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ABSTRACT

The report contains major findings concerning the size and geographic distribution of limited-English-proficient students, the students' characteristics, state and local policies toward special services for this group, personnel providing services, instructional contexts and practices, and the nature of services being provided to them. Numerous data tables are included with the narrative findings and summaries. It was found that districts varied widely in their entry and exit criteria for special services, although several factors were common. The population, based on local school district definitions, was found to be 882,000 public school students in grades K-6. The predominant native languages were Spanish and Asian languages, with the typical school serving three or four non-English language groups. Almost all school districts reported offering special instructional services. Instructional personnel were found to have widely varied backgrounds and experiences; this group included providers of special services, special education teachers, resource or instructional support staff, and paraprofessional aides or tutors. (MSE)

LEP STUDENTS: CHARACTERISTICS AND SCHOOL SERVICES

THE DESCRIPTIVE PHASE REPORT
of the
THE NATIONAL LONGITUDINAL EVALUATION OF THE EFFECTIVENESS OF SERVICES FOR LANGUAGE-MINORITY LIMITED-ENGLISH-PROFICIENT STUDENTS

Prepared for:

U.S. DEPARTMENT OF EDUCATION
Washington, D.C. 20202

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December 1984

FINAL REPORT

DESCRIPTIVE STUDY PHASE

THE NATIONAL LONGITUDINAL EVALUATION
OF THE EFFECTIVENESS OF SERVICES FOR
LANGUAGE-MINORITY LIMITED-ENGLISH-
PROFICIENT STUDENTS

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The study reported herein was performed pursuant to a contract with the United States Department of Education. However, the opinions, conclusions, and recommendations expressed herein do not necessarily reflect the position or policy of the Department of Education, and no official endorsement by the Department of Education should be inferred.

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PREFACE

This Final Report summarizes the findings of the Descriptive Phase of the study, "The National Longitudinal Evaluation of the Effectiveness of Services for Language-Minority Limited-English-Proficient Students." This report contains major findings concerning the size and geographic distribution of the language-minority limited-English-proficient (LM-LEP) student population within the United States, the characteristics of these students, and the nature of services being provided to these students. The study was performed by Development Associates, Inc., in affiliation with The Research Triangle Institute, during the years 1982-1984.

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CHAPTER 1

STUDY BACKGROUND

1.1 Introduction

Data collected as part of the 1980 Census revealed that there are over 23 million U.S. residents who do not speak English at home (Waggoner, 1984). Estimates of the number of school-age children who speak little or no English vary widely, but it is clear that there are many such children dispersed throughout every state in the Union.[1] The subject of how best to serve the educational needs of these students has become a major national concern.

1.2 Historical Overview of Federal Policy to 1968

During the first hundred years following the founding of the Republic, federal policy rarely touched upon the issue of language use. While it is noteworthy that the Continental Congress (1774-79) published documents in both English and German, it is of no small significance that the Declaration of Independence and the Constitution were written in English only. English had by this time become well entrenched as the lingua franca of the nation. At the same time, however, there were substantial numbers of citizens who used other languages as their principal means of daily communication. The larger language-minority groups at the time were the German, Swedish, Dutch, and French-speaking citizens.

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[1] One of the major objectives of the first phase of this study has been to estimate the number of language-minority limited-English-proficient students in grades K-6 who are receiving special services in U.S. public schools. The study's findings on this topic are based on operational definitions used by local school districts and are presented in Chapter 3.

Although the Constitution was written in English, it makes no mention of a federal language policy, and does not explicitly state English to be the national language. As a result, the formulation of policy with respect to language, like other areas not specifically reserved for the federal government in the Constitution, fell upon the individual states. Where states chose to exercise their authority in this area, what usually resulted were policies and laws showing tolerance or encouragement for linguistic diversity. This is reflected, for example, in the laws passed in the 1800's permitting German-English bilingual instruction in Ohio public schools and instruction in languages other than English in the Wisconsin public schools.

In the years between 1958 and 1967, several events occurred which were to bring about involvement of the federal government in setting national language policy. In 1958, the New York City Board of Education published a comprehensive study documenting the problems faced by Puerto Ricans in public schools. The following year, 1959, saw Fidel Castro come to power in Cuba, accelerating the emigration of Cubans from the island to the Miami area. In response to the increased numbers of Cuban immigrants, the Dade County Public Schools began, in 1961, to offer a program of Spanish for Spanish speakers, supplemented by intensive instruction in English as a second language (ESL) at the elementary level. In 1963, the Coral Way elementary school in Dade County began a completely bilingual program in grades 1 through 3. Between the years 1964 and 1967, bilingual programs began to appear in local school districts in Texas, New Mexico, Arizona, California and New Jersey, as well as in the territory of the Virgin Islands.[2]

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[2] Detailed information concerning federal and state involvement in setting language policies regarding language and special services to LM-LEP students prior to 1968 can be found in such works as Fishman (1966), Keller & Van Hooft (1982), Kloss (1977), and Leibowitz (1980).

1.3 Overview of Federal, State and Local Policy from 1968 to the Present

Spurred on by the initiatives which local school districts had taken to serve their language-minority students, the Congress in 1967 passed the Bilingual Education Act as Title VII of the Elementary and Secondary Education Act. The Act was signed into law by President Lyndon B. Johnson on January 2, 1968.[3]

The passage of ESEA Title VII by Congress resulted in accelerated efforts on the part of state governments. The first such measure was carried out by the Massachusetts legislature, which passed the State's Transitional Bilingual Education Act in 1972. Similar laws were later passed in California, Texas, New Jersey, Connecticut, and other states.[4] Many local governments also passed legislation concerning special instructional and other services to language-minority limited-English-proficient (LM-LEP) students at around the same time. However, their initiatives were generally due less to the influence of ESEA Title VII than to such judicial decisions as Aspira v. Board of Education of the City of New York (1973), Keyes v. School District No. 1, Denver, Colorado (1973), and Serna v. Portales Municipal Schools (1973).[5]

As originally worded, ESEA Title VII legislation was intended to provide limited funding for the development of demonstration projects only. However, several actions by the federal government served to greatly increase the role of ESEA Title VII in funding bilingual education efforts nationwide. As part of the Educational Amendments of 1974, ESEA Title VII was expanded to provide for funding of bilingual vocational training programs, increased training of bilingual education teachers and other personnel, and research on bilingual

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[3] For additional information on the events leading up to and surrounding the passage of ESEA Title VII, see Leibowitz (1980) and Schneider (1976).

[4] See Keller & Van Hooft (1982), p. 13.

[5] Aspira v. Board of Education of the City of New York (58 F.R.D. 62 (S.D.N.Y., 1973)), Keyes v. School District No. 1, Denver, Colorado (1413 U.S. 189 (1973)), Serna v. Portales Municipal Schools (351, F. Supp. 1279 (D.N.M., 1973)). Other court decisions which influenced local governments to take action regarding the provision of special services to LM-LEP students are discussed in Grant & Goldsmith (1979) and Teitelbaum & Hiller (1977).

education. The same year saw the landmark ruling by the Supreme Court in Lau v. Nichols,[6] in which the Supreme Court ruled that local school districts are required under Title VI of the 1964 Civil Rights Act to provide language-minority limited-English-proficient (LM-LEP) students with services designed to overcome their English deficiencies. In the wake of the decision in Lau v. Nichols, school districts across the country found it necessary to implement special services for LM-LEP students, and looked to ESEA Title VII as a major source of assistance in funding these efforts. At the same time, Congress steadily increased the appropriations for ESEA Title VII.

In addition to the support provided through ESEA Title VII, national programs which directly or indirectly fund services to LM-LEP students include Chapter 1, Title IV of the Indian Education Act, the Indo-Chinese Refugee Act, and the Head Start Strategy for Spanish-Speaking Children. Substantial funding for LM-LEP services in public schools was also provided by many state and local governments, in particular those with the larger LM-LEP populations. States also frequently supported LM-LEP services by providing funding for teacher training, technical assistance, and evaluation.[7]

1.4 Recent Research and Evaluation Studies of Special Instructional and Other Services for LM-LEP Students

The rush to implement services in public schools for LM-LEP students in the late 1960s and early 1970s caught the research community largely off guard. As a result, the data base upon which to develop effective services was severely limited. To address the manifold concerns of federal, state and local agencies in this area, Congress authorized funding for research on bilingual education through Part C of ESEA Title VII. In addition, a variety of other federal agencies and private organizations sponsored studies on English as a second language (ESL), bilingual education, and other aspects of special instructional and other services to LM-LEP students.

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[6] Lau v. Nichols, 414 U.S. 563 (1974).

[7] See Development Associates' study of state programs in bilingual education (1977); also Chapter 5, Section 5.1 (State Involvement) of this report.

The research and evaluation studies carried out to date may be broadly categorized as addressing three major concerns: (1) the elements contributing to the successful implementation of LM-LEP services, (2) the extent of need for special services by LM-LEP students (e.g., the number of such students to be served), or (3) the effectiveness of the special services being offered. The greatest research effort to date has been devoted to the first of these three concerns.

Some of the more recent major studies concerned with the implementation of services for LM-LEP students include The Descriptive Study of the Classroom Instruction Component of ESEA Title VII Bilingual Education Programs (Cardenas et al., 1982), the Study of Bilingual Instructional Practices in Nonpublic Schools (Elford & Woodford, 1983), and the Descriptive Study of Significant Bilingual Instructional Features (Fisher et al., 1981). The implementation of LM-LEP services has also been examined as part of evaluations of such other federal programs as ESEA Title I (Chapter 1) in the Sustaining Effects Study (Carter, 1980), Title IV of the Indian Education Act (Young et al., 1983), and the Head Start Program.

Several major studies have focused on determining the extent of the need for special services to LM-LEP students in U.S. schools. These include the Children's English and Services Study, Language Minority Children with Limited English Proficiency in the United States (O'Malley, 1981) and the Projections for Changes in Number of Persons with Limited English Proficiency (Oxford, 1980). The data from the first of these studies have since been reanalyzed and discussed in Barnes & Milne (1981). However, the results of each of these studies regarding the total number of LM-LEP students in the country have been brought into question. Ulibarri (1982) attempted to reconcile findings from several of these studies, pointing out that they used different methodologies and were conducted for different purposes. Nonetheless, a great deal of uncertainty remains in this area. In order to provide additional information on the size and distribution of the LM-LEP population, the Bureau of the Census is currently conducting a survey (entitled the English Language Proficiency Study) for the U.S. Department of Education; and the National Center for Educational Statistics is mapping 1980 Census data to individual LEAs.

Prior to 1975, studies addressing the effectiveness of services to LM-LEP students were generally limited to evaluations of individual local services or programs. The first study of this kind which was national in scope was the Evaluation of the Impact of ESEA Title VII Spanish/English Bilingual Education Program, conducted between 1975 and 1978 by the American Institutes for Research (Danoff, 1978). As the title of the study indicates, it was limited by design to a specific type of service (bilingual education), funded through a particular federal program (ESEA Title VII) and provided to a single target population (Spanish LM-LEP students).

1.5 The Purpose of the Present Study

In order to obtain more extensive information on the effectiveness of services being provided to LM-LEP students, Congress, in the 1978 Amendments to the Elementary and Secondary Education Act, called for:

> "a five-year longitudinal study in order to measure the effect of this title [Title VII] on the education of students who have language proficiencies other than English." (P.L. 95-561, s 742, (3)(b)(3))

In designing the study to address this mandate, the U.S. Department of Education concluded that additional descriptive information was needed on the range of services, regardless of funding source, which elementary level LM-LEP students are provided in public schools. The first phase of the "National Longitudinal Evaluation of the Effectiveness of Services for Language-Minority Limited-English-Proficient Students," the study reported herein, was designed to create this information base. The second phase, a longitudinal evaluation of the effects of different types of services, is scheduled to be implemented during 1984-1987, and will be the subject of separate reports.

1.6 Organization of This Report

The following chapters of this report are devoted to the first, or descriptive, phase of this evaluation. The methods and procedures which were used in collecting and analyzing study data are described in the next chapter (Chapter 2).[8] Chapters 3 through 9 then present the findings of the study in the following sequence:

Chapter	Chapter Title
3	The Number of LM-LEP Students
4	The Characteristics of LM-LEP Students
5	State and Local Policies Toward Special Services for LM-LEP Students
6	Personnel Providing Services
7	Instructional Contexts
8	Instructional Practices
9	Clusters of Services

Each chapter concludes with a listing of its key findings. The results chapters are followed by the final chapter (Chapter 10) which summarizes the major study findings and discusses their implications.

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[8] A more detailed description of the methodology for the descriptive phase is provided in Appendix D and Appendix E of this report.

CHAPTER 2

OVERVIEW OF STUDY METHODS AND PROCEDURES

2.1 Introduction

The descriptive phase of this evaluation was designed to develop a comprehensive information base regarding the range and nature of special instructional services provided for language-minority limited-English-proficient students (LM-LEPs) in the elementary grades in U.S. public schools. It was also designed to provide national estimates of the number of LM-LEP students in those grades. Information was to be collected during the descriptive study which would be useful in planning the design of the longitudinal phase of this evaluation. Specifically, the descriptive study had nine objectives which are listed for reference in Table 2.1. The purpose of this chapter is to describe how the data needed to address these objectives were collected and analyzed.

In general, the data for this study are based on a four-stage national probability sample. Ultimately, the sample yielded information from 19 states, and within them 191 public school districts. Within these districts, data were obtained concerning 520 schools, 4,061 teachers of LM-LEP students, and 1,665 LM-LEP students in the first and third-grades.

2.2 Overview of the Sampling Design

A detailed discussion of the sampling design employed in selecting these states, school districts, schools, teachers, and students is provided in Appendix D of this report. What follows is a summary of the information provided there. An outline of the sampling procedure, population used (to which findings may be generalized), sample, and respondents at each stage of sampling is provided in Table 2.2.

TABLE 2.1

STUDY OBJECTIVES

Objective No.	Purpose
1	To identify and describe services provided to LM-LEP students in grades K-6.
2	To determine the sources of funding for the services provided.
3	To estimate the number of LM-LEP students provided special language related services in grades K-6,
4	To describe the characteristics of students provided instructional services for LM-LEPs.
5	To identify and describe home and community characteristics associated with each major language group.
6	To determine the entry/exit criteria used by schools and school districts serving LM-LEP students.
7	To determine the relationship between services offered for LM-LEP students and services offered to students in adjoining mainstream classrooms.
8	To identify clusters of instructional services provided to LM-LEP students in grades K-6.
9	To obtain information useful in designing a longitudinal evaluation of the differential effectiveness of the identified clusters of services provided to LM-LEP students.

TABLE 2.2

OUTLINE OF SAMPLING PROCEDURES

Stage	Population	Sample	Respondents
1 (States)	All states and the District of Columbia	Probability sample of states (N=20)	None
2 (School Districts)	All districts serving LM-LEP students in any of grades 1-5	Probability sample of districts (N=229) in the selected states	Prespecified district-level staff (no sampling required)
3 (Schools)	All schools serving LM-LEP students in any of grades 1-5	Probability sample of schools (N=562) in the selected districts	School-level staff in prespecified categories (no sampling required)
4 (Teachers and Students)	All academic content teachers of LM-LEP students in any of the grades 1-5 in schools having 12 or more LM-LEP students in either grade 1 or grade 3	All academic content teachers of LM-LEP students in any of grades 1-5 (N=4995) in visited schools[1] (N=342) having 12 or more LM-LEP students in either grade 1 or grade 3	Teachers in prespecified categories (no sampling required)
	All LM-LEP students in grades 1 and 3 of schools having 12 or more LM-LEP students in either grade 1 or grade 3	Probability sample of students (N=1909) in a probability sample of visited schools[1] (N=202) having 12 or more LM-LEP students in either grade 1 or grade 3	Academic teachers of the selected students; school records

[1] A description of which schools were visited is presented in Section 2.3 .

The sample design for the descriptive study was established as a four-stage stratified design. First-stage units were states, second-stage units were school districts or counties (or clusters of neighboring school districts or counties), third-stage units were schools, and fourth-stage units were teachers and students. To select the first-stage units, information was gathered from Census Bureau and State Education Agency sources on the number of elementary-grade LM-LEP students by school district in each of the fifty states and the District of Columbia.[1] Prior to selecting the sample of states it was decided that no fewer than two sites would be allocated to any selected state.[2] It was further decided that the probability of selection of any site would be proportional to the estimated number of LM-LEP students at that site, and that any "state"[3] with at least 2 percent of the national estimated LM-LEP population would automatically be included in the study. (These states were termed "self-representing.") After identifying the 10 states included on this basis, a stratified random sample of the remaining states was selected in such a way that the probability of selection was proportional to the estimated number of elementary-grade-level LM-LEP students in the state. The ten states selected on this basis, together with the 10 automatically included (self-representing) states, provided a total of 20 states which were to be included in the study. These states are listed in Table 2.3.

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[1] The U.S. Outlying Territories of American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, Puerto Rico, the Trust Territories of the Pacific Islands, and the Virgin Islands were examined in a substudy of this evaluation, the results of which are reported separately.

[2] The requirements for this study called for collecting data at 100 sites. A "site" was defined as an aggregation of four to five schools, either in the same school district or in neighboring districts, serving LM-LEP children in grades 1 through 5.

[3] "State" is in quotation marks because the District of Columbia is also included.

TABLE 2.3

DESCRIPTIVE STUDY STATE SAMPLE

Self-Representing States	Other States
Arizona	Colorado
California	Connecticut
Florida	Maryland
Illinois	Michigan
Massachusetts	Minnesota
New Jersey	Nevada
New Mexico	North Carolina
New York	Ohio
Pennsylvania[1]	Utah
Texas	Wisconsin

[1] Although Pennsylvania was selected as part of the state sample, the subsequent refusal of a major site in that state to participate in the study necessitated dropping Pennsylvania from the study.

These twenty states contained 90.9% of the estimated number of elementary school LM-LEP students in the United States (based on Census Bureau and state-level data), including 95.9% of the Hispanic elementary school LM-LEPs and 78.7% of the non-Hispanic elementary school LM-LEPs. According to the information available at the time of sample selection, these states encompassed the full range of different types of special services for LM-LEP students.

The state of Pennsylvania was subsequently excluded (and not replaced) since one of its two qualifying school districts refused to participate in the study, leaving only one small district from that state in the district sample. That district could not reasonably represent the entire state of Pennsylvania; thus exclusion of the state was advisable for study purposes. Pennsylvania was estimated on the basis of Census data to represent

approximately 1.9% of the national total of the LM-LEP population in elementary schools.

Once the states were selected, the focus of sampling turned to the school districts within the chosen states. Based on the best available data, which were specially gathered from state education agencies, or, where necessary, a variety of other sources, the potential sites (individual school districts, combinations of districts, or counties) were stratified by the estimated number of LM-LEP students in each of the selected states. A total of 229 districts were then selected with probability proportional to LM-LEP enrollment. Of these, only two districts of some consequence refused to participate in the study: the district from Pennsylvania mentioned above and one from New York State, representing approximately 4.5% of the New York State elementary school LM-LEP population and approximately .5% of the national elementary school LM-LEP population.

The third stage in the sampling process consisted of selecting the schools from which data would be collected for this study. Best available estimates of the number of LM-LEP students in grades 1 through 5 in each school in each of the selected districts were obtained. On the basis of this information, 562 schools were selected with probability proportional to size.

As the first step in selecting the sample of teachers for this study, the 342 schools containing moderate to large numbers of LM-LEP students (i.e., 12 or more in grade 1 or 3) in the visited districts were identified. The teacher sample consisted of all of the academic content-area teachers who taught LM-LEP students in grades 1 through 5 in these schools.[4]

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[4] The term "academic content teachers," as used in this study, include all of those teachers who provide instruction to LM-LEP students in mathematics, social studies, science, English, and other academic subjects, as well as those who provide special language-related instruction to LM-LEPs (e.g. bilingual education teachers, ESL teachers, etc.). It does not include art, music, physical education, or other teachers of non-academic subjects, nor does it include special education teachers unless these teachers also have primary responsibility for providing special language-related instruction to LM-LEP students who are not in self-contained special education classes for all or almost all of the school day.

To draw the student sample, a 202-school stratified random sample of the 342 schools in the teacher sample was selected. For various idiosyncratic reasons, student data could not be obtained in four of these schools. At each of the 198 remaining schools, up to five first-graders and five third-graders were randomly selected. The five students in each grade were two LM-LEP students of the predominant language-minority group[5] at the school and three students representing the other language-minority groups, if any. If there were not three students in these grades in the school who spoke native languages other than the predominant language, students in those grades who spoke the predominant native language were selected to fill the gap. Where there was only one language-minority group in the school, all students sampled from those grades were selected from that group. This stratification approach was used to ensure that information would be gathered on how services differed for LM-LEP students from different language-minority groups. However, some schools lacked LM-LEP students in either one or the other grade or had fewer LM-LEP students in these grades than anticipated. Thus a total of 1,909 students, rather than the anticipated 1,980, were selected.

The teacher and student samples were thus drawn only from schools with relatively large LM-LEP student enrollments. The representativeness of the teacher and student samples is illustrated in Table 2.4. Although the teacher and student samples were drawn from a population of schools representing only 33% of schools serving LM-LEP students, those schools accounted for 82% of LM-LEP students in grades K-6 nationwide.

2.3 Overview of Study Instruments and Data Collection Approaches

The data needed to address the objectives listed in Table 2.1 were collected during Fall 1983. The data collection involved nine study instruments, listed in Table 2.5 together with the usual respondent for each.

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[5] See Table 2.7 for a listing of the native languages of LM-LEP students in sampled schools.

TABLE 2.4

REPRESENTATIVENESS OF TEACHER AND STUDENT SAMPLES

	Small LM-LEP Enrollment Schools Not Included in Teacher and Student Samples	Large LM-LEP Enrollment Schools Included in Teacher and Student Samples
1. Percentage of all schools serving any LM-LEP students in grades K-6	67%	33%
2. Percentage of LM-LEP students nationally in grades K-6 served by the schools	18	82
3. Mean LM-LEP student enrollment in grades K-6	16	155

Instrument development was based on an extensive review of study goals, other descriptive and evaluation studies, policy issues affecting the study, instrumentation developed for related studies,[6] and other relevant considerations. Draft versions were reviewed by officials of the U.S. Department of Education, other interested federal officials, the study's representative from the Committee on Evaluation and Information Studies of the Council of Chief State School Officers (CEIS/CCSSO), and the study's Technical Advisory Panel.[7] The instruments were pilot-tested in Spring 1983 at five different sites. Adjustments in item content, format, and instrument length were then made as needed to make the instruments more useful and easier to complete.

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[6] These include the data collection instruments (or topic categories) used by Cardenas et al. (1982), Danoff (1978), Fisher et al. (1981), and O'Malley (1981).

[7] The study's Technical Advisory Panel advised the study staff on matters dealing with instrument design, data collection procedures, data analysis procedures, and the interpretation of results. See Appendix A for a listing of panelists' names and affiliations.

