Center of Applied Linguistics (2001), there are 260 schools that have dual-language bilingual programs located in 23 states and the District of Columbia. This number is considered to be an underestimate, because many programs are not registered with CAL. The overwhelming majority of these programs is Spanish/English (Center for Applied Linguistics, 2001). Two-way bilingual programs are also offered in French/English, Chinese/English, Korean/English, and Navajo/English.

RESEARCH ON THE EFFECTIVENESS OF BILINGUAL EDUCATION

There has been much controversy surrounding the effectiveness of bilingual education. Research in this area has been conducted on both small- and national-scale bases (August & Hakuta, 1998). The results of studies conducted on a small-scale basis have shown conflicting results (Baker & de Kanter, 1981, 1983; Greene, 1998; Rossell & Baker, 1996; Willig, 1985; Zappert & Cruz, 1977). Each of these small-scale studies has aggregated studies examining the effects of bilingual education. This aggregation was achieved via the use of the vote-counting method (Baker & de Kanter, 1981, 1983; Rossell & Baker, 1996; Zappert & Cruz, 1977) and meta-analysis (Greene, 1998). With regard to the vote-counting studies, Baker and de Kanter (1981, 1983) reported unfavorable results for bilingual education, whereas Rossell and Baker (1996) found no significant achievement differences for LEP students who were in transitional bilingual programs versus those who were not. Zappert and Cruz (1977), however, found that in 58% of the cases examined, pupils in bilingual education had higher educational achievement than those who were not enrolled in a bilingual education program. Thomas and Collier (1997) have criticized these three studies because they used the "vote counting method . . . that divide[d] studies into 'significant positive', 'significant negative', and 'non-significant' outcomes and then count[ed] the numbers in each category to arrive at an overall summary" (p. 24).

Meta-analytic studies contradict the results provided by the majority of the vote-counting studies (Baker & de Kanter, 1981, 1983; Rossell & Baker, 1996). This research procedure is superior to the vote-counting method. Willig's (1985) meta-analysis included some of the studies that were included in Baker and de Kanter's (1981) study. Willig (1985) found "positive effects for

bilingual education" (p. 297) and noted "that the average student in bilingual programs scored higher than 74% of the students in the traditional program when all test scores were aggregated" (p. 291). Positive effects were noted in total English achievement and in reading and math. Greene's (1998) meta-analysis also found positive support for bilingual education and the findings were consistent with those obtained by Willig (1985).

Danoff (1978)

Several large-scale studies have examined the effectiveness of bilingual education (Danoff, 1978; Ramirez, Yuen, & Ramey, 1991; Thomas & Collier, 1997, 2002), and only one of these studies (Danoff, 1978) did not find positive results. This study (Danoff, 1978), however, has significant methodological limitations (August & Hakuta, 1998; O'Malley, 1978; Weaver & Padron, 1999; Willig, 1985). In particular, it "did not compare bilingual education with no bilingual education because two-thirds of the children in the control group has previously been in bilingual programs" (August & Hakuta, 1998, p. 56).

Ramirez, Yuen, and Ramey (1991)

A second large-scale study was conducted by Ramirez et al. (1991). This study examined how second-language learners' academic performance varied in different educational settings. The settings included English immersion as well as transitional and maintenance bilingual education programs. The researchers reported that the academic performance of third-grade LEP students taught in English-immersion settings attained similar achievement outcomes to those instructed in transitional bilingual education programs. However, the researchers noted positive educational attainment for LEP students enrolled in maintenance programs.