TABLE 2.5

DESCRIPTIVE STUDY INSTRUMENTS AND RESPONDENTS[1]

INSTRUMENT	RESPONDENTS
Form 1. School District Services Questionnaire	Superintendent/District LM-LEP Services Coordinator (one per site)
Form 2. School Characteristics Questionnaire	Principal/School-level LM-LEP Services Coordinator (one per visited school)
Form 3A. School Services Interview Guide Form 3B. Services Flow Diagram	Principal/School-level LM-LEP Services Coordinator (one per visited school)
Form 4. Teacher Questionnaire	Teachers of LM-LEPs in Grades 1-5 at visited schools
Form 5. Student Instructional Information Questionnaire	Teachers of selected LM-LEP students at selected schools
Form 6. Student Background Questionnaire	Gathered by field staff from individual student school records.
Form 7. Interview Guide for Planning Longitudinal Study	Group of 3 or 4 school staff (principal, LM-LEP coordinator, teachers) at schools where student-level data were collected
Form 8. School District Telephone Interview Guide	LEA Testing Coordinator
Form 9. Data Collector Notes	Completed on-site by field staff

[1] See Appendix C for a listing of each instrument's topic content.

The data were collected by mail questionnaire, telephone interview, and visits to certain selected school districts. The mode of data collection was determined on the basis of the decision rules presented below.

District-level Data Collection

Mail and telephone surveys were used with 58% and site visits with 42% of the 191 participating districts. The mode of data collection was determined in each district as follows:

- Site visit: In districts with substantial numbers of LM-LEPs (225 or more) in grades 1-5 or with high concentrations of LM-LEPs (50 or more in grade 1 or grade 3 in one or more schools), district-level data were collected during on-site visits (80 districts).
- Mail or telephone: In the remaining districts in the sample, data were collected by mail survey, with telephone follow-up where necessary to secure missing data or for clarification of responses (111 districts).

School-level Data Collection

Site visits were made to 360 of the 520 schools that participated (69%), with data collected by mail or telephone at the other 31%. The mode of data collection was determined as follows:

- Site visit: For schools with moderate to large numbers of LM-LEP students (12 or more in grade 1 or 3) in the visited districts, school-level data were collected through (a) an in-person interview with the principal or LM-LEP service coordinator using the School Services Interview Guide and the Services Flow Diagram, and (b) a form, the School Characteristics Questionnaire, which was mailed to the principal prior to the site visit (335 schools, out of the 342 selected schools, meeting this criterion plus 25 schools with small numbers of LM-LEP students in visited districts which met the criteria for mail and telephone survey but which were visited to accommodate desires of local school personnel, i.e., a total of 360 schools were visited).
- Mail and telephone: In the remaining schools in the sample (those having less than 12 LM-LEPs in either grade 1 or grade 3), data were collected through a mail survey using a slightly expanded version of the School Characteristics Questionnaire and by an extensive telephone interview using the School Characteristics Questionnaire. Where necessary, the telephone interview also obtained missing data or clarified responses associated with the mail survey (160 schools).

Teacher and Student-Level Data Collection

Teacher-level and student-level data were collected only in visited schools at visited sites. Teacher data were gathered in 77 of the 80 visited districts (96%) and in 335 of the 342 schools[8] (98%) selected in the teacher sample. A self-administered questionnaire--the Teacher Questionnaire--was given to all teachers of academic content area subjects who taught LM-LEP students in any of the grades 1 through 5. The purpose of this questionnaire was to obtain information on the characteristics and practices of teachers who teach LM-LEP students: 28% taught kindergarten or grade 1, 37% taught either grades 2 or 3, 29% taught either grades 4, 5 or 6, and 6% taught more than three grades. Teachers who only taught kindergarten were not included in the study, nor were teachers who only taught grade 6. Thus, the teacher sample did not fully represent all kindergarten or sixth-grade teachers, but only those who also taught one or more other grades within the 1-5 grade range.

Student-level data were collected in a randomly selected 187 of the 335 schools in which teacher-level data were obtained.[9]. As mentioned earlier, a random sample of first-grade LM-LEP students and third-grade LM-LEP students was drawn at each of these schools. In order to obtain a picture of how special services were tailored to the needs of individual elementary level LM-LEP students, the academic-content-area teachers who taught the selected students were asked to complete a questionnaire--the Student Instructional Information Questionnaire--on each of these students. Using the Student Background Questionnaire, the study field staff also gathered personal characteristics and background information on each of these students from school records.

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[8] These schools contained moderate to large numbers of LM-LEP students (i.e., 12 or more in grades 1 or 3). Thus findings based on teacher and student-level data are not generalizable to schools with smaller numbers of LM-LEP students in either grades 1 or 3.

[9] See previous footnote regarding the generalizability of this data.

In addition to the data collection described above, information useful in designing the second phase of this study was collected from principals and other interested staff members at 110 of the visited schools, using the Interview Guide for Planning the Longitudinal Study. Data were also collected from the district-level testing coordinator in each of the visited sites, using the School District Telephone Interview. The data collection staff also completed a site summary questionnaire, the Data Collector Notes form, on each of the visited schools.

2.4 Representativeness of the Obtained Data

Table 2.6 shows that the response rate was at least 81% for each of the major data collection instruments, and substantially higher than that for most of them.

A closer inspection of the response patterns and the characteristics of those who did respond makes the data collected even more representative than might be inferred from Table 2.6. Specifically:

- The responding districts represented 92.2% of the population of districts having any LM-LEP students in the grade 1-5 range; responding schools represented 92.5% of the population of schools having any LM-LEP students in grades 1-5.
- LM-LEP student data were gathered from 187 schools, or 94.4% of the intended full sample of 198 schools. On the average, data were obtained from 8.9 students per school.
- The 4,061 teachers who completed teacher questionnaires averaged 12.1 per sampled school, indicating some stability of individual teacher information when summarized at the school level.
- Form 5, the Student Instructional Information Questionnaire, was completed by a total of 2,126 teachers, 95.7% of the 2,221 teachers who should have completed Form 5 on sampled students.
- The teachers responding to Form 5 taught 1,595 students, representing 95.8% of the 1,665 students on whom other data were obtained.

TABLE 2.6

RESPONSE RATES OBTAINED DURING THE DESCRIPTIVE STUDY DATA COLLECTION

Data Source and Form Used	Number and Percent Obtained	Number and Percent Refused	Number and Percent Nonresponding	Total
LEAs (Form 1)	191 (83.4%)	26 (11.4%)	12 (5.2%)	229 (100%)
Schools (Form 2)	495 (88.1%)	39 (6.9%)	28 (5.0%)	562 (100%)
(Form 3-A)	520 (92.5%)	38 (6.8%)	4 (.7%)	562 (100%)
Academic Content Teachers (Form 4)	4,061 (81.3%)	210 (4.2%)	724[1] (14.5%)	4,995 (100%)
LM-LEP Students in Grades 1 and 3 (Form 6-A)	1,665 (87.2%)	129[2] (6.8%)	115[3] (6.0%)	1,909 (100%)
Academic Content Teachers of Sampled LM-LEP Students in Grades 1 and 3 (Form 5)	2,126[4] (95.7%)	57 (2.6%)	38 (1.7%)	2,221 (100%)

[1] Seventeen schools would not allow contact with teachers; estimates of numbers of teachers within those schools were therefore obtained from the best information available.

[2] This is based on eleven schools which would not allow contact with students (ten students per school) plus best estimates of number of parent refusals that were not replaced.

[3] Includes the nonresponse of 18 parents to data release requests and 97 inappropriately selected students; these students' data were excluded from use.

[4] Represents data on 1,595 of the 1,909 sampled students (83.6%).

2.5 Weighting Factors and Standard Errors

For purposes of making national or other types of statistically representative estimates, virtually all of the data used in this study were weighted. The weight assigned to the data associated with particular units of analysis was the inverse of the probability of selection of that unit, adjusted for nonresponse of other members of that same segment of the sample. In general, weighting provided unbiased estimates of population counts and very nearly unbiased estimates of the means and proportions that would have been obtained for other variables if all respondents, schools, or districts in the study's universe had, indeed, been surveyed. The precise details of how weights were determined and assigned are provided in Appendix E.

2.6 Item Nonresponse and Imputation

A number of instances of item nonresponse or missing data occurred. Some nonresponse still existed after earnest attempts were made by field staff to obtain data for each item in a particular questionnaire. This is a common problem in sample surveys and program evaluations of field settings. A number of statistical methods exist in the literature for dealing with this problem.

Ideally, the specific technique to be used should depend on the type of item for which information is missing, the magnitude of item nonresponse, the kind of statistic being computed, and other practical considerations such as cost, simplicity, and availability of related data.

After considering the various alternatives, it was decided to exclude cases of item nonresponse from tabulations of single items, and to report the findings in sufficient detail so that it was clear when some individuals had

not responded to a particular item. Wherever useful, tables also include both: (a) the unweighted number of cases on which the reported findings are based and (b) the percent of the total weighted cases in the relevant population corresponding to those cases represent (i.e., a "coverage rate"). These procedures are viewed as practical, conservative, and safe. They do not run the risk of introducing hidden inaccuracies by imputing values for the missing data via adjustments that assume nonrespondents are the same as respondents. Nonetheless, the potential impact of nonresponse still remains.

2.7 Data Management

All site visit and mail data collection instruments were coded and edited by trained personnel. All instruments were reviewed at several levels for incomplete or unreadable responses and inaccurate, out-of-range, implausible, or logically inconsistent entries. All manual editing, including insertion of identifiers and updated information, was done by trained coders under supervision. A Coders' and Editors' Manual was developed for training and on-the-job use. All coding was conducted under formal, ongoing supervision, with periodic review.

Open-ended responses were coded after research analysts well versed in all facets of special services for LM-LEP students reviewed responses and developed coding frames. This was done for all relevant "Other, please specify" options and open-ended interview items. Coding frames were reviewed for validity, uniformity, and usability, and revised as needed. A supplement to the coders' manual was prepared which listed all specially created response categories not found on questionnaire forms. This was given to coders for their use under supervision.

Following manual edit and coding procedures, all forms were grouped by type and transmitted for data entry by the computerized survey management system of the study subcontractor (Research Triangle Institute). The type and amount of data were regularly checked, and follow-up contacts were made to obtain missing forms.

After all forms of a certain type were stored on disk, an extensive series of editing checks was conducted on the computerized data. All editing procedures had been designed in advance and programmed to fit the particular data collection instrument. The editing procedures checked for missing data and logically inconsistent, out-of-range, and otherwise implausible data. Each such problem was identified by a numeric indicator for visual inspection and was resolved by a research analyst and editing clerks. In some cases, the districts or schools in which data had been collected were recontacted to obtain the most valid information possible.

After several different types of computer data file editing runs and error resolution activities had occurred, the files were considered useful for other purposes. At this point weighting factors were put on data files. To facilitate file merges, certain types of data records sampled from the same population (e.g., students) contained a set of weighting factors, one for each type of data collection form used with that sample. Such weighting factors were adjusted for the presence of having a completed form representing one or the other or both types of data collection instruments.

At this point in computer data processing, files were considered ready for data analysis.

2.8 Data Analyses

All analyses used in this study were based on a detailed analytic plan which addressed each study objective and recommended analytic techniques. The analyses performed emphasized straightforward approaches (e.g., distributions, means, percentages and cross-tabulations) to understand the descriptive characteristics of variables. Some analyses were conducted with data from several types of respondents (e.g., districts, schools, and teachers), to triangulate findings, place results in perspective, and determine whether a pattern converged.

For the most part, the key unit of analysis was the school -- the entity in which LM-LEP students were provided with special services. However, data were also analyzed in terms of school districts, classroom teachers, and individual LM-LEP students, where feasible and appropriate.

A number of classification variables were used in this study. These were chosen for their meaningfulness and the spread of cases which fell into various levels or categories of the variables. They mainly dealt with determining if responses differed across subgroups in terms of:

- Size of the district, school or groups of LM-LEP students;
- Service characteristics (e.g., service cluster, particular features of service clusters, grades served, or the length of time or extent of special instructional services received);
- Characteristics of instructional personnel (e.g., teacher credentials, grades taught, or the use of the native language in teaching); or
- LM-LEP student characteristics (e.g., socioeconomic status in terms of free lunch eligibility, grade level, native language, length of time residing in the United States, or predominant language group in the school).

One type of classification variable which was used at the school, teacher, and student levels was the native language of LM-LEP students. To form this classification variable, 84 different native languages as reported by schools and student records were categorized into the following six language groups:

a. Spanish
b. Other European languages (French, German, etc.)
c. Southeast Asian languages (Vietnamese, Laotian, etc.)
d. East Asian languages (Korean, Cantonese, Japanese, etc.)
e. Native American languages (Navajo, etc.)
f. Other languages (Tagalog, Arabic, Gujarati, etc.)

The languages included in each of the six groupings are shown in Table 2.7.

TABLE 2.7

CLASSIFICATION OF NATIVE LANGUAGES OF LM-LEP STUDENTS[1]

Language Group	Languages Classified into Category
Spanish	Spanish
Other European	Albanian, Bulgarian, Croatian, Czech, Danish, Dutch, French, French Creole, German, Greek, Hungarian, Icelandic, Italian, Macedonian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbocroatian, Swedish
Southeast Asian	Burmese, Cambodian, Hmong, Lao, Miao-Yao, Muong, Vietnamese, Thai
East Asian	Cantonese, Formosan, Fuchow, Hakka, Japanese, Kan, Korean, Mandarin
Native American	Apache, Dakota, Navajo, Tewa, Tiwa, Indian-unspecified
Other	Afrikaans, Amharic, Arabic, Armenian, Bantu, Bengali, Carolinian, Chadic, Chamorro, Efik, Farsi, Fijian, Guajarathi, Hawaiian, Hebrew, Hindi, Indonesian, Ilocano, Kapingamarangi, Kru, Malay, Malayalam, Marathi, Pangasinan, Pashto, Polynesian, Punjabi, Romany, Samoan, Swahili, Syriac, Tagalog, Telugu, Tibetan, Tongan, Turkish, Urdu, Visayan, Other miscellaneous

[1] Languages listed in this table are those of LM-LEP students as reported by schools; they were supplemented by adding languages of a few individual students obtained from school records.

2.9 Limitations of the Methodology of the Descriptive Study

Finally, it should be noted that a number of constraining factors were related to the nature of special instructional services provided LM-LEP students, and to the realities of educational program evaluations. These factors limited the ability to draw unambiguous conclusions from all of the descriptive study's results. Among the more important of these limitations were the following:

- States, local school districts, and schools vary in how they define the term "language-minority limited-English-proficient student." A basic guideline of the study was that local definitions of this term were to be used if they existed. The study instruments also contained a standard definition of that term (as well as other relevant terms) as a clarifying aid, (see Table 2.8 for these definitions) but stated that schools and districts were to use their own definition if one existed. (See Chapter 5, Sections 5.3 and 5.5, which deals with this topic.) Thus, the findings dealing with the estimated numbers of students being served (and not being served), both overall and for particular subgroups of LM-LEP students are not directly comparable to estimates based on different definitions. Also, because the basis for local definitions varies across districts and over time, projecting these statistics very far into the future may be unwarranted.

- Study findings focus on special instructional and non-instructional services provided in grades 1-5 (and occasionally K-6, to obtain a fuller picture of services available in the elementary grades). Most LM-LEP students are found in elementary school rather than at higher grades. Thus the study focus on this grade range is warranted. Nonetheless, it is probably misleading to generalize present findings to schools in the middle or high school grade ranges. Such schools may be offering services to LM-LEP students who have different background and educational characteristics and English proficiency levels. The services may also consist of different instructional approaches and combinations of services. (See Cardenas et al., 1982 which dealt in part with Title VII projects serving grades 7-12.)

- A wide variety of instructional approaches and teaching techniques are used with LM-LEP students, especially at the lower elementary grades. For certain topics it was necessary to gather information from teachers and ask them to generalize across all of their LM-LEP students, when in fact, considerable variation existed in their instructional approaches, classroom management practices, etc. That is, many teachers treat different types of students differently, and it seems likely that the more individualized the teacher's style, the more difficult it was to answer some questionnaire items. Certain items were phrased in "select all that apply" response formats to help teachers validly report summarized information. Nonetheless, a problem still existed for some teachers in responding to some items. Thus study findings may have underestimated the diversity of services being provided.

TABLE 2.8

DEFINITIONS USED IN DATA COLLECTION INSTRUMENTS

Language-Minority Group:

A community of people in which some or all of the members customarily use among themselves a language other than English, alone or in combination with English.

Language-Minority Student:

A student in whose home a non-English language typically is spoken. Such students may include those whose own English is fluent enough to benefit from instruction in academic subjects offered in English, and students whose English proficiency is limited.

Language-Minority Limited-English-Proficient (LM-LEP) Student:

A student whose native language is other than English and whose skills in listening to, speaking, reading, or writing English are such that he/she derives little benefit from regular school instruction. The definition also includes a student with no proficiency in English. (If a school district had an operational definition for this type of student, it was to be used as the basis for responses throughout a given questionnaire.)

Home or Native Language:

Home or native language means the language first taught a child by his/her parents and/or the language still preferred by the parents for usual home activities.

Mainstream Services:

Mainstream refers to the instruction provided in the regular or general curriculum. In most circumstances this will refer to the all-English-medium instruction provided native English-speaking students and language-minority students not limited in English. In some cases it may refer to instruction provided in English and a second language for students who are proficient in both languages.

Special Instruction Services for LM-LEP Students:

Instructional services for LM-LEP students which are provided to them by reason of their lack of proficiency in English.

Elementary-level LM-LEP Students:

LM-LEP students in grades K-6.

- Data on the characteristics of individual LM-LEP students were collected primarily as an input to designing the longitudinal study, and only secondarily for purposes of national description. Consequently, these data are limited to students in grades 1 and 3 and were obtained from a relatively small sample of students in schools with relatively large numbers of LM-LEPs. Results based on analyzing these data are presented in the report because they are of interest to some readers, and they are believed to reflect accurately conditions on a national level. The data should, however, be recognized as providing relatively less precise estimates than data reported about teachers, schools or school districts.

- School principals did not always know how many LM-LEP students were enrolled in their school, nor what instructional services they received. Although this problem was anticipated and generally bypassed by obtaining information from the most knowledgeable source at a given district or school, at times this was impossible. On occasion, principals even insisted on responding when they were uncertain or did not know certain information. This sometimes led to contradictory or erroneous information. Wherever possible, field staff sought out the most knowledgeable source. (This extended to verifying information by telephoning such individuals during the manual review and forms edit stage.) However, it was not always possible to correct fully for the problem, and therefore certain inconsistencies in school data and underestimates of services provided may still exist.

It should also be recognized that to some extent, a number of definitions in the field of education are vague or ambiguous, and are interpreted differently in local settings. This is certainly true of the instructional services provided LM-LEP students. Thus, the study avoided using phrases such as "bilingual education" or "ESL" wherever possible. Nonetheless, it is quite within the bounds of possibility that some questions were not fully understood by all respondents, and that interpretations of respondents' responses to open-ended questions may sometimes have been incorrect.

Finally, many of the limitations cited above are characteristics of educational evaluations in general, especially those encompassing a widely diverse mix of service recipients and program operations. As in other efforts, they have taxed the ingenuity of the evaluation team and have sometimes necessitated pragmatic compromises so that all study objectives could be reasonably addressed. Despite these limitations, however, the descriptive study evaluation provides a current, accurate and nationally representative description of the LM-LEP students in the elementary grades, and of the special instructional services (regardless of funding source) offered them.

The next chapter provides estimates of the number of LM-LEP students receiving these special instructional services in public school settings.

CHAPTER 3

THE NUMBER OF LM-LEP STUDENTS

3.1 Introduction

Estimates of the number of LM-LEP students are quite important for effective policy planning. To obtain such estimates, the federal government has commissioned several studies over the past decade. These include:

- Children's English and Services Study: Language Minority Children with Limited English Proficiency in the United States (O'Malley, 1981 -- the "CESS Study");
- Projections for Changes in the Number of Persons with Limited English Proficiency (Oxford et al., 1980);
- Size of Eligible Language-Minority Population (Barnes and Milne, 1981); and
- Students with Primary Language Other than English: Distribution and Service Rates (Milne and Gombert, 1981).

In addition, in the Fall of 1982 the U.S. Census Bureau carried out an "English Language Proficiency Study" (ELPS), for which at present only preliminary results are available.

Some of these past estimates, together with the definitions used to obtain them, are summarized in Tables 3.1 and 3.2. It can be seen from these tables that estimates developed in the very recent past have ranged from a low of 700,000 to a high of 3,600,000 school-age LM-LEP children, and that this enormous disparity corresponds to the widely different concepts used to define "LM-LEP" and to determine who was to be placed in a LM-LEP category. (See Ulibarri, 1982, for further discussion of why disparities have occurred.)

One of the purposes of the present study was to develop estimates of the number of LM-LEP children in grades K-6. Since local school and district staffs have the ultimate responsibility of deciding who in their schools are LM-LEP students, it was decided by the Department of Education that it would be most helpful to develop new estimates on the basis of the functionally

TABLE 3.1 PRIOR ESTIMATES OF SIZE OF LM-LEP STUDENT POPULATION

Rev.2/11/85

Name of Study	Author and date	Data Used	Instruments determine English proficiency	Requirements for inclusion in[8]		Grade or age range on which estimate is based	Number of years included in grade or age range	Year to which estimate applies	Estimates of number of	
				LM Estimate	LEP Estimate				LM's	LM-LEPs
Children's English and Services Study (CESS)	O'Malley, J.M.(1981)	CESS(Spring 78)	LM&AI[1]	A1a	B1a	Ages 5-14(1978)	10	1978	3,812,000	2,409,000
					B1a	Ages 4-18(1978)	15	1978	--	3,600,000
Studies based primarily on reanalysis of CESS data										
• CESS: A Methodological Review	Dubois, D.(1982)	CESS(Spring 78)	LM&AI[1]	--	B1a3	Ages 5-14(1978)	10	NA	--	2,600,000
• Projections of Non-English Language Background and Limited-English Proficient Persons in the U.S. to the Year 2000	Oxford, R. et al.(1981)	SIE[3](1976)	MELP[6]	--	B2a	Ages 5-14(1976)	10	1976	--	2,500,000
		CESS(1978)	LM&AI[1]		B1a3	Ages 5-14(1978)	10	1980	3,600,000	2,400,000
		Census projections	--		--	Ages 5-14	10	1985	3,700,000	2,400,000
Size of Eligible Language-Minority Population	Barnes & Milne(1981)[7]	Reanalysis of: SES[4]	CTBS Rdg.[2]	A1b A2 A3	B1b2 (B4,B5)	Grades K-12	13	1978	--	700,000
		SES[4]	CTBS Rdg.[2]	A1b A2 A3	B1b1	Grades K-12	13	1978	--	800,000
		CESS	LM&AI[1]	A1a (CESS universe)	B3a or B3b	Grades K-12	13	1978	4,200,000[5] (from SIE study [3]) was used as base for LM-LEP estimate	1,300,000
Students with Primary Language Other Than English: Distribution and Service Rates	Milne & Gombert(1981)	OCR Elem. & Second. School Civil Rights Survey(Fall 78)	--	A3	B3b	K-12(1978) (Public school only)	13	1978	934,000	934,000
English Language Proficiency Study (ELPs)	Bureau of the Census, preliminary results (1983)	ELPS(Fall 1982)	LM&AI[1]	--	B1a2	Ages 5-14(1982)	10	1982	--	2,657,000

[1] Language Measurement and Assessment Inventory.

[2] Comprehensive Test of Basic Skills: Reading Subtest.

[3] Survey of Income and Education of 1976.

[4] Sustaining Effects Study.

[5] Public schools only.

[6] Measure of English Language Proficiency (a pair of census-type questions)
1. Child's indicated ability to speak and understand English (this item is the sole determinant of LEP status).
2. Family income (above or below $15,000).

[7] Using different definitions, several estimates, varying widely, were obtained in the Barnes & Milne study; three of these estimates, all applicable to the Grade K-12 range, are presented here; these estimates are for a population that includes both public and private school students.

[8] See Table 3.2 for explanations of who is included in these estimates.

TABLE 3.2 REQUIREMENTS FOR INCLUSION IN THE TABLE 1 ESTIMATES
(i.e., Elements of Various Definitions of LM and LM-LEP)

The requirements for inclusion in the estimates are indicated by the following code:

For LM estimates

A1. Lives in household where language other than English is:

a. often or usually used (i.e., is the usual language or the second often-spoken language)
b. used "regularly" (even if English is also used "regularly")

A2. Lives in household where English is not regularly spoken

A3. Primary language is a language other than English (i.e., Language other than English is used more often than English)

For LM-LEP estimates

B1. Inclusion determined on basis of test score measuring some aspect of ability to handle the English language

a. LM&AI score

1) Below 25th percentile
2) Cut-off is determined by discriminant analysis

b. Score on CTBS Reading

1) Below 40th percentile
2) Below 25th percentile

B2. Inclusion determined on basis of judgment about some aspect of ability to handle English language

a. Unable to speak and understand English as determined by response to MELP question #1

B3. Inclusion determined on basis of languages used

a. Uses language other than English regularly in the home

b. Uses language other than English more often than English, or does not use English regularly in the home

B4. Judged likely to benefit from instruction in a language other than English

B5. Dependent on a non-English language

operative local definitions. These estimates, accordingly, have been developed in two ways: (1) on the basis of the numbers of LM-LEP students reported by the districts included in the study and (2) on the basis of the corresponding numbers reported by the schools in the study. Both of these estimates were obtained by weighting data from each LEA (or school) appropriately so that the end result would be figures for the nation as a whole. As discussed in Chapter 5, the basis of the local definitions varied across school districts,[1] and in some cases there were differences between the criteria reported by the districts and by schools within these districts.[2]

In addition to the estimates of the number of LM-LEP students in grades K-6, it also seemed desirable to estimate the number in the K-12 range, to facilitate comparing our data to the various estimates for grades K-12 (and for ages 5-17) obtained by other investigators. Of course, any estimates made extending the range beyond grades K-6 are based on extrapolation and thus of necessity are on less firm ground than the estimates for the K-6 range.

The estimates at the K-6 level are, we believe, quite valid and useful. However, like all such estimates, they have their limitations which should be regarded as caveats against overgeneralization. In considering the data which follow, the reader should bear in mind that:

- The sample was restricted to public schools. Consequently, all estimates based on data from this study are restricted to these populations, except where it is explicitly stated that an adjustment has been made to allow for the private school population.
- Data collection was restricted to data concerning grades K-6. The consequence is that estimates applying to a broader grade range (e.g., grades K-12) required extrapolation, thus adding one extra element of approximation.

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[1] As shown in Table 5.4, 98% of elementary school LM-LEP students were in districts which used tests of English oral proficiency, 75% were in districts which used tests of English reading or writing proficiency, and 65% were in districts which used staff judgment.

[2] See Table 5.6 for a comparison of percentages of schools using specific factors to define LM-LEP students with percentages of school districts having particular program entry criteria.

- Since the school sample was restricted to schools enrolling LM-LEP students in any of grades 1-5, schools with exclusively kindergarten LM-LEP enrollments or with LM-LEP enrollments exclusively in grades 6 and above were not included in the universe from which the sample was drawn. Consequently, kindergarten and particularly grade 6 school-level estimates are known to be too low (unlike the estimates for grades 1-5). The district sample too is limited to districts with LM-LEP students in the grade 1-5 range. But district data, unlike school data, do not yield underestimates of grade 6 enrollment since the students who previously were in a school that did not go above grade 5 will now, as grade 6 students in a different school, generally still be in the same school district.

- The estimates presented in this chapter are specific to the Fall of 1983, when the data were collected. There are various circumstances that could cause the size of LM-LEP populations to differ substantially from one year to the next. For example, political, social, or economic conditions could account for either abrupt or gradual long-term shifts in immigration patterns. Also, the functionally operative definition of who is considered a LM-LEP student in a particular district or school may vary from year to year, as a result of administrative policy, or legal requirement, or economic pressures.

Finally, there is a possibility that the numbers presented are underestimates because pressures exist in many schools and districts to count as LM-LEP students only those students who are being served. The interaction between externally imposed requirements to serve all students in need of special English language services and limitations of finances and personnel lead some districts to define LM-LEP students in terms of services provided rather than in terms of an external criterion of need. Possibly related is the fact that about 12 percent of the teachers surveyed indicated that some of their language-minority students who were not receiving special LM-LEP services needed such services. (This point is discussed in Section 3.2.5)

3.2 Size of LM-LEP Student Population

Data pertaining to the number of LM-LEP students were collected at the district and school levels, and national estimates were developed on the basis of each. The questions used to elicit this information were as follows:

In the district questionnaire:

"How many LM-LEP students attending public schools in your district are in each of the following grades?"

In the school questionnaire:

"Using the definition provided in the "Important Definitions" section of this questionnaire... how many enrolled students in each of the following grades are language-minority limited-English-proficient (LM-LEP)?"

The definition referred to is:

Language-Minority Limited-English-Proficient (LM-LEP) Student:

A student whose native language is other than English and whose skills in listening to, speaking, reading, or writing English are such that he/she derives little benefit from regular school instruction. The definition also includes a student with no proficiency in English. (If your school district has an operational definition for this type of student, it may be used as the basis for responses throughout this questionnaire.)

The estimated total number of LM-LEP students derived from the two sources were somewhat consistent with one another (except that the district-level counts were systematically higher). For the reasons explained above, the district-level data were more complete in kindergarten and grade 6, and thus are probably more accurate.

3.2.1 Estimates Based on District-level Data

Estimate of LM-LEP Public School Population In Grades K-6

Estimates based on district-level data, together with the corresponding 95% confidence intervals, are shown in Table 3.3 for the LM-LEP population in grades K-6 in Fall 1983. This table also provides separate estimates for the two categories of states represented in the study (Category A states and Category B states). Self-representing states (Category A states) were defined as the 10 states which contained, individually, approximately 2% or more of the estimated national LM-LEP elementary school population and were therefore included in the study sample automatically. The remaining states (each containing less than 2% of the population) were designated non-self-representing states (Category B states); they were represented in the sample by 10 additional states. The self-representing states and the non-self-representing states are referred in the remainder of this chapter as

TABLE 3.3

ESTIMATED SIZE OF LM-LEP POPULATION (IN THOUSANDS) AND ASSOCIATED CONFIDENCE INTERVALS BY GRADE AND CATEGORY OF STATES, BASED ON DISTRICT-LEVEL DATA

Grade	Category A: States with Large Populations of LM-LEP Students [1]			Category B: States with Smaller Populations of LM-LEP Students [1]			Total		
	Estimated No. of LM-LEP Students (In thous.)	Lower Bound of 95% Confidence Interval [2]	Upper Bound of 95% Confidence Interval [2]	Estimated No. of LM-LEP Students (In thous.)	Lower Bound of 95% Confidence Interval [2]	Upper Bound of 95% Confidence Interval [2]	Estimated No. of LM-LEP Students (In thous)	Lower Bound of 95% Confidence Interval [2]	Upper Bound of 95% Confidence Interval [2]
K	140.0	120.8	159.2	25.9	17.4	34.5	165.9	144.9	187.0
1	144.3	128.9	159.7	29.3	22.8	35.8	173.7	156.9	190.4
2	112.5	101.4	123.5	25.4	21.2	29.8	137.9	126.0	149.8
3	92.2	81.4	103.1	22.6	18.1	27.2	114.9	103.1	126.7
4	75.6	67.8	83.4	18.2	16.8	19.6	93.8	85.9	101.7
5	64.1	56.7	71.6	16.4	14.1	18.6	80.5	72.7	88.3
6	53.6	47.2	60.0	15.0	12.1	17.9	68.6	61.5	75.6
Not Placed [3]	1.1 [5]	--	--	3.6 [5]	--	--	4.7 [5]	--	--
Total Grades K-6 [4]	683.5	615.8	751.1	156.5	134.7	178.4	840.0	768.9	911.1
Number of Responding Districts		134			57			191	

NOTE: Statistics are based on weighted responses to the School District Services Questionnaire administered to sampled schools having LM-LEP students in grades 1-5.

[1] Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

[2] Approximate 95% confidence intervals were established by adding and subtracting two standard errors to the point estimate. Intervals so established will contain the actual population count for 95% of the samples implemented according to the design used for this study.

[3] Represents category of students ages 5 to 12 but not yet assigned to a specific grade.

[4] Including students not placed.

[5] Estimate is too unstable for reliable estimates (e.g., coefficient of variation exceeds .25).

Category A states and Category B states, respectively. (It should be borne in mind that each Category A state had more LM-LEP students than had any of the Category B states.)

Collectively, the 10 Category A states were estimated a priori (on the basis of Census data) to contain approximately 84% of the elementary LM-LEP students nationally. This percentage is closely approximated by the statistics in Table 3.3, based on the newly collected data from this study, which indicated that approximately 81% of the identified LM-LEP students in grades K-6 were in schools within the Category A states. This statistic was relatively consistent within specific grades, although the proportion in Category A states tended to decrease slightly over grade, and obviously did not hold for the "not placed" students (i.e., students aged 5 to 12 but not yet assigned to a specific grade, an estimate that is not particularly stable).

The population of LM-LEP students defined by this study (i.e., locally defined LM-LEP students in grades K-6 within public school districts in Fall 1983)[3] was estimated to total 840 thousand (from data collected at the district-level). With 95 percent confidence the actual population size was in the interval between 769 thousand and 911 thousand. It should be noted, however, that the state of Pennsylvania and that segment of the New York State LM-LEP student population represented by cities that declined to participate had to be excluded from the inference population to which findings are generalized. On the basis of a priori estimates (which were reasonably well supported in a relative sense) these two inference exclusion areas accounted for about 5% of the national total (see Appendix D). Inflating the estimate for these exclusions yielded a national estimate of 882 thousand. Further inflating the estimate by 10 percent to account for private school students[4] yielded an estimate of 970 thousand LM-LEP students in grades K-6.

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3 See Chapter 5, Sections 5.3 and 5.5, for analyses of data concerning local definitions of LM-LEP students.

4 Barnes and Milne, op. cit.

Estimate of LM-LEP Student Population in Grades K-12

Data were not available to project estimates to the K-12 range with a high degree of precision However, by using a combination of approximative techniques (including graphical extrapolation) we were able to develop an estimate which, although far from precise, may nevertheless be useful. Our estimate, derived by taking district data as a starting point, is that there are 1.355 million LM-LEP students in grades K-12 as defined by local school districts; this is 40 percent above the K-6 estimate.[5]

A word of caution is worth repeating at this point. As already suggested in Section 3.1, any estimates that involve adding unsampled grades (e.g., grades 7-12) and unsampled categories of schools (e.g., private schools) of necessity involve several different kinds of approximation, and therefore are less precise than they would be if computed directly from

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[5] This increase of 40% was computed by the following procedure: (1) The National Center for Educational Statistics (NCES) was the source of figures on the Fall 1983 total nationwide enrollment in each grade from kindergarten through grade 12. (2) For each of the grade levels in the K-6 range the ratio of the number of LM-LEP students (using the district-based data, Table 3.3) to the total grade enrollment (the NCES data) was determined. (3) Each ratio was then multiplied by 1.05 to adjust for the absence of Pennsylvania and of the sizable district in New York State; the product was then multiplied by 1.10 to adjust for the absence of private schools. (4) As discussed in 3.2.4, these ratios decreased steadily from kindergarten to grade 6, where the ratio equaled .02704. Linear extrapolation to grade 7 yielded an estimate of .02085. This was assumed to be an underestimate for grade 7 because of the expected tapering off of the rate of reduction of the ratio as it approached the almost certainly existent asymptote (almost certainly existent because a continuation of the linear downward trend would put the estimates of numbers of LM-LEPs below zero for upper grades). Although .02085 therefore was an underestimate of the grade 7 ratio it seemed like a reasonable estimate for the grade 7-12 range taken as a totality. (5) On the basis of the assumption that .02085 constituted at least a rough estimate of the ratio for the grade 7-12 range, it was multiplied by the sum of the national enrollments for these grades, yielding an estimate of 385 thousand LM-LEPs in this grade range (public and private schools combined). (6)This total was added to the K-6 estimate to get an estimate for grades K-12 of approximately 1,355,000. (7) Dividing this number by the K-6 estimate (970,000) gives the quotient 1.397, or an increase of about 40%.

sample data. Thus, in view of the many approximations involved, the number of LM-LEP students in the K-12 grade range should probably be stated to be "estimated to fall between 1.3 million and 1.4 million" rather than in apparently more precise terms.

3.2.2 Estimates Based on School-level Data

The above national estimates were obtained using district-level data. Data were also collected from schools in the sample for two purposes: (1) to confirm the district-level data; and (2) to provide more detailed information not available at the district-level. These school-level estimates of LM-LEP students in grades K-6 (within schools serving LM-LEP students in any of grades 1-5) are shown in Table 3.4. As a comparison between Tables 3.3 and 3.4 indicates, the district and school data were fairly consistent, in that the estimate of 767 thousand LM-LEP students in grades K-6 was only slightly lower than the low end of the 95% confidence interval surrounding the estimate obtained from district-level data.

Two aspects of Table 3.4 estimates as compared with those obtained from districts (Table 3.3) should be noted. First, for both Category A and Category B states, school-level grade 6 LM-LEP estimates were markedly lower than district-level estimates of the same population (almost certainly due to the previously indicated underrepresentation of sixth-grade LM-LEP students in the school sample). Second, the remaining grade-level estimates within Category A states were quite consistent at the school and district levels, but in Category B states district-level estimates were markedly greater than school-level estimates. The reason for this is not clear.

Table 3.5 provides national estimates of other relevant school populations by grade, for grades 1-6, based on school questionnaire data from elementary schools containing locally defined LM-LEP students in any of grades 1-5. The pool of schools with LM-LEP children enrolled in grades 1-5 had a total of approximately 5.9 million students in grades K-6. The enrollment distribution across grades was relatively flat, with the exception of

TABLE 3.4

ESTIMATED SIZE OF LM-LEP POPULATION (IN THOUSANDS) AND ASSOCIATED CONFIDENCE INTERVALS BY GRADE AND CATEGORY OF STATE, BASED ON SCHOOL-LEVEL DATA

Grade	Category A States[1]			Category B States[1]			Total		
	Estimated No. of LM-LEP Students (In thous.)	Lower Bound of 95% Confidence Interval	Upper Bound of 95% Confidence Interval[2]	Estimated No. of LM-LEP Students (In thous)	Lower Bound of 95% Confidence Interval[2]	Upper Bound of 95% Confidence Interval[2]	Estimated No. of LM-LEP Students (In thous)	Lower Bound of 95% Confidence Interval[2]	Upper Bound of 95% Confidence Interval[2]
K	136.7	113.4	160.1	19.7	11.8	27.6	156.4	131.8	181.1
1	143.5	123.0	164.1	20.0	14.7	25.3	163.5	142.3	184.7
2	111.7	96.3	127.1	15.3	10.8	19.9	127.1	110.5	143.6
3	96.7	81.6	111.8	12.3	9.0	15.7	109.0	93.6	124.5
4	76.9	65.7	88.1	11.0	7.1	14.9	87.9	76.1	99.8
5	60.5	50.2	70.8	10.6	7.7	13.5	71.1	60.4	81.8
6	41.8	30.8	52.9	6.6	5.0	8.2	48.4	37.3	59.6
Not Placed[3]	2.1[5]	--	--	1.7[5]	--	--	3.8[5]	--	--
Total Grades K-6[4]	670.1	587.0	753.3	97.2	70.5	123.9	767.3	680.0	854.7
Number of Responding Schools		339			156			495	

NOTE: Nationally representative statistics are based on weighted responses to the School Characteristics Questionnaire, administered to sampled schools having LM-LEP students in grades 1-5.

1/ Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

2/ Approximate 95% confidence intervals were established by adding and subtracting two standard errors to the point estimate. Intervals so established will contain the actual population count for 95% of the samples implemented according to the design used for this study.

3/ Represents category of students ages 5 to 12 but not yet assigned to a specific grade.

4/ Including students not placed.

5/ Estimate is too unstable for reliable estimates (e.g., coefficient of variation exceeds .25).

TABLE 3.5

ESTIMATED SIZES OF ELEMENTARY LM-LEP AND RELATED POPULATIONS (IN THOUSANDS) AND ASSOCIATED STANDARD ERRORS BY GRADE, BASED ON SCHOOL-LEVEL DATA

Grade	Total Elementary Enrollment in Schools Serving LM-LEP Students	Elementary Non-English-Dominant Students in Schools Serving LM-LEP Students[2/]	Total LM-LEP Students (Local Definition)	LM-LEP Students Who Receive Special Instructional Services
Kindergarten	873.6 (55.7)	175.7 (13.6)	156.4 (12.3)	147.6 (11.9)
Grade 1	937.9 (60.2)	186.3 (13.4)	163.5 (10.6)	155.2 (10.5)
Grade 2	859.2 (54.8)	162.2 (12.8)	127.1 (8.3)	119.4 (8.3)
Grade 3	855.2 (56.7)	148.8 (11.6)	109.0 (7.7)	103.8 (7.7)
Grade 4	866.8 (64.0)	124.3 (9.4)	87.9 (5.9)	82.8 (5.7)
Grade 5	867.9 (70.9)	107.9 (8.5)	71.1 (5.4)	66.7 (5.2)
Grade 6	612.3 (69.3)	77.9 (8.9)	48.4 (5.6)	45.1 (5.2)
Not Placed[1/]	44.5 (10.3)	5.5 (1.5)	3.8 (1.6)	3.4 (1.3)
Total Grades K-6[3/]	5,917.4 (382.2)	988.7 (65.7)	767.3 (43.7)	724.0 (43.0)

NOTE: Analyses based on weighted data from 495 sampled schools having LM-LEP students in any of grades 1-5 and responding to the School Characteristics Questionnaire; standard errors (which are in parentheses) were computed by an approximate procedure (Shah, 1981).

1/ Represents category of students ages 5 to 12 but not yet assigned to a specific grade

2/ Defined as: speaking or generally using a language other than English more often than English is used.

3/ Including students not placed.

grade 6 (further suggesting the underestimation for grade 6). Of the total population of students in grades K-6, approximately 989 thousand (17%) were considered non-English-dominant (i.e., the predominant language used by the child was not English)[6]; and 767 thousand (13%) were considered to be LM-LEP children (by local definition); of these, 724 thousand received special instructional services. Other than the predictable increases from kindergarten to grade 1, estimated numbers of non-English-dominant and LM-LEP students (overall and served) decreased regularly over grade.

It might reasonably have been expected that the locally defined LM-LEP student population would be a "proper subset" of the non-English-dominant children--in other words, that all LM-LEP students would be non-English-dominant but that not all non-English-dominant children would be LM-LEP students. However, that assumption (which is implicit in some prior projections, see Ulibarri, 1982) was not supported by the data from this study. Only 45% of the schools reported more non-English-dominant children than LM-LEP children, while an additional 37% reported exactly the same numbers in each group; but almost one school in five (18%) reported more LM-LEP students than non-English-dominant students.[7] Although the proper subset assumption was not violated (but certainly not substantiated) in the first group of schools (i.e., 45% of the schools), and an equivalence assumption was supported in the second group of schools (i.e., 37% of the schools), any subset assumption was clearly violated by the third group of schools (the 18% with more LM-LEP students than non-English-dominant).

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6 These data are based on responses provided by school principals who were asked to estimate the approximate number of students in each of grades K-6 in their school who "speak or generally use a language other than English more often than they use English."

7 These statistics were relatively stable by grade and across categories of state (Categories A and B).

3.2.3 Native Language Groups

Although both research and practitioner experience point to Spanish as the predominant native language of LM-LEP students, other language groups constitute a sizable proportion of the identified LM-LEP population. The current study identified some 84 unique language groups (as reported by schools).[8] Some of these groups were concentrated in specific school districts, while others appeared in small numbers at a large number of sites. Such distributional properties introduce almost as many problems in computing estimates for the individual groups as they do in designing effective instructional treatment strategies. The specific estimation problem relates to the relatively large variance of the estimates in relation to the size of the estimates themselves (i.e., large coefficients of variation), indicating the relative instability of the estimates. Consequently, a compromise approach was used in which estimates of the number of LM-LEPs with various languages were computed and then pooled into two language categories: Spanish and the aggregate of all other languages.

Estimates of the size of the Spanish and other language groups as obtained from school-level data are provided in Table 3.6, by grade and by state category. Over states and grades, the elementary school LM-LEP population with Spanish as a native language was estimated at approximately 583 thousand, or 76% of the estimated total elementary LM-LEP population. The estimated percentage of Spanish-speaking LM-LEP students was quite stable across grades in the K-4 range (76%-78%), with a noticeable drop only in grades 5 and 6 (72% and 71%, respectively). Differences between Category A and Category B states in percentages of Spanish-speaking LM-LEP students are obvious. Within the Category A states, Spanish-speaking LM-LEP students accounted for about 80% of the total population, which was relatively stable over grade. In Category B states, Spanish-speaking LM-LEP st ients

[8] See Table 2.7 in Chapter 2 for a listing.