Thomas and Collier (1997)

This study is significant in that it was one of the first to examine second-language learners' long-term performance perspective by type of bilingual program being offered. Using a cross-sectional and longitudinal design, Thomas and Collier examined the academic achievement of 42,317 second-language learners in five large school districts from 1982 to 1996. Specifically, they examined the "long-term achievement" (kindergarten through 12th grade) of LEP students in the following six types of bilingual programs: dual language, maintenance, transitional bilingual along with content-based ESL, transitional bilingual along with pullout ESL, content-based ESL only, and pullout ESL only (p. 53). Figure 4.1 displays the results of the their study. Thomas and Collier found that second-language learners across all types of bilingual programs made positive gains in English reading skills from the start of their educational career to around third to fourth grade. Thus, all programs produced initial, positive, short-term gains. These gains, however, did not continue across all programs on a long-term basis. The researchers reported the following English-reading normal curve equivalent (NCE) scores obtained from standardized tests for LEP students in 12th grade for each of the six bilingual programs: dual language = NCE of 61; maintenance = NCE of 52; transitional bilingual along with content-based ESL = NCE of 40; transitional bilingual along with pullout ESL = NCE of 35; content-based ESL only = NCE of 34; and pullout ESL only = NCE of 24. This pattern of performance was consistent across academic settings in

Results aggregated from a series of 4- to 8-year longitudinal studies from well-implemented, mature programs in five school districts. Program 1: two-way developmental bilingual education (BE); Program 2: one-way developmental BE, including ESL taught through academic content; Program 3: transitional BE, including ESL taught through academic content; Program 4: transitional BE, including ESL, both taught traditionally; Program 5: ESL taught through academic content using current approaches; Program 6: ESL pullout taught traditionally.

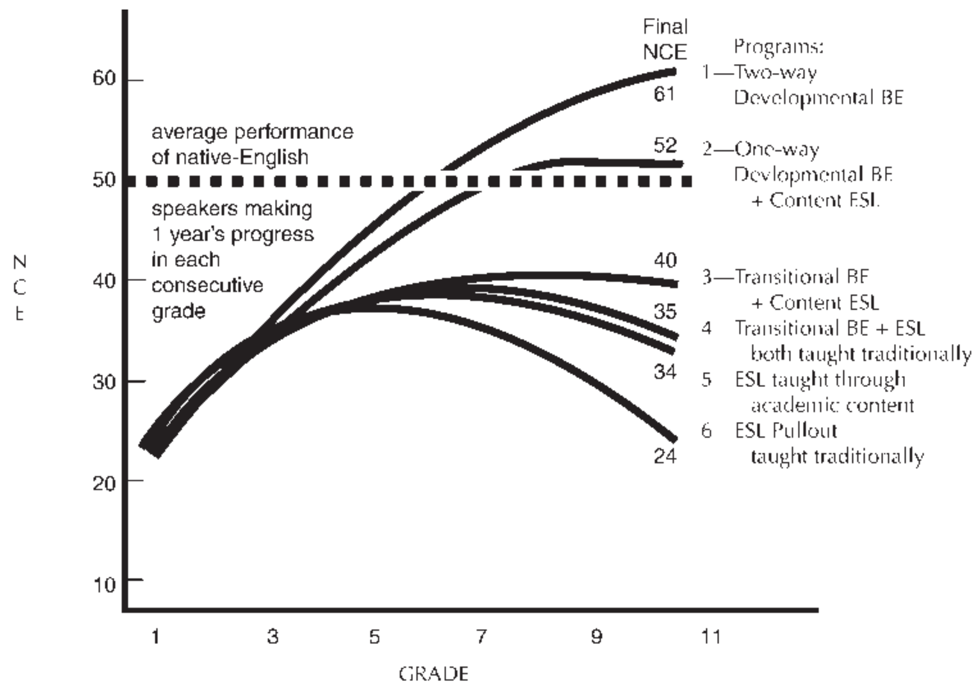

FIGURE 4.1. Patterns of K–12 English learners' long-term achievement in NCEs on standardized tests in English reading compared across six program models. From Thomas and Collier (1997, p. 53). Copyright 1997 by Wayne P. Thomas and Virginia P. Collier. Reprinted by permission from Wayne P. Thomas and Virginia Collier.