TABLE 3.6

ESTIMATED SIZES OF ELEMENTARY LM-LEP POPULATIONS (IN THOUSANDS) IN SPECIFIC NATIVE LANGUAGE GROUPS AND ASSOCIATED STANDARD ERRORS BY GRADE AND STATE TYPE, BASED ON SCHOOL-LEVEL DATA

Grade	Category A States[1]		Category B States[1]		Total	
	Spanish Language Group	Other Language Group	Spanish Language Group	Other Language Group	Spanish Language Group	Other Language Group
K	107.8 (10.2)	29.0 (5.2)	[illegible].2 (4.1)	8.5 (.8)	119.0 (10.9)	37.4 (5.2)
1	115.2 (9.4)	28.3 (4.6)	11.3 (2.6)	8.7 (1.0)	126.5 (9.8)	37.0 (4.7)
2	90.9 (7.5)	20.8 (3.1)	8.0 (1.9)	7.4 (.8)	98.9 (7.7)	28.2 (3.2)
3	78.0 (7.3)	18.7 (3.0)	5.8 (1.3)	6.5 (.8)	83.8 (7.5)	25.2 (3.1)
4	62.6 (5.3)	14.3 (2.3)	5.1 (1.5)	5.9 (1.0)	67.7 (5.6)	20.2 (2.5)
5	47.2 (5.1)	13.3 (2.0)	4.2 (1.1)	6.4 (1.1)	51.4 (5.2)	19.7 (2.3)
6	31.2 (5.0)	10.6 (2.1)	3.1 (.7)	3.5 (.5)	34.3 (5.1)	14.1 (2.2)
Not Placed[2]	1.2 (.3)	.9 (.5)	.1 (.1)	1.6 (1.4)	1.3 (.3)	2.5 (1.5)
Total Grades K-6[3]	534.2 (38.2)	135.9 (19.8)	48.7 (12.7)	48.5 (4.5)	582.9 (40.3)	184.4 (20.3)
Number of Responding Schools	339		156		495	

NOTE: Nationally representative statistics are based on weighted responses to the School Characteristics Questionnaire; administered to sampled schools having one or more LM-LEP students in any of grades 1-5; standard errors are provided in parentheses.

[1] Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

[2] Represents category of students ages 5-12 but not yet assigned to a specific grade.

[3] Including students not placed.

accounted for only half of the total population, and this percentage generally decreased over grade (from a high of 57% in kindergarten to a low of 40% in grade 5).

Although the sampling procedures did not allow highly reliable estimates of the distribution of LM-LEP students in the various non-Spanish language-minority groups, rough indications could be made. As previously suggested, Spanish-speaking students made up approximately 76% of the total LM-LEP population. The other major categories were as follows: Other European, 5%; Southeast Asian (Vietnamese, Cambodian, Hmong, etc.), 8%; East Asian (Chinese, Korean, etc.), 5%; and Other (Tagalog, Arabic, etc.), 6%.

To provide a school-based perspective of the predominance of Spanish-speaking LM-LEP students, additional information is provided in Table 3.7 on the distribution of schools in terms of the proportion of LM-LEP students who were Spanish-speaking. These data are provided for grades 1, 6, and K-6. In approximately 40% of the schools in Category A states at least 98% of the total identified LM-LEP enrollment consisted of Spanish-speaking students; this percentage was relatively stable regardless of grade considered. Within Category B, on the other hand, in approximately 40% of the schools less than 2% of their total LM-LEP enrollment consisted of Spanish-speaking students.

3.2.4 LM-LEP Students As a Proportion of Total Enrollment

As indicated previously (see pages 33-42), LM-LEP students in grades K-6 represented approximately 13% of the total K-6 enrollment in the schools defined for this study, suggesting the potential for considerable impact on the affected schools. Table 3.8 shows the percentages of LM-LEP students of the total student enrollment by grade and category of state. This table also presents (for each grade and state type) the average within-school ratio of LM-LEP students to total enrollment. (While these two statistics are related, they represent different approaches to measuring the proportion of the LM-LEP population in schools; nevertheless, the results for the two statistics are quite close.)

TABLE 3.7
PERCENTAGE DISTRIBUTION OF SCHOOLS WITH RESPECT TO PROPORTION OF LM-LEPs WHO ARE SPANISH-SPEAKING

Percentage of LM-LEPs Who Are Spanish-Speaking	Estimated Nationwide Percentage of Schools[1]								
	Category A: States with Large Populations of LM-LEP Students[2]			Category B: States with Smaller Populations of LM-LEP Students[2]			Total		
	Grade 1	Grade 6	Grades K-6[3]	Grade 1	Grade 6	Grades K-6[3]	Grade 1	Grade 6	Grades K-6[3]
Less than 2%	9%	20%	6%	41%	49%	39%	21%	28%	19%
2% to 25%	9	2	10	2	2	10	6	2	10
26% to 50%	10	11	14	6	12	16	8	11	15
51% to 75%	12	15	13	21	9	20	15	13	16
76% to 98%	16	11	18	7	1	5	13	7	13
99% or more	44	41	39	23	28	9	37	41	16
Total	100	100	100	100	100	100	100	100	100
Number of Responding Schools	317	207	339	131	71	156	448	278	495

[1] Nationally representative statistics are based on weighted data reported on the School Characteristics Questionnaire by sampled schools having one or more LM-LEP students in any of grades 1-5; percentages within column may not sum perfectly to 100 percent due to rounding error.

[2] Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

[3] Including students ages 5-12 but not assigned to a specific grade.

TABLE 3.8
ESTIMATED PERCENTAGES OF STUDENT POPULATIONS THAT ARE LM-LEP BY GRADE AND CATEGORY OF STATE

Grade	Category A: States with Large Populations of LM-LEP Students [1]			Category B: States with Smaller Populations of LM-LEP Students [1]			Total		
	Estimated % of Elementary School Population That Is LM-LEP [2]	Average Over All Schools of % of Each School's Population That Is LM-LEP [3]	No. of Schools in Sample With Students In Specified Grades [4]	Estimated % of Elementary School Population That Is LM-LEP [2]	Average Over All Schools of % of Each School's Population That Is LM-LEP [3]	No. of Schools in Sample With Students In Specified Grades [4]	Estimated % of Elementary School Population That Is LM-LEP [2]	Average Over All Schools of % of Each School's Population That Is LM-LEP [3]	No. of Schools in Sample With Students In Specified Grades [4]
K	25.8%	23.4%	316	5.7%	5.7%	151	17.9%	15.9%	467
1	24.4	22.4	325	5.7	5.6	152	17.4	15.2	477
2	20.5	18.5	324	4.9	4.8	152	14.8	12.6	476
3	18.1	16.3	324	3.8	4.0	151	12.7	11.1	475
4	14.0	13.1	316	3.5	3.8	141	10.1	9.2	457
5	11.0	10.8	311	3.3	3.5	136	8.2	7.8	447
6	11.3	11.6	227	2.7	3.3	101	7.9	8.1	328
Not Placed [5]	7.6	15.8	49	9.9	13.5	19	8.5	15.0	68
Total Grades K-6 [6]	18.0	17.0	339	4.4	4.7	156	13.0	11.9	495

NOTE: Nationally representative statistics are based on weighted responses to the School Characteristics Questionnaire, administered to sampled schools having one or more LM-LEP students in any of grades 1-5.

[1] Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

[2] This percentage is computed from the estimates of Table 3.3 as 100 times the ratio of the weighted sum over schools of the number of LM-LEP students for given grades to the weighted sum over schools of the total student enrollment for given grades.

[3] This percentage is computed as 100 times the weighted average over all schools (that contain students in specified grades) of each school's ratio of LM-LEP students to total enrollment in specified grades.

[4] Schools with students enrolled in specified grades.

[5] Represents category of students ages 5 to 12 but not yet assigned to a specific grade.

[6] Including students not placed.

Regardless of the statistic considered, two trends are clearly indicated by the data of Table 3.8. First, as could be anticipated, the concentration of LM-LEP students in schools within Category A states was considerably greater than in schools in Category B states, by a factor of about 4. This relationship was relatively constant regardless of grade considered, failing to hold only for the relatively unstable estimates of "not placed" students. The second trend was a steady decrease in proportion of LM-LEP student enrollment from kindergarten and grade 1 to grade 6. With the exception of grade 6, and combining K and 1, the decrease was remarkably linear. Generally, in both Category A and Category B states, the proportional LM-LEP enrollment in grade 6 was approximately half that in kindergarten or grade 1.

To describe further the size of the LM-LEP student population in affected schools, data are provided in Table 3.9 on the distribution of schools with respect to the percentage of their students who were LM-LEP, by category of state, for grades 1, 6, and K-6. In both Category A and Category B states, the distributions differed by grade, with a lower percentage of LM-LEPs in higher grades. Over 85% of the schools in Category B states had low concentrations of LM-LEP students (i.e., 10% or less). Within Category A states, on the other hand, 38% of schools had between 11%-30% first-grade students who were LM-LEP, and 25% of schools had between 11%-30% sixth-grade students who were LM-LEP.

3.2.5 The Population of LM-LEPs Receiving Special Instructional Services

Our estimates indicate that approximately 94% (724 thousand) of the LM-LEP population were receiving some type of special instructional services. Table 3.10 provides additional statistics on the extent to which services were provided to identified LM-LEP children by grade and category of state. Three indices of extent of service are given in the table: (1) the overall percentage of the population receiving services (computed from school-level data which was weighted, then summed; (2) the average, computed across schools, of each school's percentage of LM-LEPs who were served; and (3) the percentage of schools serving all of their identified LM-LEP children.

TABLE 3.9
PERCENTAGE DISTRIBUTION OF SCHOOLS BY THE PERCENTAGE OF STUDENTS WHO ARE LM-LEP AND CATEGORY OF STATE

Percentage of Students Who Are LM-LEP	Estimated Nationwide Percentage of Schools[1]								
	Category A: States with Large Populations of LM-LEP Students[2]			Category B: States with Smaller Populations of LM-LEP Students[2]			Total		
	Grade 1	Grade 6	Grades K-6[3]	Grade 1	Grade 6	Grades K-6[3]	Grade 1	Grade 6	Grades K-6[3]
Less than 2%	13.5%	24.9%	10.9%	49.4%	73.12%	58.7%	28.8%	45.2%	30.5%
2% to 5%	12.1	21.2	19.2	20.8	9.9	17.1	15.8	16.4	18.4
6% to 10%	10.9	20.9	13.0	12.2	6.8	10.3	11.5	14.9	14.8
11% to 20%	21.8	16.2	24.8	10.7	6.8	8.4	17.1	12.3	18.1
21% to 30%	16.0	8.3	9.6	4.6	2.6	3.7	11.1	5.9	7.2
31% to 40%	8.9	3.6	5.3	.8	.2	1.2	5.4	2.2	3.6
41% to 50%	3.8	1.2	3.8	1.1	.1	.3	2.7	.8	2.4
51% or more	12.9	3.6	8.4	.4	.4	.3	7.5	2.2	5.1
Total	100	100	100	100	100	100	100	100	100
Number of Responding Schools	325	227	339	152	101	156	477	328	495

[1] Statistics are based on weighted data reported on the School Characteristics Questionnaire administered to a nationally representative sample of schools having one or more LM-LEP students in any of grades 1-5; percentages within column may not sum perfectly to 100 percent due to rounding error.

[2] Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained, individually, less than 2% of the estimated national total.

[3] Including students ages 5-12 but not assigned to a specific grade.

TABLE 3.10
EXTENT OF SPECIAL INSTRUCTIONAL SERVICE PROVISION TO IDENTIFIED LM-LEP STUDENTS BY GRADE AND CATEGORY OF STATE

Grade	Category A States[1]				Category B States[1]				Total			
	% of LM-LEPs Receiving Services[2]	% of LM-LEPs Receiving Services in Average School[3]	Percentage of Schools Serving All Identified LM-LEPs	Number of Schools[4]	% of LM-LEPs Receiving Services[2]	% of LM-LEPs Receiving Services in Average School[3]	Percentage of Schools Serving All Identified LM-LEPs	Number of Schools[4]	% of LM-LEPs Receiving Services[2]	% of LM-LEPs Receiving Services in Average School[3]	Percentage of Schools Serving All Identified LM-LEPs	Number of Schools[4]
K	96.2%	95.8%	91.1%	308	81.7%	80.1%	73.6%	121	94.4%	90.7%	85.5%	429
1	95.8	94.9	91.4	317	88.2	89.9	86.1	131	94.9	98.1	89.5	448
2	94.9	95.6	90.7	315	87.2	88.8	86.2	120	93.9	93.5	89.4	435
3	96.2	96.4	93.4	314	87.7	90.8	85.6	119	95.2	94.7	91.1	433
4	95.5	96.5	93.6	295	84.3	92.4	88.8	108	94.1	95.1	92.0	403
5	95.0	93.9	91.2	288	86.9	89.2	87.5	98	93.8	92.4	90.0	386
6	93.8	94.3	90.2	207	88.6	91.5	88.7	71	93.1	93.5	89.7	278
Not Placed[5]	97.9	97.1	95.5	28	78.1	39.6	34.7	7	89.1	75.5	72.7	35
Total Grades K-6[6]	95.6	93.8	85.1	339	85.9	88.4	73.6	156	94.3	91.6	80.4	495

NOTE: Statistics based on data reported on the School Characteristics Questionnaire.

1/ Category A states contained, individually, approximately 2% or more of the national estimated LM-LEP population; Category B states contained individually, less than 2% of the estimated national total.

2/ This percentage is computed from the estimates of Table 3.3, as 100 times the ratio of the weighted sum over school of the number of LM-LEP students served for given grades to the weighted sum over schools of total LM-LEP students for given grades.

3/ This percentage is computed as 100 times the weighted average over all schools (that contain LM-LEP students in specific grades) of the within-school ratio of LM-LEP students served to total LM-LEP students in specified grades.

4/ Schools with LM-LEP students identified in specified grades.

5/ Represents category of students ages 5 to 12 but not yet assigned to a specific grade.

6/ Including students not placed.

There is at least one striking feature in the data of Table 3.10. Regardless of the statistic considered, a large portion of the identified LM-LEP students received services in the Category A states than in Category B. However, differences were not as great as might be expected considering that services may be more feasible when the concentrations of LM-LEP students are greater (as in the Category A states). In Category A states, 96% of the identified LM-LEP population was served, with 85% of the schools reporting that they provided services to all such students identified. In Category B, on the other hand, a smaller percentage of the identified LM-LEP population (86%) is served, with only about three-fourths of the schools reporting that they provided service to all identified LM-LEP students.

From the above data about the provision of services, two major competing hypotheses may be drawn, both of which are related to the use of locally defined criteria for classifying (and reclassifying) LM-LEP children. The first is that the schools are doing an excellent job of providing some type of special instructional services to identified LM-LEP children. The second hypothesis is that local definitions of LM-LEP children are being tailored to fit the populations which school districts have the resources to serve. While truth probably lies somewhere between these two hypotheses, implicit in the second is an underlying assumption that there exists some unidentified (or undefined) population of students who could be classified as LM-LEP, but are not. If such were the case, the estimates of the LM-LEP population as obtained in this study would obviously be underestimates.

Providing some support to the view that the study's estimates of the LM-LEP population are conservative are data provided by teachers. When queried concerning language-minority (LM) children in their classes whom the district had not identified as LEP, 12% of these teachers indicated that some of their LM students were in need of LEP services. On the average, 4.9 unserved language-minority students were reported by these teachers as needing LM-LEP services. Additionally, when questioned concerning those students in their classes who had been but were no longer considered LM-LEP (as defined by the district), 9% of teachers reported that some of these students still required LEP services.[9]

3.2.6 The Number of LM-LEP Students Mainstreamed Into All-English-Medium Classrooms From Grade K-6 Special Instructional Settings

A goal of special service efforts is for LM-LEP students to acquire enough of a command of English to enter all-English-medium classrooms. Schools were therefore asked to indicate the number of LM-LEP students, by grade level, who between Fall 1982 and Fall 1983 had ceased receiving special instructional services and had been mainstreamed full-time into all-English-medium classrooms.

Table 3.11 indicates that nationally, approximately 155 thousand LM-LEP students were reported to have been mainstreamed into all-English-medium classrooms from special service settings between Fall 1982 and Fall 1983. This corresponded to a mean of 12.5 per school, although the actual range of mainstreamed LM-LEP students was 0 (for 34% of schools) to 733. Since the mean number of LM-LEPs per school was 62.2 in the school year being discussed, 20% of the total number of enrolled LM-LEP students were reported to have been mainstreamed. These data, however, probably underestimate the rate at which students exit from LM-LEP services. If it were true that only 20% of the LM-LEP students were mainstreamed each year, it would mean that

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9 The percentages of teachers who reported having language-minority students who were not classified as LM-LEP but needed services and the teachers reporting LM-LEP students who had been reclassified as English-proficient but still needed services cannot be added together since there is likely to be a substantial amount of overlap between them.

TABLE 3.11

TOTAL NUMBER OF LM-LEP STUDENTS IN GRADES K-6 MAINSTREAMED INTO ALL-ENGLISH-MEDIUM CLASSROOMS BETWEEN FALL 1982 AND FALL 1983
(Unweighted N=495 Schools)

Number	Percentage of Schools[1]
None	34%
1-10	39
11-30	16
31-50	5
51-100	5
101-299	1
733	.04
Total	100%
Mean Students Per School[2]	12.5
Total Estimated Number of Mainstreamed Students[3]	154,760

[1] These data are based on the 495 schools for which responses were available. The data from these schools were weighted and represent 100% of all schools with LM-LEP students in grades 1-5.

[2] 10% of schools did not have all-English-medium classrooms in one or more of the grades K-6 and thus could not supply information for those specific grades; another 3% of schools had no special services in one or more of the grades K-6. This mean was also based on all sampled schools by imputing data for the 28 nonrespondents to this item (by using the mean of the corresponding respondent schools falling into one of five LM-LEP enrollment ranges).

[3] This was based on using the adjustment for nonresponse (imputation procedure) described in footnote 2; based on the 467 schools responding, the total estimated number of mainstreamed students was 134 thousand.

the average LM-LEP student received services for five years, on the average. This is inconsistent with other data obtained in this study. For instance, in Table 9.12 it is shown that the duration of services the average LM-LEP student receives is somewhere between two-and-a-half and three-and-a-half years (depending on the kind of services offered). This corresponds to mainstreaming about 30% to 40% each year.

Findings presented in Table 3.12 indicate that the larger the total number of LM-LEPs in the school, the lower the ratio of mainstreamed to total LM-LEP enrollment. Thus, averaging across all schools, we find that 47% was the average percentage of LM-LEP students mainstreamed per school. The percentage was greater than that (61%) in schools having fewer than 50 LM-LEP students, and less (14%-20%) in schools having more than 50 LM-LEP students.

TABLE 3.12

NUMBER OF LM-LEP STUDENTS ENTERING ALL-ENGLISH-MEDIUM CLASSROOMS BY TOTAL SCHOOL LM-LEP ENROLLMENT (Unweighted N=495 Schools)[1]

Total LM-LEP Student Enrollment	Mean Number of LM-LEP Students Per School Entering All-English-Medium Classrooms[2]	Mean Ratio of Main-Streamed LM-LEPs Per School to School's Total LM-LEP Enrollment
1-50	5.2	.61
51-100	14.2	.20
101-200	25.3	.18
201-500	49.2	.16
501-1592	89.4	.14
Overall	12.5	.47

[1] These data are based on the 495 schools for which responses were available. The data from these schools were weighted and represent 100% of all schools with LM-LEP students in grades 1-5.

[2] Based on using an adjustment for nonresponse (see footnote 2 of Table 3.11).

3.2.7 English-Proficient and Other Students Receiving Special LM-LEP Services

In a number of schools, students who are not classified as LM-LEP participate in special services for LM-LEP students. In the School Services Interview, therefore, a number of questions were asked about the extent and nature of such services.

The results indicated that 38% of schools which provided special services to LM-LEP students also allowed English-proficient (EP) students to participate in such services.[10] The number of EP students per school receiving services ranged from 1 to 900, with a median of 34. Both language-minority students (in 89% of schools serving EP students) and non-language-minority students (in 65% of such schools) participated.

The major reasons indicated for serving EP students were:

(a) so that they could learn a language other than English (29% of schools serving EP students);

(b) to provide role models for LM-LEP students (24%);

(c) to comply with state law or program design (13%);

(d) to provide peer tutoring for LM-LEP students (12%);

(e) to comply with parent requests (9%);

(f) for racial or ethnic integration purposes (8%); and

(g) so that they would receive additional English instruction (5%).

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[10] These English-proficient students are of course excluded from all data about LM-LEP students presented elsewhere in this report -- including estimates of the number of such children receiving services.

In the School Services Interview, schools were also asked if in the previous five years, any special services for LM-LEP students had been offered to students not officially defined as LM-LEP, but who teachers or staff believed were not achieving their academic potential because of limited English proficiency. Among those schools which offered services to LM-LEP students, 30% responded affirmatively to this question. Schools reported that a median of 8 students per school had received such services, although 4% of schools reported having served 100 or more such students. The primary types of services received were special tutoring in English (56% of schools offering such services), special tutoring in other subject areas (49%), ESL instruction (16%), instruction in the native language (8%), and most or all instruction in bilingual education classrooms (6%).

3.3 Summary

The focus of this chapter is on estimating the total number of LM-LEP students in the U.S. (as defined locally), and the percentage of LM-LEP students receiving special services in public schools. Previous estimates of the size of the school age LM-LEP population had varied widely, from a low of 700,000 to a high of 3,600,000. Study data concerning these topics were collected primarily from school districts and from schools, although teacher data were used to elaborate on the issue of the number of unserved LM-LEP students.

Findings related to the numbers of LM-LEP students indicate the following:

- In the 1983-84 school year, there were estimated to be approximately 882,000 students locally defined as LM-LEP, in grades K-6 of public schools in the U.S.
- Expanding this estimate to include private school enrollments, there were approximately 970,000 LM-LEP students in grades K-6
- When the estimate was further expanded to include all grades (K-12), the results indicated between 1.3 and 1.4 million LM-LEP students. (The more exact figure was 1.355 million, but we regard that as spuriously precise.)

- In the judgment of about 12% of teachers, there are some language-minority children who need LM-LEP services and are not receiving them. Conversely, about 30% of the schools offering services to LM-LEP students indicated that they had also occasionally provided such services to students that they thought would benefit but whom they did not officially classify as LM-LEP.

Other findings indicate that:

- Approximately 76% of the elementary LM-LEP students had Spanish as their native language.
- Approximately 94% of the elementary LM-LEP students were receiving some form of special LM-LEP services.
- The percentage of LM-LEP students receiving special services was greater in the ten states with the highest LM-LEP populations (96%) than in other states (86%).
- Approximately 20% of all LM-LEP students were reported to have been mainstreamed into all-English-medium classrooms during the year, representing an estimated total of 155 thousand students; other estimates of the percentage mainstreamed range from roughly 30% to 40%, depending on the duration of time needed for receiving certain types of services.
- Schools with smaller enrollments of LM-LEP students mainstreamed a greater percentage of LM-LEP students in the year than did schools with larger enrollments.

CHAPTER 4

THE CHARACTERISTICS OF LM-LEP STUDENTS

4.1 Introduction

A clear understanding of the characteristics of the LM-LEP student population and of how these students compare to English-proficient students is important for sound program planning.

This chapter provides a profile of LM-LEP student characteristics, covering such topics as: sex and age distributions, national origin, length of residence in the U.S., language group representation, language proficiency (English and native language), and academic performance. The findings reported herein are based primarily on information about 1,665 randomly selected LM-LEP students in 187 schools.[1] Of those students, 849 were in the first-grade and 816 in the third-grade. Student-level data came from school records and from questionnaires completed by academic teachers about the type of instruction and the proficiencies of each individual in the LM-LEP student sample. Other data in the chapter came from questionnaire items appearing on district, school, and teacher-level instruments and which dealt with LM-LEP students in grades K-6.

Throughout the chapter most of the data are presented in two basic table formats: a format which provides overall percentage distributions in which school or school district is the unit of analysis, and a format comparing the percentages of first and third-grade students having a particular characteristic. In the latter tables students are the analytic focus.

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[1] As described in Chapter 2, the sample of schools from which student and teacher data were collected contained 12 or more LM-LEP students in either grade 1 or 3. These schools represent 33% of schools having any LM-LEP students, but they contain 82% of all LM-LEP students.

4.2 Sex and Age

Based on student-level data, it is estimated that slightly over one-half of all first and third-grade LM-LEP students were male (53% and 52%, respectively). Table 4.1 presents the distribution of first and third-grade LM-LEP students' ages for each sex and overall. As reflected in the table, 70% of all LM-LEP first-graders were born in 1977, making most of them six years old at the time of data collection (Fall 1983). Another 22% of these first-graders were born in 1976 and most of them, therefore, were seven years old. Over half (52%) of the third-grade LM-LEP students were born in 1975 and were therefore eight years old, with an additional 33% being born in 1974 (nine years of age). Another 11% of the third-graders were born in either 1971, 1972, or 1973, making them between 10 and 12 years old. Compared to all third-grade LM-LEP students, proportionately more of these "older" third-graders (i.e., 10-12 years old) were born outside of the United States, were Mexican-American, and had attended school outside of the United States for one or two years.

Overall, the median ages of first-grade LM-LEP students of either sex were very similar to those of all first-grade students in the United States[2]. However, proportionally more first-grade LM-LEP students were seven years old than was true for all students nationally (25% vs. 16% for males; 18% vs. 11% for females).

With respect to third-grade, both male and female LM-LEP students were slightly older than the typical United States student in that grade. The median age of third-grade male LM-LEP students was found to be 8.9, compared to 8.5 nationally, and the median age of female LM-LEP students was 8.7, compared to 8.4 nationally. Similarly, proportionally more male LM-LEP third-grade students were nine years old (39% vs. 20%), ten years old (8% vs. 2%), or eleven years old (2% vs. 1%) than was true for male third-graders nationally; and proportionately more female LM-LEPs were nine years old (27% vs. 16%), ten years old (6% vs. 2%) or eleven years old (3% vs. 1%) than was the norm for female third-graders.

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[2] U.S. Bureau of the Census. School Enrollment: Social and Economic Characteristics of Students, October, 1979.

TABLE 4.1

AGES OF FIRST AND THIRD-GRADE LM-LEP STUDENTS BY SEX

GRADE	Year of Birth	Approx. Age	Percent Male	Percent Female	Percent Total
First	1978	Five	6%	4%	5%
	1977	Six	65	75	70
	1976	Seven	25	18	22
	1975	Eight	3	2	2
	1974	Nine	1	0.5	1
		Total	100%	100%	100%
		Median Age	6.6	6.5	6.5
		Unweighted N[1]	439	393	832
Third	1976	Seven	2%	6%	4%
	1975	Eight	47	57	52
	1974	Nine	39	27	33
	1973	Ten	8	6	7
	1972	Eleven	2	3	3
	1971	Twelve	1	1	1
		Total	100%	100%	100%
		Median Age	8.9	8.7	8.8
		Unweighted N[1]	424	376	800

[1] These data are based on the 1,632 students about whom responses were available. The data about these students were weighted and represent 99% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

4.3 National Origin and Length of Residence in the United States

Data were collected concerning where LM-LEP students in grades K-6 were born, and how many years they had lived in the United States if born elsewhere. Both district-level and school-level data were used for these purposes. Table 4.2 indicates how districts differ in the percentages of their students with differing places of birth and years of U.S. residence. As shown in 23% of the districts all of the LM-LEP students were foreign-born, while in 7% of the districts all of the LM-LEP students were born in the U.S. These data suggest that most districts are confronted by mixtures of LM-LEP students varying widely in terms of number of years of U.S. residence.

TABLE 4.2

PLACES OF BIRTH AND YEARS OF U.S. RESIDENCE OF LM-LEP STUDENTS (DISTRICT DATA) (Unweighted N=134 Districts)[1]

Category	Percentage of Districts with No Students in Category	Percentage of Districts with All Students in Category	Mean Percentage of Students Nationwide Based on District Data
Born in U.S.	23%	7%	55%
Foreign-Born, Lived in U.S. Two Years or More	21	1	14
Foreign-Born, Lived in U.S. One to Two Years	27	0	15
Foreign-Born, Lived in U.S. One Year or Less	25	6	16

[1] These data are based on the 134 districts for which responses were available. The data about these districts were weighted and represent 69% of districts with LM-LEP students in grades 1-5.

Table 4.3 presents corresponding data collected at the school-level. The last column in this table and the corresponding column of Table 4.2 are of particular interest because they represent the same kind of information collected from two different sources (schools and districts, respectively). The results are roughly parallel, but certainly not identical. The discrepancies are probably due to differences in the kinds of data available at district headquarters and at the individual schools. Since there is no a priori reason to assume that either set of data is very far from the truth or that either is innately superior to the other, the actual percentages probably lie somewhere between the percentages from the two different sources. Thus, in round numbers, probably about half of the LM-LEP students in grades K-6 were born in the United States, another 20% or so had lived in the U.S. at least two years, and the remainder (those who had been here less than two years) were split about evenly, between those who had been here more than a year and those who had not.

TABLE 4.3

PLACES OF BIRTH AND YEARS OF U.S. RESIDENCE
OF LM-LEP STUDENTS (SCHOOL DATA)
(Unweighted N=368 Schools)[1]

Category	Percentage of Schools with No Students in Category	Percentage of Schools with All Students in Category	Mean Percentage of Students Nationwide Based on School Data
Born in U.S.	30%	7%	48%
Foreign-Born, Lived in U.S. Two Years or More	30	3	24
Foreign-Born, Lived in U.S. One to Two Years	39	5	14
Foreign-Born, Lived in U.S. One Year or Less	32	7	14

[1] These data are based on the 368 schools for which responses were available. The data about these schools were weighted and represent 78% of schools with LM-LEP students in grades 1-5.

National origin and length of U.S. residence data were also collected at the individual student-level (for first and third-grade LM-LEP students). As shown in Table 4.4, 55% of these students were born in the U.S. The remaining 45% were born in one of 66 other countries, with Mexico being the most heavily represented (16%).

TABLE 4.4

COUNTRY OF BIRTH OF FIRST AND THIRD-GRADE LM-LEP STUDENTS
(Unweighted N=1590 Students)[1]

Country	Percentage of LM-LEP Students
United States - 50 states and District of Columbia	55%
Mexico	16
Puerto Rico	4
Dominican Republic	3
Vietnam	2
Philippines	2
Laos	2
El Salvador	2
Cambodia	2
Haiti	1
Mainland China	1
56 Other Countries	10
Total	100%

[1] These data are based on the 1,590 students about whom responses were available. The data about these students were weighted and represent 97% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Table 4.5 provides a distribution of LM-LEP students in terms of country of birth for six groups of languages.[3] As shown, over three-fifths of Spanish-speaking LM-LEP students in grades 1 and 3 were born in the U.S. (64%), while Mexico accounted for another 20%. Of those first and third-grade LM-LEP students who spoke a Southeast Asian language, 85% were

[3] The native languages included in each of the six groups are shown in Table 2.7.

TABLE 4.5

COUNTRIES OF BIRTH OF FIRST AND THIRD-GRADE LM-LEP STUDENTS BY NATIVE LANGUAGE GROUP

Native Language Group	Percent of LM-LEP Students	Unweighted N	Country of Birth	Percent of Native Language Group
Spanish	78%	1080	USA	64%
			Mexico	20
			Puerto Rico	5
			Dominican Republic	4
			Other	7
				100%
Other European Languages	4	87	USA	28%
			Haiti	34
			USSR	11
			Romania	5
			Federal Republic of Germany	4
			Italy	4
			Other	14
				100%
Southeast Asian Languages	6	221	USA	4%
			Vietnam	32
			Laos	29
			Cambodia	24
			Thailand	9
			Other	2
				100%
East Asian Languages	3	60	USA	22%
			Mainland China	37
			Vietnam	14
			Hong Kong	12
			South Korea	7
			Japan	3
			Other	5
				100%
Native American Languages	1	17	USA	100%
Other	7	125	USA	27%
			Philippines	21
			Afghanistan	7
			Guam	7
			Iraq	7
			Jordan	7
			India	6
			Zambia	6
			Other	12
Total	100%	1590		100%

born in either Vietnam, Laos, or Cambodia. Mainland China was the area where the largest percentage of LM-LEPs speaking an East Asian language was born (37%), followed by the U.S. (22%). Another 14% of East Asian language speakers were born in Vietnam and an additional 12% in Hong Kong.

As a group, 60% of first and third-grade LM-LEP students who were not born in the U.S. had lived in the U.S. over two years (see Table 4.6). Only 12% had lived in the U.S. one year or less.

TABLE 4.6

LENGTH OF RESIDENCE IN U.S. OF FIRST AND THIRD-GRADE FOREIGN-BORN LM-LEP STUDENTS[1]

Length of Residence in U.S.	Grade 1	Grade 3	Total[2]
Two Years or More	51%	68%	60%
Between 1-2 Years	37	19	28
One Year or Less	12	13	12
Total	100%	100%	100%
Unweighted N (students)	293	374	667

[1] These data are based on the 667 students about whom responses were available. The data about these students were weighted and represent 83% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

4.4 Native Language Groups

Data were collected at the school-level concerning the native languages of all LM-LEP students. There was a mean of 3.5 non-English languages per school, although 63% of the schools had LM-LEP students from three or fewer language groups (see Table 4.7). In the sampled schools, 84 different

native languages were represented. More than three-quarters of the schools (81%) had at least one Spanish-speaking LM-LEP student. No other language was represented in more than 25% of the schools. Table 4.8 shows for each language the percent of schools nationally in which that language was represented by at least one LM-LEP student. The East Asian languages (Chinese, Korean, Japanese, etc.) were represented by at least one LM-LEP student in 60% of the schools; Southeast Asian languages (Vietnamese, Laotian, Hmong, Cambodian, etc.) 58%; and a European language other than Spanish, 58%. Each school was also categorized in terms of the predominant native language of its LM-LEP students in grades K-6. In 63% of schools, Spanish was the predominant native language of LM-LEP students; in 14% a Southeast Asian language, in 9% European languages other than Spanish, in 9% an East Asian language, in 1% a Native American language, and in 5% another language was predominant among LM-LEP students in grades K-6.

TABLE 4.7

NUMBER OF NATIVE LANGUAGES OF LM-LEP STUDENTS ENROLLED IN SCHOOLS
(Unweighted N=495 Schools)

Number of Native Languages in A School	Percent of Schools[1]
1	36%
2	17
3	10
4	11
5	5
6-8	10
9-11	8
12 or more	3
Total	100%
Mean Number of Languages	3.5

[1] These data are based on the 495 schools for which responses were available. The data about these schools were weighted and represent 100% of schools with LM-LEP students in grades 1-5.

TABLE 4.8

PERCENTAGE OF SCHOOLS HAVING AT LEAST
ONE LM-LEP STUDENT WITH A SPECIFIC NATIVE LANGUAGE
(Unweighted N=495 Schools)[1]

Language	Percent of Schools[2]
Spanish	81%
Korean	24
Vietnamese	22
Chinese	20
Tagalog	17
Arabic	16
Laotian	14
Hindi	11
Hmong	10
Farsi	10
Cambodian	9
Japanese	9
Italian	8
Polish	7
Portuguese	7
French	5
Greek	5
Serbocroatian	5
66 Other Languages	Less than 5% each[3]

[1] These data are based on the 495 schools for which responses were available. The data about these schools were weighted and represent 100% of schools with LM-LEP students in grades 1-5.

[2] Percentages total more than 100% because some schools have some LM-LEP students who speak one native language, and some students who speak others.

[3] The estimate of the total number of public elementary schools in the U.S. enrolling one or more LM-LEP student in grades 1-5 is 12,332 schools; 5% of that number is 617.

Approximately 8 out of every 10 first and third-grade LM-LEP students were Spanish-speaking (78% Hispanic; see Table 4.9). Those in the next largest group were those speaking Southeast Asian languages (6%). As for specific languages, Cantonese (3%) was the most frequent of the languages other than Spanish.

TABLE 4.9

LANGUAGE-MINORITY GROUP MEMBERSHIP AND NATIVE LANGUAGES OF FIRST AND THIRD-GRADE LM-LEP STUDENTS (Unweighted N=1665 Students)[1]

Language-Minority Groups	Percentage of LM-LEP Students	Specific Native Languages	Percentage of LM-LEP Students
Hispanic	78%	Spanish	78%
Other European Languages	4	Cantonese	3
Southeast Asian Languages	6	Vietnamese	2
East Asian Languages	3	Tagalog	2
Native American Languages	1	Cambodian	2
Other Languages	7	Arabic	1
		French Creole	1
Total	100%	Hmong	1
		Laotian	1
		Navajo	1
		37 Other Languages	8
		Total	100%

[1] These data are based on the 1,665 students about whom responses were available. The data about these students were weighted and represent 100% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Of the 78% of first and third-grade LM-LEP students who were of Hispanic origin, nearly three-quarters (74%) were Mexican-Americans. Puerto Ricans accounted for 11% of these students, Cubans 2%, other Caribbeans 5%, Central Americans 5%, and South Americans 2%.

4.5 Socioeconomic Status

Socioeconomic status may not be as meaningful a descriptor for very recent immigrants (particularly refugee groups) as for families who have been in this country for longer periods. It is also not as readily measurable for these recent arrivals. Nonetheless, it seemed desirable to at least have a rough indicator of this factor in the present study. The indicator used for this purpose was participation in the U.S. Department of Agriculture's free or reduced price meals program as implemented in the local schools. Data concerning individual LM-LEP students (first and third-graders only) indicated that 85% appear to qualify for this program (unweighted N=1435 students). Similar data collected at the school-level indicated that 99% of the schools offered free or reduced price meals to their students, and that 91% of LM-LEP students receive these meals.[4] The percentages of students receiving free or reduced price meals, averaged across schools, was 47% overall and 91% for LM-LEP students (the latter unweighted N=454 schools). The two estimates of 85% and 91% do not differ substantially from each other, and in either case indicate, not surprisingly, that the families of LM-LEP students in elementary schools tend to have limited financial resources.

4.6 School Experience Outside and Within the U.S.

Overall, 3% of first-grade and 15% of third-grade LM-LEP students have received some formal education outside of the U.S. Of this small group of students, the first-graders had received a mean of 1.3 years of schooling outside of the U.S. (97% received 1 to 2 years of schooling). Third-graders had received a mean of 2.4 years (85% received 1 to 3 years of schooling). The LM-LEP students who received schooling outside of the U.S. were not exclusively foreign-born; 27% of those students, virtually all of whom were either Mexican-American or Puerto Rican, were born in this country.

Data on the highest grades completed by these students before entering the U.S. are shown in Table 4.10.

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[4] A mean of 224 students per school received such meals. Of that number, a mean of 57 were LM-LEP students. (This compares with mean total enrollments of 480 students and 62 LM-LEP students.)

TABLE 4.10

HIGHEST GRADE COMPLETED BY FIRST AND THIRD-GRADE LM-LEP STUDENTS PRIOR TO ENTERING THE UNITED STATES[1]

Highest Grade Completed Prior to Entering U.S.[2]	Percent of LM-LEP Students With Some Formal Education Outside the U.S.	
	Grade 1	Grade 3
Pre-Kindergarten	11%	*
Kindergarten	82	19%
First-Grade	5	28
Second-Grade	2	32
Third-Grade	0	20
Fourth or Fifth-Grade	0	*
Total[3]	100%	100%
Unweighted N (students)	24	93

[1] These data are based on the 117 students about whom responses were available. The data about these students were weighted and represent 84% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Schooling outside the 50 states and the District of Columbia.

[3] This corresponds to 3% of all first-grade (i.e., with and without some non-U.S. formal education) and 15% of all third-grade LM-LEP students.

Third-graders had a mean of 3.2 years of attending schools in the U.S. and first-graders 1.8 years. The distributions are shown in Table 4.11. As shown, third-graders had a wider range of years of schooling, with 8% having attended school for five or six years. With respect to mobility from school-to-school, most LM-LEP students are rather stable. Third-grade LM-LEP students had been in their current school for a mean of 30.4 months and first-grade LM-LEP students for a mean of 17.5 months. Assuming a

ten-month school year, these figures correspond to means of 3.0 and 1.8 school years, respectively. There were, on the other hand, sizable numbers of LM-LEP students who deviated from these means. Of the first-graders, 22% had been enrolled in their current school for one year or less, with 10% having been enrolled there for no more than three months. Similarly, of the third-grade LM-LEPs, 25% had been enrolled in their current school for one year or less, with 6% having been enrolled there for no more than three months.

TABLE 4.11

NUMBER OF YEARS OF ATTENDANCE OF LM-LEP STUDENTS IN UNITED STATES SCHOOLS[1]

Years Of Attending School	Percentage of LM-LEP Students Grade 1	Grade 3
One	29%	12%
Two	60	11
Three	10	30
Four	1	39
Five	0	6
Six	0	2
Total	100%	100%
Unweighted N (students)	792	753

[1] These data are based on the 1,545 students about whom responses were available. The data about these students were weighted and represent 94-95% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Data on various types of special programs in which first and third-grade LM-LEP students were participating in the Fall of 1983 are presented in Table 4.12. These data were obtained from school records and discussions with teachers and other school personnel. Data indicating whether or not a student was receiving services were not always available, however, and unless a positive indication was present, it was assumed a particular service was not being received. Thus, the data collected probably constitute a lower bound estimate of the percentage of LM-LEPs participating in a particular program. The patterns of data for the two grades are quite similar. Analyses of these data indicate that most students received services which were funded by more than one source.

TABLE 4.12

PERCENTAGE OF LM-LEP STUDENTS RECEIVING SERVICES IN SPECIAL PROGRAMS
(Unweighted N=1485 Students)[1]

Type of Program	Percentage of LM-LEP Students[2] Grade 1	Grade 3
Chapter 1	37%	40%
Migrant Education	4	3
Other Compensatory Education	14	16
Title VII	6	7
Other Special Services for LM-LEP Students	84	77
Education for the Handicapped	1	2
Other	5	6

[1] These data are based on the 1,485 students about whom responses were available. The data about these students were weighted and represent 91% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Percentages total more than 100% because multiple services were received by some students in their present elementary school.

Taken together, the school experience data presented in this section and the age-level data presented earlier (Section 4.2) suggest that most LM-LEP students in the lower elementary grades are at or close to grade level in terms of age and number of years of schooling, receive one or more special services, and are rather stable in terms of mobility across schools. However, some students do vary widely from the average in terms of how much schooling they received in their home country, and how long they have lived in this country. For instance, 12% of first-grade foreign-born LM-LEP students have lived in the U.S. for one year or less.

4.7 Teacher Ratings of Academic Skills

Teachers of the sampled students were asked to rate each student's level of skills and proficiency on a five-point scale, the instructions for which are shown in Exhibit 4.1. Note that the rating scale point 4 ("good") was used to indicate that a LM-LEP student's proficiency was at grade level.

EXHIBIT 4.1

INSTRUCTIONS FOR TEACHERS RATING FIRST AND THIRD-GRADE LM-LEP STUDENT PROFICIENCY

Based on all information available to you, please indicate the level of this student's proficiency in each of the designated skill areas. Use the following key in rating your answers, and circle the code number which best fits.

1. None (Student has no proficiency, but proficiency is expected at this grade level).

2. Beginning (Student has some, but far below grade level proficiency).

3. Fair (Student has somewhat below grade level proficiency).

4. Good (Student's level of proficiency is at grade level).

5. Very Good (Student's level of proficiency is above grade level).

6. Not Applicable (Student has no proficiency and none is expected of student at this grade level).

7. Don't Know (Don't know student's proficiency in this skill).

As indicated in Chapter 2, a total of 2,126 academic content teachers rated 1,595 of the full sample of 1,909 first and third-grade LM-LEP students. Data were then aggregated by averaging the ratings of individual teachers who taught a particular LM-LEP student. Means and percentages were obtained in this manner. Where the majority of teachers teaching a particular student could not rate that student, then the aggregated rating was excluded from the analysis.

Tables 4.13, 4.14, and 4.15 provide mean proficien levels (using the rating scale presented in Exhibit 4.1) in the areas of English language arts, native language arts, and mathematics. Data are presented for grades 1 and 3 separately for selected skills.

Table 4.13 indicates that third-grade LM-LEP students were rated by their teachers as having a slightly higher overall English proficiency level than first-grade LM-LEP students (2.9 vs 2.5), but that in both grades the English language proficiency of LM-LEP students was below grade level.

TABLE 4.13

MEAN PROFICIENCY LEVELS OF FIRST AND THIRD-GRADE LM-LEP STUDENTS IN SELECTED ENGLISH LANGUAGE SKILLS

Language Skill Area[1]		Grade 1	Grade 3
Overall English[2]	Mean[3]	2.5	2.9
	Unweighted N[4]	795	779
Spelling	Mean	2.4	2.9
	Unweighted N	483	731
Writing Sentences	Mean	2.0	2.6
	Unweighted N	507	728
Reading Comprehension	Mean	2.4	2.8
	Unweighted N	599	732
Reading Mechanics -- letter recognition, decoding, etc.	Mean	2.6	2.9
	Unweighted N	641	734

[1] A teacher could also rate a particular skill as being not applicable (NA) -- the student has no proficiency and none is expected of the student at this grade level. The overall percent of NA responses for grade 1 was 2% (specific skill areas ranged from 4% to 49%). For grade 3 the overall percent of NA responses was 1% (specific skill areas ranged from 4% to 10%).

[2] Overall ratings are based on nine skills rated by academic teachers teaching sampled LM-LEP students.

[3] Rating scale is as defined in Exhibit 4.1.

[4] These data are based on the 483 to 795 first-grade students and 728 to 779 third-grade students about whom responses were available. The data about these students were weighted and represent 51-98% of first-grade students and 90-99% third-grade students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

The native language arts ratings presented in Table 4.14 are similar in pattern to the ratings for English in Table 4.13, although systematically higher.

TABLE 4.14

MEAN PROFICIENCY LEVELS OF FIRST AND THIRD-GRADE LM-LEP STUDENTS IN SELECTED NATIVE LANGUAGE SKILLS

Native Language Skill Area[1]		Grade 1	Grade 3
Overall English[2]	Mean[3]	2.9	3.2
	Unweighted N[4]	591	567
Spelling	Mean	2.4	2.9
	Unweighted N	372	465
Writing Sentences	Mean	2.1	2.8
	Unweighted N	354	471
Reading Comprehension	Mean	2.5	3.1
	Unweighted N	416	477
Reading Mechanics -- letter recognition, decoding, etc.	Mean	2.8	3.2
	Unweighted N	457	474

[1] A teacher could rate a particular skill as being "not applicable" (NA) -- the student has no proficiency and none is expected of the student at this grade level. The overall percent of NA responses for grade 1 was 2% (specific skill areas ranged from 4% to 49%). For grade 3 the overall percent of NA responses is 22% (specific skill areas ranged from 25% to 32%).