the five districts that were included in the study. Moreover, this pattern of academic performance was noted in science and social studies. Thomas and Collier (1997) also noted that:

> mathematics and English language arts achievement of language minority students is slightly higher than their performance on the English reading, science and social studies tests, but the same general pattern of performance, as well as the same ranking of long-term achievement influenced by program participation is present in the mathematics and language arts data. (p. 52)

Thomas and Collier (1997) also noted that LEP students in ESL programs were the "most likely" to drop out, whereas those enrolled in a maintenance or dual-language program were the "least likely" to drop out of school (p. 68).

Thomas and Collier (2002)

This study, conducted between 1996 and 2001 in five school sites located in Maine ($n = 2$), Oregon, Texas, and Florida, examined the English and Spanish academic performance of second-language learners in a variety of different types of bilingual education programs. Given that the

study was conducted in five sites, different measures were used to assess English and Spanish academic performance. The English measures included the Iowa Test of Basic Skills, Stanford 9, Terra Nova, and the California Test of Basic Skills. The Spanish measures used were the Aprenda 2 and the SABE. This study differed from the previous Thomas and Collier (1997) study in that it examined second-language learners' performance in immersion settings and in transitional, maintenance, and dual-language programs that varied in the amount of English and Spanish instruction being provided.

LEP students in immersion settings—which meant that their parents did not want their child to receive bilingual education services and elected an English-only instructional setting—obtained a NCE score of 25 in English reading in 11th grade. LEP students enrolled in content-based ESL programs obtained a median NCE score of 34 in total English reading in 12th grade. These exact findings were obtained in their 1997 study. The study also found positive results for LEP students enrolled in maintenance and dual-language programs in English-reading skills. Second-language learners in maintenance and dual-language programs also obtained positive results in Spanish-reading skills. Interestingly, Thomas and Collier reported that monolingual English-speaking students enrolled in a dual-language program performed above the national average on standardized English achievement measures and had acquired a second language.

Implications of Effectiveness Research on Assessment

Very few individuals, if any, would disagree that in order to be academically successful in U.S. schools, all students need to be proficient in English. The question that causes much disagreement is: From an educational programming perspective, how can second-language learners best learn English? As mentioned previously, many individuals believe that the best way to achieve this goal is to immerse students in an English-only academic setting that results in the LEP child being exposed to and forced to use English. Thus, they advocate that LEP students be placed in a regular English-speaking classroom (e.g., immersion) or an ESL pullout or content-based ESL setting. Many individuals who espouse this view state that LEP students in these academic settings acquire English very quickly and that their performance on English academic measures reveals early significant gains. Thomas and Collier's (1997) study found that LEP students make early significant academic strides in all types of bilingual education programs. So, although these individuals are correct when they make these claims about the early promising results of second-language learners' performance, Thomas and Collier (1997) ask school personnel to question if these early gains will continue throughout the child's educational trajectory into high school. Thomas and Collier's (1997, 2002) studies clearly reveal that the gains do not hold. At best, LEP students in these academic settings achieve at approximately the 25th NCE in immersion and ESL pullout classrooms and at around the 34th NCE in content-based ESL programs toward the end of high school. Moreover, Thomas and Collier found that LEP students who were in ESL or immersion settings in their elementary years were "more likely" to drop out of school.

It should be noted that LEP students in the United States are frequently educated in English-only immersion settings or ESL settings. These programs, however, do not produce positive academic outcomes when examined from a long-term perspective. Data from the NCES (1997) and Kindler (2002) studies also provide support for the fact that second-language learners' performance is not commensurate with their English-speaking peers. The implications these studies (in