[2] Overall ratings are based on nine skills rated by academic teachers teaching sampled LM-LEP students.

[3] Scale is as defined in Exhibit 4.1.

[4] These data are based on the 372 to 591 first-grade students and 465 to 567 third-grade students about whom responses were available. The data about these students were weighted and represent 47-81% of first-grade students and 62-75% third-grade students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Table 4.15 presents patterns of proficiency ratings in two mathematics skill areas and an overall rating. Third-grade ratings were slightly higher than those of first-grade LM-LEP students for each skill area.

TABLE 4.15

MEAN LEVELS OF FIRST AND THIRD-GRADE LM-LEP STUDENTS IN SELECTED MATHEMATICS SKILLS

Mathematics Skill Area[1]		Grade 1	Grade 3
Overall Math[2]	Mean[2]	3.0	3.3
	Unweighted N	786	762
Computational Skills	Mean	3.1	3.3
	Unweighted N	760	761
Concepts of Numbers and Computation	Mean	3.3	3.5
	Unweighted N	784	762

[1] A teacher could rate a particular skill as being "not applicable" (NA) -- the student has no proficiency and none is expected of the student at this grade level. The overall percent of NA responses for grade 1 is 30% (specific skill areas ranged from 3% to 25%). For grade 3 the overall percent of NA responses is 4% (specific skill areas ranged from 3% to 23%).

[2] Overall ratings are based on four skills rated by academic teachers teaching sampled LM-LEP students.

[3] Scale is as defined in Exhibit 4.1.

[4] These data are based on the 760 to 786 first-grade students and 761 to 762 third-grade students about whom responses were available. The data about these students were weighted and represent 51-98% of first-grade students and 90-99% third-grade students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Subsequent analyses were made comparing each LM-LEP student's rating in English language skills with that student's rating in their native language skills. These analyses revealed that a sizable proportion of LM-LEP students were given ratings on English language skills which were either equal to or superior to ratings in their native language, and that the proportion of such students increased with grade. Specifically, 29% of first-grade and 38% of third-grade LM-LEP students were given equal or higher ratings on overall English language skills compared to their ratings on overall native language skills. However, the mean rating given to these particular first-grade students was 2.4 for their native language skills and 2.9 for their English language skills, while these third-grade students were rated 2.6 and 3.2, respectively. Thus, the skill level in both languages was rated low.

In addition, analyses were conducted to determine if being born in the United States or belonging to particular native language groups was related to English or native language proficiency skill levels of first and third-graders. No striking differences between English and native language proficiency levels were found between LM-LEP students born here and those born elsewhere, or between Spanish-speaking students and those speaking other languages.

4.8 Summary

This chapter describes characteristics of the LM-LEP student population. Data were collected from school records concerning 849 randomly selected first-grade and 816 third-grade LM-LEP students who were enrolled in those schools in the sample that had fairly large numbers of LM-LEP students (i.e., schools having 12 or more LM-LEP students in either grades 1 or 3). In addition, summary data on a few variables concerning LM-LEP students in grades K-6 were collected at the school and district-levels in settings which had LM-LEP students in any of grades 1-5.

The data indicates that:

- Both male and female third-grade LM-LEP students were slightly older (by four or five months) than national norms for third-grade students; first-grade LM-LEP students were very near national age norms;
- Approximately 55% of first and third-grade LM-LEP students were born in the U.S.; 16% were born in Mexico, and 4% were born in Puerto Rico;
- Spanish-speaking LM-LEP students were more likely to be born in the U.S. than LM-LEP students speaking other languages (64% vs. 23%);
- 36% of schools with LM-LEP students in grades 1-5 had only 1 foreign language represented, while 3% had 12 or more; the mean was 3.5 languages. 81% of schools had at least one Spanish-speaking LM-LEP student, the next highest percent of schools was 24% having at least one Korean LM-LEP student, followed by Vietnamese (22% of schools) and Cantonese (20%), respectively;
- Spanish was the predominant native language of LM-LEP students in 63% of schools, and a Southeast Asian language in 14% of schools; other language groups were predominant in the remaining 23% of schools;

- Of the first and third-grade LM-LEP students, 78% spoke Spanish as their native language; 3% spoke Cantonese, 2% spoke Vietnamese, 2% Tagalog, and 2% Cambodian; no other language accounted for more than 1% of the LM-LEP students;

- 91% of LM-LEP students in grades K-6 receive free or reduced price lunches, compared to 47% of all students in the same schools;

- 13% of first-grade and 15% of third-grade LM-LEP students have received some formal education outside of the U.S.;

- First and third-grade LM-LEP students were rated by their teachers as being below grade level proficiency in English language arts, native language arts, and mathematics; in all areas, however, third-grade LM-LEP students were rated as being closer to grade level proficiency than first-grade LM-LEP students; furthermore, 29% of first-grade and 38% of third-grade LM-LEP students were given equal or higher ratings on their overall English skills compared to their overall native language skills, although in these cases the ratings on skills in both languages were below grade level proficiency levels.

CHAPTER 5

STATE AND LOCAL POLICIES TOWARD SPECIAL SERVICES FOR LM-LEP STUDENTS

5.1 Introduction

Prior to the late 1960s, federal and state governments were only marginally involved in the provision of special services for LM-LEP students. As a result, local school districts and individual schools exercised nearly singular authority over the kinds and amounts of educational services to be offered to the LM-LEP students whom they served. Differences in the nature and size of the LM-LEP student populations in each district, the varying resources available to the districts, and the range of community perspectives on how best to serve LM-LEP students resulted in the development of local policies and practices which varied, sometimes greatly, from one school district to another. In some districts, no special services for LM-LEPs were permitted; in others, the special services consisted of English language tutorial assistance; in still others, bilingual aides assisted the students. In parts of the country, some districts provided fully bilingual curricula, while others provided intensive instruction in English as a second language.

The substantial increase in federal and state involvement in the funding and regulation of special services for LM-LEP students, which came about in the late 1960s and 1970s, at first did little to change this picture. While certain pieces of legislation, such as ESEA Title VII and the Massachusetts Transitional Bilingual Education Act, tended to codify and support certain types of services (e.g., those involving use of the student's native language), other legislative acts, such as Title I and the Indochinese Refugee Act, funded a different set of services (e.g., English as a second language) for LM-LEPs in local school districts. Thus, the diversity of policies and practices regarding special LM-LEP services remained in large part unchanged.

The late 1960s and 1970s also were a time of increased activity on the part of the research communities concerned with services for LM-LEP students. As a result, much new information on different approaches to serving these

students and the effectiveness of these different approaches appeared. This information helped to shape federal, state and local policy and practice. Although researchers and practitioners have long been aware that states and local school districts differ in their policies toward the provision of special services to LM-LEP students and in the services which they actually provide (see Development Assoc ates, 1977), there has been little data available on the extent of this variation. That is, previous studies of special services to LM-LEP students (e.g., Danoff, 1978; Cardenas et al., 1982; Tikunoff et al., 1982) tended to focus on services provided through particular funding sources or in specific locations, and thus were not intended to capture the range of policies toward special services in different states and school districts. The study reported on here, however, was not as limited. Data were gathered from a nationally representative sample of states, school districts, and schools on their policies toward special services for LM-LEP students, regardless of the funding sources used to support these services.

5.2 State Activity

States vary considerably with respect to their levels of activity in the provision of special services for LM-LEP students. The nature and extent of that activity may have important implications for the kinds of services which local school districts are able to provide to their students (see Development Associates, 1977; Nava, Reisner and Turnbull, 1984). For example, the existence of state laws requiring bilingual education presumably should favor the presence of this type of service in local school districts. The existence of state certification requirements for teachers providing bilingual education or for teachers of English as a second language should also favor the hiring of staff with more relevant educational backgrounds for special LM-LEP service programs. To investigate these and other such relationships, it is useful to have an index of the activity of state governments in the funding and regulation of LM-LEP services.

To create this index, data were gathered on five factors which were taken to be indicative of the degree of state activity in the provision of special services for LM-LEP students. The specific indicators are displayed in Table 5.1, along with the number of points assigned to a state depending on how it was rated with respect to each indicator. Information on the first

TABLE 5.1

RATING FACTORS FOR DETERMINING A STATE'S INDEX OF ACTIVITY IN LM-LEP SERVICE PROVISION

Factor	Index
1. Title VII State Allocations:	
A. Training Grant:	
(1) Proportion of total funds allocated is 1% or more greater than proportion of the national elementary LM-LEP student population which resides within the state	2
(2) Proportion of total funds allocated is more than 1% smaller than proportion of the national elementary LM-LEP student population which resides within the state	0
(3) Otherwise	1
B. SEA Program:	
(1) Proportion of total funds allocated is 1% or more greater than proportion of the national elementary LM-LEP student population which resides within the state	2
(2) Proportion of total funds allocated is more than 1% smaller than proportion of the national elementary LM-LEP student population which resides within the state	0
(3) Otherwise	1
2. Transition Program for Refugee Children:	
A. State was allocated 3% or more of the total funds	2
B. State was allocated between 1 and 3% of total funds	1
C. State was allocated less than 1% of total funds	0
3. State Funds for LEP Students:	
A. State expenditure per pupil exceeds national average	2
B. State expenditure per pupil less than national average	1
C. No state funds expended	0
4. Certification Policy:	
A. State certifies bilingual education instructors or English as a second language (ESL) instructors	1
B. Otherwise	0
5. State Legislation for Special LM-LEP Services:	
A. In place or under development	1
B. Otherwise	0

Possible Range of Indexes: minimum 0, maximum 10

indicator, state allocations under ESEA Title VII, was obtained from the Office of Bilingual Education and Minority Languages Affairs (OBEMLA), while data on the distribution of funds under the Transition Program for Refugee Children were obtained from the Office of Refugee Resettlement. The information necessary for assigning the appropriate number of points to each state on the remaining three factors, i.e., state funds for LM-LEP students, state certification policy, and state legislation for special services for LM-LEP students, was obtained from the results of the annual survey of states by the National Clearinghouse for Bilingual Education (NCBE).[1]

Once a state had been rated on each factor, the points were totalled to yield the overall state activity index. The minimum index possible was 0, while the maximum was 10. The results for each state are given in Table 5.2. Note that no state received the maximum index, 10.

States with large LM-LEP student populations, e.g., California, Texas, New York, generally had higher indexes, as might be expected. State activity was not, however, merely a function of size of LM-LEP student population, as shown by the fact that a number of states with proportionately small LM-LEP populations, e.g., Alaska, Kansas, Minnesota, and Rhode Island, had relatively high activity indexes.

5.3 District Provisions for Special Services for LM-LEP Students

Data gathered from the representative sample of districts indicated that special instructional services or programs for LM-LEP students in grades K-6 were offered in 97% of districts. The districts which offered no special services (3%) had small numbers of LM-LEP students (10 or fewer) and received no Title VII funds; there was no relationship between the level of state activity and whether or not services were provided. In the districts offering services, it was reported that district policy made these services available at virtually all of the grade levels included in this study; that is, 99% of these districts offered services at each of the grades K through 3, 98% at grades 4 or 5, and 96% at grade 6.

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[1] The same variables and procedures were used in drawing the sample of states for this study (see: Chapter 2, and Appendix D). Data were also updated to reflect conditions as of June 1984 so that they could be used in this chapter.

TABLE 5.2

COMPOSITE SCORES AND RATINGS ON SPECIFIC INDICATORS
FOR STATE ACTIVITY IN THE PROVISION OF
SPECIAL SERVICES TO LM-LEP STUDENTS

State	Percent of Elementary LM-LEPs	State Activity Index - Composite Score	Point Assignment					
			1A Title VII Training Funds	1B Title VII SEA Program	2 Transition Program for Refugee Children	3 State Funds for LM-LEPs	4 Certification Policy	5 State Legislation
Alabama	.19	0	0	0	0	0	0	0
Arkansas	.11	0	0	0	0	0	0	0
Missouri	.34	0	0	0	0	0	0	0
South Carolina	.19	0	0	0	0	0	0	0
West Virginia	.05	0	0	0	0	0	0	0
Georgia	.40	1	1	0	0	0	0	0
Mississippi	.15	1	0	1	0	0	0	0
Nebraska	.16	1	0	0	0	0	1	0
Nevada	.24	1	0	0	0	0	1	0
North Dakota	.04	1	1	0	0	0	0	0
Wyoming	.05	1	0	1	0	0	0	0
Delaware	.10	2	1	0	0	0	1	0
Kentucky	.20	2	0	1	0	0	1	0
Maine	.13	2	1	0	0	0	0	1
Montana	.07	2	1	1	0	0	0	0
North Carolina	.38	2	1	0	0	0	1	0
Pennsylvania	1.90	2	0	0	2	0	0	0
Tennessee	.26	2	0	1	0	0	1	0
Vermont	.03	2	1	0	0	0	1	0
Idaho	.19	3	1	1	0	0	1	0
Indiana	.64	3	0	1	0	0	1	1
Maryland	.66	3	1	0	1	0	1	0
New Hampshire	.09	3	1	0	0	0	1	1
Ohio	1.30	3	1	0	1	0	1	0
Oklahoma	.35	3	1	1	1	0	0	0
South Dakota	.08	3	1	1	0	0	0	1
Utah	.40	3	1	0	1	0	0	1
Virginia	.66	3	1	0	1	0	1	0
Arizona	2.80	4	1	1	0	0	1	1
District of Columbia	.11	4	2	1	0	0	1	0
Florida	3.40	4	0	1	2	0	1	0
Iowa	.30	4	0	0	1	1	1	1
Louisiana	.83	4	1	1	1	0	1	0
Oregon	.59	4	1	1	1	0	0	1
Connecticut	1.28	5	1	1	0	1	1	1
Kansas	.37	5	0	1	1	1	1	1
New Mexico	1.90	5	1	1	0	1	1	1
Texas	20.11	5	1	0	1	1	1	1
Washington	1.18	5	1	0	1	1	1	1
California	31.50	6	0	0	2	2	1	1
Hawaii	.58	6	1	2	0	2	1	0
Rhode Island	.39	6	1	1	1	1	1	1
Alaska	.24	7	2	2	0	2	0	1
Colorado	.90	7	2	2	1	1	0	1
Massachusetts	2.00	7	1	1	1	2	1	1
Michigan	1.14	8	2	2	1	1	1	1
Minnesota	.55	8	1	1	2	2	1	1
New Jersey	3.60	8	2	1	1	2	1	1
Wisconsin	.57	8	2	1	1	2	1	1
Illinois	5.40	9	2	1	2	2	1	1
New York	10.90	9	2	2	2	1	1	1

District officials were asked about the goals of their districts' special instructional services for LM-LEP students. The results are shown in Table 5.3. The 15% of districts that stated that their goals included maintaining and improving the native language proficiency of LM-LEP students varied greatly, both in terms of region and level of state activity. They were located in 13 states around the country, and having this goal did not seem to be associated at all with level of state activity. Furthermore, while half of the districts with native language maintenance as a goal had large numbers of LM-LEP students (201 or more), many of the districts (39%) with this goal had very small LM-LEP populations (from one to ten students). In 96% of these districts, Spanish was the predominant language of the LM-LEP students served.

TABLE 5.3

PERCENTAGE OF SCHOOL DISTRICTS WITH SPECIFIC GOALS FOR SPECIAL INSTRUCTIONAL SERVICES FOR LM-LEP STUDENTS (Unweighted N=186 Districts)

Goal	Percentage of Districts[1]
To bring the English proficiency of LM-LEP students to the level necessary to function effectively in an all-English-medium classroom	100%
To provide the skills (other than the use of the English language) necessary to function effectively in classrooms in U.S. public schools (test-taking skills, expected classroom behaviors, etc.)	91
To familiarize LM-LEP students with American society and culture	81
To provide LM-LEP students with subject-matter content (math, social studies, etc.) in the native language(s) so that they do not fall behind English-proficient students in these subjects	57
To maintain and improve the native language proficiency of LM-LEP students	15

[1] These data are based on the 186 districts for which responses were available. The data from these districts were weighted and represent 97% of districts with LM-LEP students in grades 1-5.

5.4 District Definitions of LM-LEP Student and Entry/Exit Criteria for Services

Sixty-one percent of the school districts reported having an official definition for a language-minority limited-English-proficient (LM-LEP) student. A somewhat larger percentage, 75%, reported setting official entry criteria for eligibility for special LM-LEP services. Ninety-one percent of the districts which did not set entry criteria (25% of districts) had small numbers of LM-LEP students (under 200).

It was further reported that 43% of all school districts had officially defined sub-categories of LM-LEP students. Approximately 14% used the following five categories, based on the Lau categories:

- L1 monolingual;
- L1 dominant;
- L1/L2 balanced;
- L2 dominant; and
- L2 monolingual.

Another 11% used a four-way classification, "beginner/intermediate/transitional/fluent" to categorize their LM-LEP students, while 8% used a three-way classification of "not English-proficient/limited-English-proficient/English-proficient."

District-level entry criteria define which of the LM-LEP students in that district are eligible for special services. The three main factors which districts reported using as entry criteria were: tested oral proficiency in the English language (92%), judgment by school or district personnel of student need (82%), and tested proficiency in reading or writing English (65%). More often than not, two or three of these factors were combined in the district's entry criteria, as shown in Table 5.4. Note that districts which reported using English reading or writing as an entry criterion never used it as the sole entry criterion. A total of 2% of districts reported using other entry criteria, including native language proficiency.

Table 5.4 also includes the percent of LM-LEP students nationally who attended elementary school in districts which reported having particular types of entry criteria. As that table indicates, almost half of all LM-LEP students (46%) were enrolled in districts using English oral proficiency

test scores, reading or writing test scores, and staff judgment as entry criteria.

TABLE 5.4

PERCENTAGE OF DISTRICTS USING SPECIFIC ENTRY CRITERIA FOR SPECIAL SERVICES TO LM-LEP STUDENTS AND PERCENTAGE OF LM-LEP STUDENTS IN THOSE DISTRICTS[1]
(Unweighted N=175 Districts)

Entry Criterion	Percentage of Districts Using Each Criterion	National Percentage of LM-LEP Students by District-Level Entry Criterion
English reading or writing test score only	0%	0%
Staff judgment only	3	0.5
English oral proficiency test score only	4	6
English reading or writing test score and staff judgment	3	0.7
English oral proficiency test score and staff judgment	27	18
English oral proficiency test score and English reading or writing test score	13	28
English oral proficiency test score, English reading or writing test score, and staff judgment	48	46
Other[2]	2	0.3
Total	100%	100%

[1] These data are based on the 175 districts for which responses were available. The data from these districts were weighted and represent 70% of districts with LM-LEP students in grades 1-5.

[2] Consists of entry criteria other than any of the first three factors listed in this table; such factors include parental approval, school or district committee recommendation, or proficiency in native language oral, reading, or writing skills in the native language.

Criteria for exit from special services for LM-LEP students tended to be more complex than the criteria used for entry, as shown in Table 5.5, which presents a comparison of entry and exit criteria. Again, as is clear from an inspection of Table 5.5, districts most often used two or more of these criteria in combination for exit.

TABLE 5.5

COMPARISON OF SCHOOL DISTRICT ENTRY/EXIT CRITERIA FOR SPECIAL LM-LEP SERVICES[1]
(Unweighted N=174 Districts)

Criterion	Percentage of Districts	
	Entry	Exit
Staff Judgment	82%	95%
English Oral Proficiency Test Score	92	94
English Reading or Writing Test Score	65	89

[1] As reported by school districts

It was reported that 68% of districts with entry/exit policies made changes in these policies in the past five years. Forty-one percent of those districts which made changes said the changes were due to state mandates or requirements; 14% said changes were due to new program goals; and 9% said the changes were due to changes in assessment instruments.

A major issue which has confronted the educational community is how long students should participate in special LM-LEP services. In order to look at how local districts approached this issue, data were collected on the length of time which districts allow LM-LEP students to receive services before

they are required to exit from the program. It was found that 82% of districts (which included 86% of LM-LEP students) had no time restriction. Most of the remaining districts had either a three-year (6% of districts) or four-year limitation (6%), though the range was from one to six years. The mean time limitation for special instructional services (i.e., in the districts where there were such limitations) was 3.7 years.

5.5 School Definitions of LM-LEP Student and Entry/Exit Criteria for Special Services

School principals, or their designees, were asked to provide the definition of LM-LEP student used in their schools, and then asked separately to identify the factors used in assigning students to special services and in exiting them from such services. Regarding definitions, the three factors most frequently provided were the same three factors cited most often in the entry criteria set by districts. These were: a student's tested oral proficiency in English (65% of schools); teacher, school or district staff judgment (63% of schools); and a student's tested proficiency in reading and/or writing English (38% of schools). Furthermore, it was often the case that two or three, rather than just one of these factors, were used together in a school's definition of a LM-LEP student. As shown in Table 5.6, 83% of the schools used some form of test score. Interestingly, however, the comparison between factors used by schools in defining LM-LEP students and school districts as program entry criteria indicates that schools tended to use fewer criteria than districts stated as official policy (e.g., 7% of districts reported using a single criterion, while 49% of the schools report using only one).

Although their methods may be less complex than suggested by district criteria, almost all of the schools (98%) reported that they had some formal process for assessing the language-related needs of LM-LEP students and for placing them in instructional and non-instructional services. Most of these schools (75%) indicated that the process for entering first and third-graders was the same.

TABLE 5.6

COMPARISON OF PERCENTAGES OF SCHOOLS USING SPECIFIC FACTORS TO DEFINE LM-LEP STUDENTS WITH PERCENTAGES OF SCHOOL DISTRICTS' PROGRAM ENTRY CRITERIA

Definition Based Upon	Percentage of Schools[1]	Percentage of Districts
English reading or writing test score only	7%	0%
Staff judgment only	17	3
English oral proficiency test score only	25	4
English reading or writing test score and judgment	11	2
English oral proficiency test score and staff judgment	20	28
English oral proficiency test score and English reading or writing test score	5	14
English oral proficiency test score, English reading or writing test score and staff judgment	15	49
Total	100%	100%
Unweighted N	519	174

[1] These data are based on the 519 schools for which responses were available. The data from these schools were weighted and represent 97% of schools with LM-LEP students in grades 1-5.

The factors used in determining students' eligibility for special LM-LEP services are shown in Table 5.7. These data indicate that the percentages of schools using each factor were fairly similar for first and third-grades. However, as one might expect, proficiencies in reading, writing, and mathematics were taken into account more frequently for third-graders than for first-graders.

Procedurally, the assessment process for the first-graders frequently began (in 52% of the schools) within the first month of school; another 25% of the schools reported the assessment process began prior to the start of school;

TABLE 5.7

FACTORS USED (IN SCHOOLS WITH FORMAL ASSESSMENT PROCESSES) IN DETERMINING ELIGIBILITY FOR SPECIAL LM-LEP SERVICES (i.e., ENTRY CRITERIA)[1]

	Percentage of Schools	
	First Grade	Third Grade
Proficiency in speaking English	90%	91%
Proficiency in understanding oral English	85	90
Proficiency in reading English	43	60
Proficiency in speaking or understanding the native language	39	39
Proficiency in writing English	34	50
Proficiency in reading the native language	19	22
Proficiency in mathematics	19	25
Teacher judgment	67	64
Unweighted N	519	435

[1] Percentages total more than 100% for each grade because schools reported multiple factors as part of their entry criteria.

the remaining 13% began their assessment at registration. The assessment process was often initiated at the school office at the time students register for school (in 38% of the schools with formal assessment processes), or in response to a survey of all students or families (in 33% of the schools). Teachers initiated the assessment process at 18% of schools.

In those schools which reported that English proficiency testing was part of the formal assessment procedures, most (83%) reported that testing took place in the school, while 11% of schools reported that formal testing took place in a district assessment center. In 35% of schools, district personnel conducted the testing; classroom teachers did so in 16% of schools; ESL teachers in 11% of schools; resource teachers and aides in 10% of schools; and a combination of individuals in the remaining 28% of schools.

A comparison of the entry criteria for first and third-grade LM-LEP students used by schools with the entry requirements of the districts in which these schools were located revealed a moderately high percentage of agreement. Only in those cases where districts require oral and written tests of English, or oral and written tests plus staff judgment, were schools likely to use less than the district requirements. In such cases they were likely to ignore the required use of written tests of English. In cases where districts did not require staff judgments or tests of oral English, these criteria were frequently added at the school level. A summary of these analyses for first-graders is presented in Table 5.8; the results for third-grade LM-LEP students were almost the same.

The most frequent exit criteria for special LM-LEP services used by schools were the same as the most frequent entry criteria. Specifically, 95% used teacher or other school or district staff judgment, 87% used a measure of student oral proficiency in English, and 61% used a test of student reading and/or writing ability in English. Less than 5% of schools reported that they exit students from special services because of space or other physical limitations on the services, or because of restrictions on the number of

TABLE 5.8

USE OF DISTRICT ENTRY CRITERIA BY SCHOOLS
FOR FIRST-GRADE[1] LM-LEP STUDENTS

District Entry Criteria	Percentage of Districts[2]	Percentage of Schools Using All of and Only Those Criteria Defined By the District	Percentage of Schools Using All of and More than Those Criteria Defined By the District	Percentage of Schools Not Using All of District Criteria	Total
Test of Written English Only	0%	-	-	-	--
Staff Judgment Only	3	0%	100%	0%	100%
Test of Oral English Only	4	48	37	15	100%
Judgment and Test of Written English	2	100	0	0	100%
Judgment and Test of Oral English	28	54	42	4	100%
Tests of Oral and Written English	14	13	31	56	100%
Judgment and Tests of Oral and Written English	49	36	-	64	100%

[1] These patterns are very similar for third-grade LM-LEP students.

[2] Unweighted N: 174 districts and 451 schools.

years which a student may receive services. Use of multiple criteria was the mode, but with no particular combination used by as many as 15% of the schools.

Table 5.9 shows a comparison of district exit requirements with school exit criteria. Where a district's only exit requirement was teacher or other staff judgment, 65% of the schools in the district included this criterion and an additional 35% of them added proficiency testing as an exit factor. Similarly, 98% of the schools in districts which required a measure of student oral and/or reading proficiency in English included such measure(s) in their exit criteria, although a majority of them added teacher or staff judgment as well. In districts which required both teacher or staff judgment and a measure of English oral and/or reading proficiency, 77% of the schools included both of these factors in their exit criteria, while the others did not use one factor or the other.

TABLE 5.9

USE OF DISTRICT EXIT CRITERIA BY SCHOOLS

District Exit Criteria[2]	School Exit Criteria[1]: Teacher or Staff Judgment Only	Test of English Oral and/or Reading Proficiency Only	Judgment and Test of Proficiency	Total
Teacher or Other Staff Judgment Only	65%	0%	35%	100%
Test of English Oral and/or Reading Proficiency Only	2	43	55	100%
Judgment and Test of English Proficiency	5	18	77	100%

[1] Unweighted N: 495 schools.

[2] Unweighted N: 174 districts.

As shown in Table 5.10, the instruments used most frequently to measure oral English skills, for both entry and exit, were the Language Assessment Battery (LAB), the Bilingual Syntax Measure (BSM), and the Language Assessment

TABLE 5.10

PERCENTAGE OF DISTRICTS USING SPECIFIC TESTS AS ENTRY/EXIT CRITERIA FOR LM-LEP SERVICES[1]

Criteria[2]	Percentage of Districts Using Criterion	Percentage of Districts Using Test
Oral English Skills		
Used as Entry Criterion	94%	
Language Assessment Battery (LAB)		26%
Bilingual Syntax Measure (BSM)		24
Language Assessment Scale (LAS)		17
California Achievement Test (CAT)		9
IDEA Proficiency Test		6
Comprehensive Test of Basic Skills (CTBS)		6
Other		12
Unweighted N	154	
Used as Exit Criterion	94%	
Language Assessment Battery (LAB)		24%
Bilingual Syntax Measure (BSM)		24
Language Assessment Scale (LAS)		17
California Achievement Test (CAT)		9
IDEA Proficiency Test		6
Comprehensive Test of Basic Skills (CTBS)		6
Other		14
Unweighted N	144	
English Reading and Writing Skills		
Used as Entry Criterion	65%	
California Achievement Test (CAT)		22%
Language Assessment Battery (LAB)		19
Comprehensive Test of Basic Skills (CTBS)	19	
Stanford Diagnostic Reading Test		5
Other		32
Unweighted N	102	
Used as Exit Criterion	89%	
California Achievement Test (CAT)		23%
Comprehensive Test of Basic Skills (CTBS)	22	
Language Assessment Battery (LAB)		13
Stanford Achievement Test (SAT)		9
Other		33
Unweighted N	138	

[1] These data are based on the 102 to 154 districts for which responses were available. The data from these districts were weighted and represent 42-62% of districts with LM-LEP students in grades 1-5.

[2] Used by itself or in combination with other factors.

Scale (LAS). For measuring English reading and/or writing skills, the most frequently used instruments were the reading subtests of the California Achievement Test (CAT) the Language Assessment Battery (LAB), and the Comprehensive Test of Basic Skills (CTBS).

5.6 Funding of Services to LM-LEP Students

To gain some insight into the total amount of funds used for special services to LM-LEP students in grades K-6, school districts were asked to report (a) the total funds received in the 1983-84 school year from each of several federal programs, from state funding sources, from local funds, and from any other sources; (b) their best estimate of the percentage of those funds used for instructional services for LM-LEP students in grades K-6; and (c) the number of LM-LEP students in grades K-6 served by those funds.

Much of this information was unavailable in many of the school districts, but some information on funding was provided by 84% of the districts in the study's sample. The data reported in this section therefore, refer only to this subgroup. A more thorough picture of funding support would have required a comprehensive audit, which was outside the scope of this project.

Local school district funds were used to support special services for LM-LEP students in 36% of the districts. A closer examination of the data revealed that the larger the total enrollment of the district, the more likely the district would use its own local funds, as shown in Table 5.11. Similarly, as shown in Table 5.12, the percentage of districts using local funds to support special services for LM-LEP students tended to increase as the number of such students in the districts increased. The mean dollar amount per student spent out of local funds for special services in these districts was $570.

Sixty-two percent of districts received funding for special services from the state. The percentage of districts which received state funding did not vary significantly by total student enrollment or number of LM-LEP students in the district, but did vary predictably by state. That is, 82% of the

TABLE 5.11

USE OF LOCAL FUNDS
TO SUPPORT SPECIAL SERVICES FOR LM-LEP STUDENTS
BY TOTAL STUDENT ENROLLMENT OF THE DISTRICT

District Enrollment	Unweighted N	Percentage of Districts in District Enrollment Category Using Local Funds
1-400	24	6%
401-1500	35	40
1501-4000	38	45
4001+	58	83
Total	155[1]	45%

[1] These data are based on the 155 districts for which responses were available. The data from these districts were weighted and represent 82% of districts with LM-LEP students in grades 1-5.

TABLE 5.12

USE OF LOCAL FUNDS
TO SUPPORT SPECIAL SERVICES FOR LM-LEP STUDENTS
BY TOTAL LM-LEP STUDENT ENROLLMENT OF THE DISTRICT

District LM-LEP Student Enrollment	Unweighted N	Percentage of Districts in District LM-LEP Enrollment Category Using Local Funds
1-10	22	14%
11-100	44	48
101-200	17	51
201+	77	64
Total	160[1]	45%

[1] These data are based on the 160 districts for which responses were available. The data from these districts were weighted and represent 82% of districts with LM-LEP students in grades 1-5.

districts receiving state funding were located in states which received a composite score of 6 or higher for state activity in special LM-LEP services. (See Section 5.2 for a discussion of state activity.) It is precisely in these states where one would expect to find districts receiving state funds to support special services for LM-LEP students.

Table 5.13 shows that 21% of the sampled districts received ESEA Title VII (Bilingual Education Act) funding. The mean grant was $125,755, with 78% used for special services for LM-LEP students in grades K-6. A mean of 179 students per district in grades K-6 were served, for a total of $548 per student.

To provide a more comprehensive picture of the use of ESEA Title VII funds, a review was carried out of ESEA Title VII Basic Grant awards to sampled districts over the past five years (FY 80-FY 84). The data showed that 38% of districts had received Title VII Basic Grant funding for one or more of the past five years, and 30% of districts had received this funding for three or more of these years. Sixty-two percent of districts had received no ESEA Title VII Basic Grant funding between FY 80 and FY 84.

The Chapter 1 Consolidated Block Grant program (not including migrant education) was a source of funding for more districts (64%) than was any other funding program. The mean grant for these districts was $382,913, with 25% going for special services for LM-LEP students in grades K-6. The mean number of children served in grades K-6 was 205, for a total of $467 per student.

Similar data for other federal grant programs are also shown in Table 5.13. The reader should be cautioned not to sum the mean amount per student across funding programs. Most of the grant programs are directed at specific types of students; thus, it would be a rare case where any one student would be served by all programs.

Table 5.14 shows the percentage of districts which employ different combinations of federal, state and local funding to support special services for LM-LEP students in grades K-6. As the table shows, the two most frequent funding approaches employed by districts involved a combination of local and state monies (24%), and a combination of state and federal monies from sources other than ESEA Title VII (25%).

TABLE 5.13

FEDERAL FUNDING FOR SERVICES FOR LM-LEP STUDENTS[1]

Federal Grant Program	Percentage of Districts Receiving Funding	Mean Grant Amount	Percentage of Grant Used for LM-LEP Services in Grades K-6[2]	Number of LM-LEP Children Served in Grades K-6[2]	Amount Per LM-LEP Student Served in Grades K-6[2]
Chapter 1 Consolidated Block Grant (not including migrant education)	64%	$382,913	25%	205	$467
Chapter 2 Consolidated Block Grant	49	76,303	18	314	44
Transition Program for Refugee Children	40	46,773	74	82	422
Funding for Handicapped	34	456,445	8	23	1,588
ESEA Title VII (Bilingual Education Act)	21	125,755	78	179	548
Title IV (Indian Education Act)	19	39,293	20	63	125
Chapter 1 - Migrant Education	17	274,153	72	241	819
Head Start and Follow Through	4	203,890	30	46	1,330

[1] 16% of districts did not provide any data at all on funding. Data in this table are based on the remaining 84% of districts (Unweighted N=160).

[2] The entries in the last three columns are based on complex assumptions that stem from the extent to which data were available at the various districts. Therefore, the results are suggestive, and should not be interpreted as being precise.

TABLE 5.14

PERCENTAGE OF DISTRICTS USING DIFFERENT COMBINATIONS OF FEDERAL, STATE AND LOCAL FUNDS TO SUPPORT SPECIAL SERVICES FOR LM-LEP STUDENTS
(Unweighted N=191 Districts)

	Funding Source				
			Federal		
Category	Local	State	ESEA Title VII	Other[1]	Percentage of Districts[2]
1	X				0%
2		X			1
3			X		5
4				X	17
5	X	X			24
6	X		X		0
7	X			X	6
8		X	X		0
9		X		X	25
10			X	X	8
11	X	X	X		4
12	X	X		X	0
13	X		X	X	2
14		X	X	X	8
15	X	X	X	X	0
Total	36%	62%	27%	66%	100%

[1] The "Other Federal" Category includes Chapter 1, Chapter 2, Title IV (Indian Education Act), Transition Program for Refugees, Head Start, Follow Through, and Handicapped funding.

[2] These data are based on the 191 districts for which responses were available. The data from these districts were weighted and represent 54% of districts with LM-LEP students in grades 1-5.

5.7 District Staff Support for Special Services for LM-LEP Students

Local school districts may be involved with, and show support for the special LM-LEP services provided in schools in a variety of ways. Some of these ways have already been discussed; for example, setting policy on the types of services which may be provided, setting entry and exit criteria, and providing funding out of local monies for services. An additional indicator of the direct support which is provided by districts for special services for LM-LEP students is the number of staff members who are employed by the district to work in this area, and the funding sources which are used to pay their salaries. Thus, districts were asked to report the number of full-time and part-time staff members whom they employ to work specifically on special services for LM-LEP students, and the funding sources which they used for pay the salaries of these staff members. Districts were then categorized in terms of (a) whether or not they employed staff members at the district-level whose sole or primary function was the administration of special services for LM-LEP students, (b) how many such staff members they employed, and (c) whether the salaries of these staff members were paid out of non-local (i.e., federal or state) funds, local funds, or some combination of these. The percentage of districts in each category, as well as the mean number of LM-LEP students per district in each category, are shown in Table 5.15. In general, districts with more LM-LEP students had higher levels of support, although the highest support level included districts of moderate size.

TABLE 5.15

PERCENTAGE OF DISTRICTS SHOWING DIFFERENT LEVELS OF STAFF SUPPORT FOR SPECIAL SERVICES FOR LM-LEP STUDENTS[1]

	Percentage of Districts	Mean Number of LM-LEP Students Per District
0 No Support (No full or part-time staff members are employed by the district to work on special LM-LEP services)	10%	34
1 Little Support (District employs only three or fewer part-time staff members and no full-time staff member to work on special LM-LEP services)	5	73
2 Some Support (District employs one or more full-time staff members and/or four or more part-time staff members to work on special services for LM-LEP students, and these staff members are paid entirely out of federal and/or state funds (i.e. no local funds are used)	6	495
3 Moderate Support (District employs one or more full-time staff members and/or four or more part-time staff members to work on special services for LM-LEP students, and these staff members are paid out of some combination of federal and/or state funds and local funds)	28	844
4 Substantial Support (District employs one or more full-time staff members and/or four or more part-time staff members to work on special services for LM-LEP students, and these staff members are paid entirely out of local funds alone)	6	262
Total	100%	
Unweighted N	175	168

[1] These data are based on the 175 districts for which responses were available. The data from these districts were weighted and represent 88-92% of districts with LM-LEP students in grades 1-5.

5.8 Summary

This chapter examined state and local policies and support relating to special services for LM-LEP students. The data came primarily from district and school-level sources, although data concerning state and federal roles were collected from a number of other sources. The major findings are that:

- States with larger numbers of LM-LEP students tended to score higher on an index of state involvement in LM-LEP service provision than did states with smaller numbers of LM-LEP students;
- 97% of districts with LM-LEP students in grades K-6 offered special instructional services to those students;
- Every district offering special services reported that a goal of such services was to bring the English proficiency of LM-LEP students to the level necessary to function effectively in an all-English-medium classrooms; 91% of districts stated a goal of theirs was to provide the skills (other than the use of the English language) necessary to function effectively in public school classrooms; and 15% of districts said a goal was to maintain and improve the native language proficiency of LM-LEP students.
- 75% of districts reported having official criteria for entry into special LM-LEP services; 91% of the districts which did not have official entry criteria had less than 200 LM-LEP students;
- 91% of districts required a combination of at least two of the following three types of methods as criteria for entry into special services: staff judgment, English oral proficiency tests and English reading or writing tests; of the three methods English reading or writing tests were least frequently required;
- Only 18% of districts placed a time limit on student participation in special LM-LEP services, and for these districts the mean time limit was 3.7 years;
- The most frequent exit criteria used by schools were the same as the most frequent entry criteria; 95% used teacher or other school or district staff judgment, 87% used a measure of student oral proficiency in English, and 61% used a test of student reading and/or writing ability in English; multiple criteria were used by some schools to evaluate student exit from services;
- Schools tended to closely adopt the exit requirements of their districts, although they sometimes added others; thus 65% of the schools in a district having the exit requirement of teacher or other staff judgment, used that requirement, although another 35% also added proficiency testing as a second type of exit factor.

- The entry methods used by schools differed from the requirements of their districts in a number of cases; schools often added staff judgment to district requirements as an entry method, and often omitted the required use of tests of written English;

- The most frequent sources of funds to support special services for LM-LEP students were federal Chapter 1 Consolidated Grants (64% of districts) and state grants (50%); ESEA Title VII Bilingual Education grants supported services in 21% of districts;

- Funding to support special services for LM-LEP students was largely a combination of federal and state monies; 75% of the districts received federal funds and 62% received state funds; in 30% of the districts, federal grants were the only source of funding, while in no districts were local funds used exclusively.

- Local funds were used to support special services for LM-LEP students in 36% of districts; local funds were more likely to be used in districts with large total enrollments and large enrollments of LM-LEP students.

CHAPTER 6

PERSONNEL PROVIDING SPECIAL SERVICES

6.1 Introduction

The instructional personnel who provide services to LM-LEP students vary widely in background and experience. To learn more about such personnel and their instructional beliefs and practices, data were collected at the district, school, and individual teacher levels. Data collected at the district-level concerned the number of personnel serving LM-LEP students, and policies affecting those staff. School-level data concerned number of staff members and their language proficiency and special training. Data collected from teachers serving LM-LEP students were collected on a broad variety of issues, including the teachers' training, experience, teaching philosophy, and teaching methods.

6.2 Number of Instructional Personnel

Data provided by districts indicate that in 1983-84, an estimated 44,296 teachers in grades K-6 in the U.S. were offering LM-LEP students special services related to these students' limited English proficiency. There were also an estimated 4,083 special education teachers providing services to LM-LEP students, 4,920 resource or instructional support staff for LM-LEP students (resource teachers, curriculum or materials developers, etc.), and 26,474 paraprofessionals (aides or tutors) serving LM-LEPs in grades K-6.

Data from schools who have LM-LEP students were essentially consistent with the data from the district survey with respect to the number of teachers offering LM-LEP students special services, though about 10% higher (48,711 teachers on the basis of school data as compared with 44,296 on the basis of district data). However, school-based estimates of special education teachers of LM-LEPs (8,669), resource or instructional support staff (14,108), and paraprofessionals (42,681) were all substantially higher than the corresponding district-based estimates. These discrepancies were probably due to several factors, including differences in how districts and schools defined such terms as "special education" and "resource or instructional support," and multiple counting of district-level staff who worked in several schools.

With respect to paraprofessionals, the statistics obtained from schools may also have reflected the inclusion of volunteer aides and tutors who were not included in the counts provided by central office personnel.

Schools serving any LM-LEP students had an average of 4.0 teachers who provided special services, 3.5 paraprofessionals, .8 special education teachers, and 1.1 resource or instructional support staff members. Overall, there was an average of 15.6 LM-LEP students for each teacher offering special services. The average class size for these teachers, was undoubtedly larger, however, since some of the classes included English-proficient students as well as LM-LEP. The teachers were almost all full-time employees (92%), but a majority of the paraprofessionals serving LM-LEP students (56%) were part-time staff members.

Teachers who teach academic subjects to LM-LEP students[1] were not evenly distributed across the grade levels. As Table 6.1 illustrates, there were

TABLE 6.1

PERCENTAGE OF ACADEMIC TEACHERS OF LM-LEP STUDENTS TEACHING AT DIFFERENT GRADE LEVELS (GRADES 1-5) (Unweighted N=4029 Teachers)[1]

Grade Level[2]	Percentage of Teachers[3]
1	35%
2	30
3	31
4	28
5	26

[1] These data are based on the 4,029 teachers from whom responses were available. The data from these teachers were weighted and represent 99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Grades K and 6 are excluded from the table because these grades were underrepresented in the sample.

[3] Percentages total more than 100% because teachers may teach at more than one grade level.

[1] Teachers were included in the study only if they taught mathematics, English, social studies, or science, or if they provided special language instruction.

generally more teachers who had contact with LM-LEP students at the lower than at the higher grade levels. This is not surprising, since there are more LM-LEP students in the lower grades than at higher grade levels. (See Table 3.4, Chapter 3.)

6.3 Experience, Education and Credentials

Data from self-administered teacher questionnaires offered a wealth of information about teachers who provide academic instruction to LM-LEP students. The teacher sample consisted of 4,061 teachers who provided instruction to LM-LEP students in academic subjects (English, mathematics, social studies, science or a language other than English). The data from teachers were weighted so that they were representative of all academic teachers in schools having 12 or more LM-LEP students in either grades 1 or 3. In terms of teaching experience (see Table 6.2), over half of the teachers (54%) had more than ten years of overall teaching experience. About half (49%) had over ten years of experience in teaching grades K-6, but the median in teaching LM-LEP students was considerably less -- just 5.8 years.

TABLE 6.2

PERCENTAGE OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY YEARS AND TYPE OF TEACHING EXPERIENCE

Years of Experience	Percentage of Teachers[1] With: Overall Years of Teaching Experience	Teaching Experience in Grades K-6	Experience in Teaching LM-LEP Students
0-2	7%	9%	18%
3-5	15	17	29
6-10	24	25	30
More than 10	54	49	23
Total	100%	100%	100%
Median Years	11.0	10.7	5.8
Unweighted N	4020	4039	3872

[1] These data are based on the 3,872 to 4,020 teachers from whom responses were available. The data from these teachers were weighted and represent 94-99.5% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Virtually all teachers of LM-LEP students held at least a bachelor's degree (98%) and more than a third (37%) also held a master's degree. Table 6.3 illustrates the percentages of teachers holding different state credentials or university certificates. Almost all teachers (94%) held elementary school teaching credentials or certificates, and more than one-quarter held credentials or certificates in bilingual education.

TABLE 6.3

PERCENTAGE OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY TYPES OF STATE CREDENTIALS OR UNIVERSITY CERTIFICATES
(Unweighted N=4052 Teachers)[1]

Credential or Certificate	Percentage of Teachers[2]
Elementary	94%
Bilingual	28
Secondary	12
Early Childhood	11
English as A Second Language (ESL)	6
Foreign Language	5
All Levels	3
Other	16

[1] These data are based on the 4,052 teachers from whom responses were available. The data from these teachers were weighted and represent 99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Percentages total more than 100% because teachers may have more than one credential or certificate.