particular, the Thomas and Collier studies) have on determining whether the academic difficulties of elementary LEP students are a within-child phenomenon versus a within-system (i.e., pedagogically induced) one cannot be overlooked. In other words, from a practical perspective, are LEP students in ESL and English-only immersion settings more likely to be referred to special education? With NCE scores in the bottom third or lower for English-reading skills on standardized measures, it would not be unusual for these students to be referred to special education. In fact, monolingual English-speaking students with similar levels of performance would be likely to be referred. Moreover, from a legal perspective, how do school-based practitioners comply with the new provisions added to the IDEA 1997 pertaining to lack of educational opportunity? This is not to say that an LEP student who has been instructed in immersion or ESL settings should not be referred to special education and subsequently identified as having a disability. For LEP students who have been educated in immersion or ESL settings during their elementary years, however, it is critical for school psychologists and other educators involved in the referral and assessment process to critically examine whether, or the extent to which, these instructional arrangements have contributed to the students' academic difficulties.

Research on the academic trajectory of LEP students enrolled in various forms of transitional programs reveal that they fail to achieve the national norm. Thomas and Collier (1997) found that LEP students enrolled in transitional programs scored in the 35th- to 40th-NCE range at the end of high school. In their 2002 study, LEP students in a 50:50 transitional program were at the 47th NCE in English reading. Although these students fare better than those enrolled in ESL or immersion settings, their level of academic performance puts them at risk for referral to special education. Such a referral is more likely to occur once these students are no longer receiving first-language instructional support and simultaneously are exposed to more cognitively complex academic content.

Overall results of Thomas and Collier's studies (1997, 2002) indicate positive academic performance on English standardized measures of LEP students who are instructed in maintenance and dual-language programs. These students have maintained their first language and achieve at, or above, the national norm on standardized tests in the areas of English reading, language arts, math, and science. Unfortunately, relatively few LEP students are educated in either type of program, in comparison to those taught in ESL, transitional, and immersion settings. Given the collective academic performance of second-language learners in these two types of programs, one would not expect as many LEP students in these programs to be referred for special education.

It is important that school-based practitioners ascertain which type of bilingual program the LEP student has received. Research clearly indicates that participation in a particular type of bilingual program can have a significant impact on long-tern academic performance. In other words, not all types of bilingual programs are alike and equal.

SECOND-LANGUAGE ACQUISITION PROCESS AND RELATED CRITICAL CONSTRUCTS

Prior to reviewing the process of second-language acquisition, a very brief review about first-language acquisition process is provided. McLaughlin (1984, as cited in Collier, 1989) states that it takes at least 12 years for students to acquire their first language:

> From birth through age 5, children acquire enormous amounts of L1 [first language] phonology, vocabulary, grammar, semantics, and pragmatics, but the process is not at all complete by the time children reach school age. From ages 6 to 12, children still have to develop in their first language the complex skills of reading and writing, in addition to the complex rules of morphology and syntax, elaboration of speech acts, expansion of vocabulary (which continues throughout a person's lifetime), semantic development, and even some aspects of phonological development. (Collier, 1989, p. 510)

Second-Language Acquisition Process

There are four stages through which LEP pupils proceed during the lengthy process of second-language acquisition: preproduction, early production, speech emergence, and intermediate fluency (Hearne, 2000; Roseberry-McKibbin, 2002; Ortiz & Kushner, 1997). An explanation of these four stages and common characteristics displayed by second-language learners are described in Table 4.2. Moreover, this table provides appropriate intervention considerations for each of the four stages of second-language acquisition.

Basic Interpersonal Communication Skills and Cognitive Academic Language Proficiency

The research on the effectiveness of bilingual education provides empirical support for the theories many linguistics have proposed regarding the process of second-language acquisition. Cummins (1984) proposed that there are two types of language proficiencies: basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP). Cummins describe BICS as the type of language proficiency typically utilized in social and informal settings to carry a conversation with another person. In school situations, it would be characteristic of a conversation between classmates on the playground or informal greetings and conversations between the LEP student and his or her teacher. Cummins proposed that it usually takes a second-language learner around 2 or 3 years to acquire BICS. The second type of language skills, CALP, consists of the language skills needed to do schoolwork. Attaining this type of proficiency is critical in order for the LEP child to make academic progress. CALP can be attained by second-language learners within 5 to 7 years (Cummins, 1984).

In order for language-minority youth to be successful in U.S. schools, their attainment of CALP in English (their second language) is paramount. The critical question then becomes: How do second-language learners develop CALP in English? Cummins (1984) noted that this can be best accomplished when LEP students first attain CALP in their native language. LEP students need to attain a minimum threshold level in their first language before they can develop CALP in a second language (Cummins, 1984). In other words, the greater the development of the second-language learner's first language, the greater the probability that the child will develop a second language. If LEP students are not given a sufficient opportunity to develop their first language, the omission will have negative consequences on their second-language development and on their school performance (Collier, 1989). "One important finding is that the lack of continuing L1 [first language] cognitive development during second language acquisition may lead to lowered proficiency levels in the second language and in cognitive academic growth" (Collier, 1989, p. 511).

TABLE 4.2. Matching Intervention to Second-Language (L2) Acquisition Stages

Stage I: Preproduction (first 3 months of L2 exposure)	Stage II: Early production (3–6 months)	Stage III: Speech emergence (6 months–2 years)	Stage IV: Intermediate fluency (2–3 years)
	Student characteristics		
• Silent period • Focusing on comprehension	• Focusing on comprehension • Using 1- to 3-word phrases • May be using routines/formulas (e.g., "gimme five")	• Increased comprehension • Using simple sentences • Expanded vocabulary • Continued grammatical errors	• Improved comprehension • Adequate face-to-face conversational proficiency • More extensive vocabulary • Few grammatical errors
	Goals: Oral responses		
• Yes–No Responses in English • One-word answers	• 1- to 3-word responses • Naming/labeling items • Choral responses • Answering questions: either/or, who/what/where, sentence completion	• Recalling • Telling/retelling • Describing/explaining • Comparing • Sequencing • Carrying on dialogues	• Predicting • Narrating • Describing/explaining • Summarizing • Giving opinions • Debating/defending
	Goals: Visual/written responses		
• Drawing/painting • Graphic designs • Copying	• Drawing/painting, graphic designs • Copying • Grouping and labeling • Simple rebus responses	• Written responses • Drawing, painting, graphics	• Creative writing (e.g., stories) • Essays, summaries • Drawing, painting, graphics • Comprehensible written tests
	Goals: Physical responses		
• Pointing • Circling, underlining • Choosing among items • Matching objects/pictures	• Pointing • Selecting • Matching • Constructing • Miming/acting-out responses	• Demonstrating • Creating/constructing • Role playing/acting • Cooperative group tasks	• Demonstrating • Creating/constructing • Role playing • Cooperative group work • Videotaped presentations

Note. Adapted from Hearne (2000, Table 10.4), further adapted by Roseberry-McKibbin (2002, Table 15.1). Copyright 2000 and 2002 by Academic Communication Associates. Reprinted by permission.

There is research to support the existence of Cummins's BICS/CALP language constructs (Collier, 1987, 1989). Thomas and Collier's (1997, 2002) studies also lend support to the construct of CALP and the amount of time it takes to develop it. They found that "the deeper a student's level of L1 [first language] cognitive and academic development (which includes L1 proficiency), the faster students will progress in L2 [second language]" (p. 38). Thomas and Collier (1997) examined the amount of time it takes second-language learners to attain the 50th NCE score on standardized English-reading measures. They reported that

> it takes typically bilingually schooled students, who are achieving on grade level in L1 [first language], from 4–7 years to make it to the 50th NCE in L2 [second language]. It takes typical "advantaged" immigrants with 2–5 years of on grade-level home country schooling in L1 from 5–7 years to reach the 50th NCE in L2, when schooled all in L2 in the U.S. It takes the typical young immigrant schooled all in L2 in the U.S. 7–10 years or more to reach the 50th NCE, and the majority of these students do not ever make it to the 50th NCE, unless they receive support for L1 academic and cognitive development at home. (p. 36)

Interestingly, Thomas and Collier (1997) also found that it takes monolingual English-speaking students who are enrolled in dual-language bilingual programs approximately 4 to 7 years to attain the 50th NCE mark on academic measures in the second language.

Thomas and Collier (1997, 2002) noted some important factors influencing the academic performance of students with LEP. They found that "the strongest predictor of L2 achievement is amount of L1 schooling. The more L1 grade level schooling, the higher L2 achievement" (Thomas & Collier, 2002, p. 334). Moreover, in regard to academic achievement Thomas and Collier (2002) found that "number of years of primary language schooling . . . had more influence than socioeconomic status when the number of years of schooling was 4 or more years" (p. 332).

Implications of Second-Language Acquisition Process and Related Critical Concepts on Assessment

It is critical that school psychologists and other school personnel have a theoretical understanding of the second-language acquisition process in order to avoid reaching inappropriate conclusions about the English-language learner's linguistic abilities or his or her lack of adequate academic progress. Cummins (1984) stressed the importance of differentiating between the BICS and CALP constructs. His research found that many school psychologists do not differentiate while conducting assessment. The important factor to consider is that even if an LEP student is able to carry on a social conversation with peers, teachers, and a psychologist in English, it does not necessarily mean that he or she has sufficient English-language skills to perform academic tasks or to be assessed accurately if given an intellectual measure in English. School-based practitioners need to ascertain, to the extent possible, whether the LEP child has attained CALP in both his or her native language and English. (This topic is discussed in Chapter 9.)

Given the research (Thomas & Collier, 1997) stating that it takes, on average, 4 to 7 years for LEP students who have received instruction in their native language to reach national norms on English achievement measures, it is important that school psychologists and other school personnel consider this time element when attempting to explain second-language learners' low academic performance. Moreover, Cummins (1984) noted:

> Minority language students are frequently transferred from bilingual to English-only classrooms when they have developed superficially fluent English communicative skills. Despite being classified as "English proficient" many such students fall progressively further behind grade norms in the development of English academic skills. (p. 131)

This is not to say that school psychologists and other personnel need to necessarily wait this length of time to refer a child. Instead, the school psychologist should compare the educational trajectory of an LEP student in question with those of his or her same grade-level LEP peers. If the educational trajectories are similar and are below the 50th NCE because they are within the time period noted above, it might be a possible reason to consider length of native language instructional programming as a critical factor in the student's performance. However, if the educational trajectory of an LEP student across several years is notably different from his or her LEP classmates who have been educated in a similar bilingual program for approximately the same number of years, this might be a cause of concern.

The following are critical questions that school-based practitioners need to ask concerning second-language acquisition and its relationship to dual-language instructions:

- Can the student's difficulty in acquiring English proficiency be attributed to his or her insufficient development in his or her first language?
- Can the student's academic difficulties or failure in an English-only academic setting be attributed to his or her not having attained CALP in English?
- Was the student given ample instructional time in his or her first language to (1) develop CALP in this language and (2) demonstrate ability somewhat within the average range of academic performance?

LANGUAGE CHARACTERISTICS FREQUENTLY OBSERVED IN SECOND-LANGUAGE LEARNERS

Roseberry-McKibbin (2002) states that there are "normal processes of second language acquisition [that] . . . need to be recognized as normal behaviors for students who are not yet proficient in English" (p. 193). Some of these processes include interference, interlanguage, silent period, code switching, and language loss (Roseberry-McKibbin, 2002). Understanding these learning processes will help psychologists, speech–language pathologists, and other school personnel not to automatically assume that the second-language learner is exhibiting deficiencies.

Interference

> Interference . . . refers to a process in which a communicative behavior for the first language is carried over into the second language. . . . A student is more likely to demonstrate interference when using English in a formal setting, such as a testing situation, than on the playground. . . . Thus, when second language learners produce errors in English, it is important to consider the possibility that these errors result from language interference or from the student's limited experience in English. (Roseberry-McKibbin, 2002, p. 193)

An example of interference might be when an LEP student tells a peer that she wants him to "have a seat" next to her. In Spanish, this request would be worded "*tome una silla*." When this phrase is literally translated, it means "take a seat." If the LEP child said "take a seat" in this situation, interference would be the reason.

Interlanguage

Hamayan and Damico (1991b) and Roseberry-McKibbin (2002) contend that "interlanguage" is a common language characteristic noted in second-language learners. While a second-language learner is attempting to learn English, he or she develops a new language system that incorporates part of his or her native language and part of the newly learned English. "The [second] language learner tests hypotheses about how language works and forms a personal set of rules for using language" (Roseberry-McKibbin, 2002, p. 194). This language system will change (Roseberry-McKibbin, 2002) and more closely resemble the second language (English) as the LEP student develops a better mastery of English (Hamayan & Damico, 1991b).

Silent Period

As noted in Table 4.2, we can expect second-language learners to experience a silent period when they are initially exposed to a second language. The length of this time varies from 3 to 6 months, depending on the age of the student (Roseberry-McKibbin, 2002). During this time, the second-language learners' oral communication is very limited.

Code Switching

Experts (Hamayan & Damico, 1991b; Ortiz & Maldonado-Colon, 1986; Roseberry-McKibbin, 2002) have noted that code switching is a common language pattern observed in second-language learners. Code switching occurs when an LEP child switches from one language to another language when conversing, usually between sentences. An example of an LEP student using code switching is illustrated in the following statement: "*Fuimos al cine* (we went to the movies). The Spider Man movie was great!"

Language Loss

Several experts have noted that language loss can occur in second-language learners (Mattes & Omark, 1991; Roseberry-McKibbon, 2002; Schiff-Myers, 1992; Schiff-Myers, Djukic, McGovern-Lawler, & Perez, 1993). Language loss is "the weakening of an individual's first language because of a concentrated focus on the development of L2 (English)" (Schiff-Myers, 1992, p. 28). Thus, second-language learners who do not receive native-language instruction in school can possibly experience language loss.

Language Differences

Roseberry-McKibbon (2002) states: "It is important for professionals who work with Spanish speaking students to understand the language differences commonly observed when these stu-

TABLE 4.3. Language Differences Commonly Observed among Spanish Speakers

Language characteristics	Sample English utterances
1. Adjective comes after noun.	The house green.
2. 's is often omitted in plurals and possessives.	The girl book is . . . Juan hat is red.
3. Past tense *-ed* is often omitted.	We walk yesterday.
4. Double negatives are required.	I don't have no more.
5. Superiority is demonstrated by using *mas*.	This cake is more big.
6. The adverb often follows the verb.	He drives very fast his motorcycle.

Note. From Roseberry-McKibbin (2002, Table 5.1). Copyright 2002 by Academic Communication Associates. Reprinted by permission.

dents learn English" (p. 84). Table 4.3 displays some of the language differences noted in Spanish-speaking students who are learning English as a second language.

SUMMARY

This chapter has reviewed many critical factors concerning bilingual education and second-language acquisition that psychologists, educators, and other related school personnel need to consider during the assessment, interpretation, and eligibility process involving second-language learners. Keys issues include (1) knowing the different types of bilingual education and their respective long-term educational outcomes; (2) understanding the process of second-language acquisition; (3) differentiating between BICS and CALP; and (4) recognizing common language characteristics observed in second-language learners. School-based practitioners who assess culturally and linguistically diverse students, without considering these key issues, may reach inaccurate conclusions regarding the language abilities and academic difficulties of LEP students.

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