As another measure of training, school-level respondents were asked to indicate how many of their teachers and paraprofessionals who offer special services to LM-LEP students in grades K-6 had received college or in-service training relating to such services. Schools reported that approximately 60% of teachers and 56% of paraprofessionals had received college or in-service training in providing education for LM-LEP students.

District respondents were asked if their districts required teachers of LM-LEP students to have state or district ESL or bilingual education certification. In 25% of the districts, there was no such state or district certification, so the question was not applicable. Of the remaining 75% of districts, 84% did require certification of teachers.

In a number of districts where certification was required, however, some teachers of LM-LEP students had only provisional certification or a waiver. Table 6.4 shows the extent to which waivers and provisional certification were used. Only 16% of the districts had no provision for waivers. Among the other 84% of districts, the median district had 12% of its teachers under waiver.

Information gathered on other school district policies affecting teachers of LM-LEP students revealed that 85% of districts required current state teaching certification, 44% required provisional state teaching certification for those without full certification, 36% required attendance at a specified amount of in-service training focused on working with LM-LEP students, and 28% required an acceptable level of performance or a proficiency examination in a language other than English. (It should be noted that 13% of school districts reported requiring neither current nor provisional teaching certification for teachers of LM-LEP students.) More than 95% of districts reported that their policies relating to tenure, promotion, and salary scales were the same for teachers of LM-LEP students as for other K-6 teachers. In 10% of districts, teachers of LM-LEP students had different requirements from those for other K-6 teachers with respect to the amount of in-service training or continuing education which is needed.

6.4 Subject Area Responsibilities of Teachers

On the basis of study data, three categories of teachers were distinguished: teachers who only taught English language arts, those who taught English and at least one other content area, and those who did not teach English at all. As shown in Table 6.5, most teachers (73%) were responsible for English and various other subject areas as well. This table also presents the percentage of teachers who were responsible for particular academic subjects, again indicating that most teachers of elementary school LM-LEPs teach a variety of subject areas.

TABLE 6.4

PERCENTAGES OF ACADEMIC TEACHERS OF LM-LEP STUDENTS WITHIN DISTRICTS UNDER WAIVER OR PROVISIONAL CERTIFICATION OF A CERTIFICATION REQUIREMENT
(Unweighted N=97 Districts)[1]

Percentage of Teachers Waived or Provisionally Certified	Percentage of Districts
No waiver allowed	16%
0%	21
1-10	20
11-25	11
26-50	12
51-75	5
76-89	1
90-99	0
100	14
	100%
Median	12%

[1] These data are based on the 97 districts for which responses were available. The data from these districts were weighted and represent 87% of districts with LM-LEP students in grades 1-5.

TABLE 6.5

PERCENTAGE OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY SUBJECT AREA RESPONSIBILITIES
(Unweighted N=3940 Teachers)[1]

By Range of Subject Area:	Percentage of Teachers
English only	8%
English and other content areas	73
Subject(s) other than English only	19
By Subject Area[2]:	
English	81%
Mathematics	89
Science	82
Social Studies	83
Ethnic Heritage	60
Language other than English	32

[1] These data are based on the 3,940 teachers from whom responses were available. The data from these teachers were weighted and represent 99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Subject area percentages total more than 100% since some teachers teach more than one academic subject.

Table 6.6 indicates that teachers with bilingual and ESL credentials were more likely to be teaching English than were teachers without these credentials, and that there was a small percentage of bilingual and ESL certified teachers who reported they were not teaching English language skills to their LM-LEP students.

TABLE 6.6

PERCENTAGES OF ACADEMIC TEACHERS WITH VARIOUS TYPES OF CREDENTIALS WHO TEACH ENGLISH[1]

Type of Credential	Unweighted N	Percentage of Teachers Teaching English
Bilingual Only	1244	90%
ESL Only	118	87
Bilingual and ESL	132	83
Elementary Only - No Bilingual or ESL	2384	77
Other Credentials	113	78

[1] These data are based on the 3,991 teachers from whom responses were available. The data from these teachers were weighted and represent 98% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Table 6.7 indicates that teachers with bilingual credentials were more likely to be teaching a language other than English than were teachers without these credentials.

6.5 Types of Classes Taught

The academic teachers included in this study varied in the number and types of classes which they taught. Table 6.8 describes the distribution of teachers based on the number and types of classes taught. As can be seen, 59% of those who taught academic subjects to LM-LEP students taught more than one group of students.

TABLE 6.7

PERCENTAGES OF ACADEMIC TEACHERS WITH VARIOUS TYPES OF CREDENTIALS WHO TEACH A LANGUAGE OTHER THAN ENGLISH[1]

Type of Credential	Unweighted N	Percentage of Teachers Teaching A Language Other Than English
Bilingual Only	1233	62%
ESL Only	116	16
Bilingual and ESL	133	50
Elementary Only - No Bilingual or ESL	2360	20
Other Credentials	111	14

[1] These data are based on the 3,953 teachers from whom responses were available. The data from these teachers were weighted and represent 97% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

TABLE 6.8

PERCENTAGE OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY NUMBER AND TYPES OF CLASSES TAUGHT (Unweighted N=3978 Teachers)[1]

Class or Classes Taught	Percentage of Teachers
Single Group - All LM-LEP Students	8%
Single Group - LM-LEP and English-Proficient Students	25
Several Groups - All LM-LEP Students	12
Several Groups - LM-LEP and English-Proficient Students	47
Other Types of Classes	8
Total	100%

[1] These data are based on the 3,978 teachers from whom responses were available. The data from these teachers were weighted and represent 98% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

The number and types of classes taught varied, based on the credentials of the teacher. As is shown in Table 6.9, teachers with bilingual credentials were more likely to teach a single group made up entirely of LM-LEP students, while teachers with ESL credentials were more likely to teach multiple groups made up entirely of LM-LEP students. The number and types of classes taught also varied according to the teacher's ability to speak another language. Teachers who spoke a language other than English were more likely to teach a group or groups made up entirely of LM-LEP students (see Table 6.10).

TABLE 6.9

PERCENTAGE OF ACADEMIC TEACHERS TEACHING DIFFERENT TYPES OF CLASSES BY TEACHER CREDENTIAL (Unweighted N=3939 Teachers)[1]

	Credential of Teacher				
Class or Classes Taught	Bilingual	ESL	Bilingual and ESL	Elementary Only-No Bilingual or ESL	Other
Single Group - All LM-LEP Students	18%	8%	25%	4%	10%
Single Group - LM-LEP and English-Proficient Students	20	16	10	28	28
Several Groups - All LM-LEP Students	20	44	31	6	11
Several Groups - LM-LEP and English-Proficient students	34	27	29	55	41
Other Types of Classes	9	5	6	8	9
	100%	100%	100%	100%	100%

[1] These data are based on the 3,939 teachers from whom responses were available. The data from these teachers were weighted and represent 96% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

TABLE 6.10

NUMBER AND TYPES OF CLASSES TAUGHT BY ACADEMIC TEACHERS CLASSIFIED IN TERMS OF ABILITY TO SPEAK ANOTHER LANGUAGE (Unweighted N=3975 Teachers)[1]

Class or Classes Taught	Whether or Not Teacher Speaks A Language Other than English: Yes	No
Single Group - All LM-LEP Students	15%	2%
Single Group - LM-LEP and English-Proficient Students	19	30
Several Groups - All LM-LEP Students	18	5
Several Groups - LM-LEP and English-Proficient Students	39	56
Other Types of Classes	9	8
	100%	100%

[1] These data are based on the 3,975 teachers from whom responses were available. The data from these teachers were weighted and represent 98% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

The teachers also differed in the number of language groups of LM-LEP students which they taught. Most academic teachers (61%) worked with only one language group, but a number worked with two (17%), or three or more (22%) language groups. As might be expected, teachers with bilingual credentials were much more likely than other teachers to teach only one language group, while teachers with ESL credentials were more likely to teach three or more language groups (see Table 6.11). Overall, the language groups most frequently taught were Spanish (86% of academic teachers), Vietnamese (10%), Hmong (7%) Chinese (6%), Cambodian (6%), Arabic (5%), Lao (5%), Tagalog (4%), Korean (4%), and Greek (4%).

TABLE 6.11

NUMBER OF LANGUAGE GROUPS TAUGHT BY TYPE OF CREDENTIALS OF ACADEMIC TEACHERS
(Unweighted N=3797 Teachers)[1]

Number of Language Groups Taught	Credential of Teacher: Bilingual	ESL	Bilingual and ESL	Elementary but Not Bilingual or ESL	Other
One	89%	44%	78%	51%	53%
Two	7	9	10	21	20
Three or more	4	46	12	28	27
	100%	100%	100%	100%	100%

[1] These data are based on the 3,797 teachers from whom responses were available. The data from these teachers were weighted and represent 98% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

The number of students taught by a teacher depended to a great extent on the number of classes taught. As Table 6.12 illustrates, teachers who taught several groups taught more students overall. The relative proportions of language-minority students[2] and LM-LEP students in such classes were nearly the same, however.

[2] The term "language-minority student" was defined for study purposes as: "A student in whose home a non-English language typically is spoken. Such students may include those whose own English is fluent enough to benefit from instruction in academic subjects offered in English, and students whose English proficiency is limited." This definition was printed on all self-administered questionnaires.

TABLE 6.12

MEAN NUMBER OF TOTAL STUDENTS, LANGUAGE-MINORITY STUDENTS, AND LM-LEP STUDENTS BY NUMBERS AND TYPES OF CLASSES TAUGHT[1]

Number and Type of Classes Taught by Teacher	Total Students (All Classes) Mean No. of Students Taught Per Teacher	Language-Minority Students: Mean No. of LMs Taught Per Teacher	Language-Minority Students: Percentage Who Are LM	LM-LEP Students: Mean No. of LM-LEPs Taught Per Teacher	LM-LEP Students: Percentage Who Are LM-LEP
One Group - All LM-LEP Students[2]	26.3	24.8	94%	22.4	85%[2]
One Group - LM-LEP and English Proficient Students	29.0	13.7	47	7.5	26
Several Groups - All LM-LEP Students[2]	42.0	39.9	95	37.0	88[2]
Several Groups - LM-LEP and English Proficient Students	38.9	19.6	50	9.6	25
Other Types of Classes	40.7	19.3	47	11.5	28
All Teachers	35.8	21.0		13.7	
Unweighted N	3866	3913		3759	

[1] These data are based on the 3,759 to 3,866 teachers from whom responses were available. The data from these teachers were weighted and represent 98% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] These two sets of teachers stated that they taught classes composed entirely of LM-LEP students, yet other responses indicated that their classes contained somewhat less than 90% LM-LEP students. It is probable that these teachers mentally 'rounded off' their enrollments, and therefore characterized their primarily LM-LEP classes as being 'all LM-LEP' for questionnnaire purposes.

6.6 Native Language Abilities of Teachers

Another important characteristic of academic teachers of LM-LEP students is their ability to speak languages other than English which students also speak. Overall, 50% of teachers of LM-LEP students spoke such a language. As Table 6.13 illustrates, the other language was almost always Spanish.

TABLE 6.13

LANGUAGES OTHER THAN ENGLISH SPOKEN BY ACADEMIC TEACHERS WHICH LM-LEP STUDENTS IN THEIR DISTRICT ALSO SPEAK
(Unweighted N=2234 Teachers)[1]

Languages Other Than English Spoken	Percentage of Teachers
Spanish Only	88%
Another European Language Only	3
An East Asian Language Only	2
A Southeast Asian Language Only	0
A Native American Language Only	1
Another Language Only	2
Two or More Languages in Different groups	4
	100%

[1] These data are based on the 2,234 teachers from whom responses were available. The data from these teachers were weighted and represent 96% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3. (However, 50% of teachers in the sample are not included because they do not speak a language other than English.)

About 90% of those who reported they could speak another language indicated that they also could read or write that language.

Teachers who spoke another language were more likely to be at lower elementary rather than upper elementary levels. Table 6.14 shows the percentage of teachers at various grade level groupings who spoke a language other than English which their students also spoke.

TABLE 6.14

PERCENTAGE OF ACADEMIC TEACHERS WITH SPEAKING ABILITY IN LM-LEP STUDENTS' NATIVE LANGUAGE BY GRADE TAUGHT

Grade Range	Unweighted N[1]	Percentage with Speaking Ability
K-1	1129	55%
2-3	1503	51
4-5-6	1166	46
All Levels	229	48

[1] These data are based on the 4,027 teachers from whom responses were available. The data from these teachers were weighted and represent 99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

Teachers were asked if they considered themselves to be members of a language-minority group (defined for study purposes as "a community of people in which some or all of the members use among themselves a language other than English, alone or in combination with English"). About a third of the teachers (32%) so identified themselves. Most of these teachers (85%) were Spanish; there were also small numbers who belonged to the Chinese (3%) and Tagalog-speaking (2%) minority groups. None of the remaining language-minority categories included as many as 2% of language-minority teachers. Thus, the percentage of Spanish language-minority teachers was slightly higher than the percentage of Spanish language-minority LM-LEP students in the same schools (85% versus 78%). Of the teachers who identified themselves as being Spanish-language-minority, 66% of them described themselves as Mexican or Mexican-American, 14% as Puerto Rican, and 12% as Cuban.

6.7 Philosophy of Instruction

LM-LEP students can be taught by using a number of approaches, which in turn reflect alternative instructional philosophies. A series of 14 statements concerning instructional philosophy were therefore presented to academic teachers of LM-LEP students, and they were asked to rate the extent of their agreement or disagreement with each statement on a four-point scale. "Don't know/no opinion" was also available as a fifth response option.

Table 6.15 presents the responses of academic teachers to those statements.[3] As can be seen, there was general agreement among teachers on many of the statements; for 8 of the 14 statements, however, over a quarter of the teachers (27% or more) had positions in opposition to the most prevalent one. The most controversial statements were those relating to the difficulty of learning content areas in more than one language, the advisability of using concurrent translation, and the advisability of teaching reading in the native language.

Responses of academic teachers with different types of credentials were compared on six philosophy statements specifically relating to native language usage (see Table 6.16). These results indicated that teachers with bilingual credentials were more likely than others to agree with statements which stressed the importance and usefulness of native language usage.

In addition, the responses of teachers who did and did not speak a language other than English which the LM-LEP students in their classes also spoke were compared on the same six statements (see Table 6.17). Teachers who spoke a language other than English were much more likely to stress the importance and usefulness of native language usage. Both of these variables (credentials and knowledge of another language) thus appear to be moderately related to teaching philosophy.

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[3] The table is ordered by the mean extent of agreement (the right column of the table).

TABLE 5.15

EXTENT OF AGREEMENT WITH EDUCATIONAL PHILOSOPHY STATEMENTS BY ACADEMIC TEACHERS OF LM-LEP STUDENTS (Unweighted N=4025 Teachers)[1]

Statement[2]	Strongly Disagree (1)	Disagree (2)	Don't Know/ No Opinion (2.5)	Agree (3)	Strongly Agree (4)	Mean Rating[2]
LM-LEP students learn English best by using it to communicate inside and outside the classroom	1%	2%	4%	43%	51%	3.5
LM-LEP students who have a good control over oral English learn to read in English more easily than those whose oral English is weak	1	9	6	44	39	3.2
The grammatical difficulty of lessons for LM-LEP students is at least as important a consideration in lesson planning as are the lessons' contents	1	9	12	61	17	3.0
The main purpose served by special instruction for LM-LEP students is to reduce or eliminate their language deficit	4	12	10	53	20	2.9
LM-LEP students who have learned good conversational English are ready for content area instruction given entirely in English	5	24	4	43	25	2.9
LM-LEP students need to develop skills in their native language similar to the skills they develop in English	7	20	7	42	24	2.9

(continued on next page)

TABLE 6.15

EXTENT OF AGREEMENT WITH EDUCATIONAL PHILOSOPHY STATEMENTS BY ACADEMIC TEACHERS OF LM-LEP STUDENTS
(Unweighted N=4025 Teachers)[1]

Statement[2]	Strongly Disagree (1)	Disagree (2)	Don't Know/ No Opinion (2.5)	Agree (3)	Strongly Agree (4)	Mean Rating[2]
A teacher best uses a LM-LEP student's native language to support primary instruction given in English, rather than using it as a primary language of instruction	7%	17%	13%	43%	21%	2.8
LM-LEP students learn English better if all their mistakes are detected and corrected as early as possible	6	24	8	42	21	2.8
LM-LEP students' ability to speak English develops more slowly than their ability to comprehend English	7	24	9	39	21	2.8
How well LM-LEP students know their native language is important in deciding how or what to teach them in school	4	23	16	41	16	2.8
LM-LEP students learn to read English best if they are first taught to read their native language	9	25	18	23	24	2.7
Learning content area knowledge in two languages more than doubles the learning effort for a LM-LEP student	7	30	19	32	12	2.6

(continued on next page)

TABLE 6.15

EXTENT OF AGREEMENT WITH EDUCATIONAL PHILOSOPHY STATEMENTS BY ACADEMIC TEACHERS OF LM-LEP STUDENTS (Unweighted N=4025 Teachers)[1]

Statement[2]	Strongly Disagree (1)	Disagree (2)	Don't Know/ No Opinion (2.5)	Agree (3)	Strongly Agree (4)	Mean Rating[2]
LM-LEP students are helped by having content area lessons, given in English, concurrently translated into their native language	7%	28%	19%	39%	7%	2.6
If LM-LEP students are taught content areas in their native language at home, the school does not need to teach these content areas in that language	22	39	12	18	9	2.2

[1] These data are based on the 4,025 teachers from whom responses were available. The data from these teachers were weighted and represent 99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Based on a four-point rating scale: 1 = Strongly Disagree to 4 = Strongly Agree. The "Don't Know or No Opinion" category was assigned a rating scale midpoint value of 2.5.

TABLE 6.16

MEAN EDUCATIONAL PHILOSOPHY RATINGS OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY TYPE OF TEACHER CREDENTIALS[1] (Unweighted N=3984 Teachers)[1]

Statement[2]	Credential: Bilingual	ESL	Bilingual and ESL	Elementary only No Bilingual or ESL	Other
LM-LEP students need to develop skills in their native language similar to the skills they develop in English	3.3	2.6	3.0	2.7	2.7
A teacher best uses a LM-LEP student's native language to support primary instruction given in English, rather than using it as a primary language of instruction	2.6	2.7	2.9	2.9	2.9
How well LM-LEP students know their native language is important in deciding how or what to teach them in school	3.1	2.7	3.1	2.6	2.6
LM-LEP students learn to read English best if they are first taught to read their native language	3.3	2.6	3.0	2.7	2.7
Learning content area knowledge in two languages more than doubles the learning effort for a LM-LEP student	2.6	2.8	2.7	2.6	2.7
LM-LEP students are helped by having content areas, given in English, concurrently translated into their native language	2.5	2.5	2.5	2.6	2.5

[1] These data are based on the 3,984 teachers from whom responses were available. The data from these teachers were weighted and represent 98-99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

2 Scale: 1 = Strongly Disagree, 2 = Disagree, 2,5 = Don't Know or No Opinion, 3 = Agree, 4 = Strongly Agree

TABLE 6.17

MEAN EDUCATIONAL PHILOSOPHY RATINGS OF ACADEMIC TEACHERS OF LM-LEP STUDENTS BY THEIR ABILITY TO SPEAK A LANGUAGE OTHER THAN ENGLISH (Unweighted N= 4022 Teachers)[1]

Statement[2]	Able To Speak Another Language	
	Yes	No
LM-LEP students need to develop skills in their native language similar to the skills they develop in English	3.1	2.6
A teacher best uses a LM-LEP student's native language to support primary instruction given in English, rather than using it as a primary language of instruction	2.7	2.9
How well LM-LEP students know their native language is important in deciding how or what to teach them in school	3.0	2.5
LM-LEP students learn to read English best if they are first taught to read their native language	3.1	2.4
Learning content area knowledge in two languages more than doubles the learning effort for a LM-LEP student	2.6	2.6
LM-LEP students are helped by having content areas given in English concurrently translated into their native language	2.6	2.5

[1] These data are based on the 4,022 teachers from whom responses were available. The data from these teachers were weighted and represent 98-99% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Scale: 1 = Strongly Disagree, 2 = Disagree, 2.5 = Don't Know or No Opinion, 3 = Agree, 4 = Strongly Agree

6.8 Summary

This chapter describes characteristics of those persons providing special services to LM-LEP students. Information is presented concerning the number of staff members, district personnel policies, training and experience of staff, subjects taught, number and types of groups taught, language abilities, educational philosophy, and classroom management techniques. The data came from districts, schools, and individual teachers.

The major findings are that:

- The average school serving any LM-LEP students in grades 1-5 had 4.0 teachers, 3.5 paraprofessionals, .8 special education teachers, and 1.1 resource or instructional support persons providing special services to LM-LEP students;
- Teachers providing academic instruction to LM-LEP students had a median of 10.7 years of teaching experience in grades K-6, and 5.8 years of experience teaching LM-LEP students;
- 94% of academic teachers of LM-LEP students had elementary teaching credentials or certificates, 28% had bilingual credentials; 12% had secondary school credentials, 11% had early childhood credentials, and 6% had ESL credentials.
- Schools reported that approximately 60% of teachers and 56% of paraprofessionals had received college or in-service training related to teaching LM-LEP students;
- Most academic teachers of LM-LEP students taught a variety of subject areas; however, 8% taught only English, and 19% taught other subjects but not English;
- Approximately 20% of academic teachers of LM-LEP students taught only LM-LEP students; the percentage of teachers teaching only LM-LEP students was particularly high for teachers with ESL credentials (52%), bilingual credentials (38%), or both (56%);
- Most academic teachers (61%) worked with only one language group of LM-LEP students, but a number worked with two (17%) or three or more (22%) language groups; teachers with bilingual credentials were most likely to work with only one language group, while those with ESL credentials were most likely to work with three or more groups;
- 50% of academic teachers of LM-LEP students reported speaking a language other than English which their students also speak; in 88% of the cases where the teacher spoke another language, that language was Spanish;
- Teachers with bilingual credentials and teachers who spoke another language were more likely to stress the importance and usefulness of native language usage as part of their teaching philosophy than were other teachers.

CHAPTER 7

INSTRUCTIONAL CONTEXTS

7.1 Introduction

Within a particular public elementary school setting, services differ not only in type of instructional personnel (as discussed in Chapter 6), and in the instructional procedures used (as discussed in Chapter 8), but also in the organizational structures or contexts within which instruction takes place. The type of school, classroom grouping arrangements, linguistic composition of the class, English language proficiency of the students' classmates, the roles of parents and of the language-minority community each may influence academic performance. These characteristics, which provide the context in which instruction takes place, are the principal focus of this chapter.

In this study, descriptions of the contexts for instructional services provided to LM-LEP students were obtained from four sources: (a) the responses to the Teacher Questionnaire provided by teachers of academic subjects to LM-LEP students at all visited schools; (b) the Student Instructional Questionnaire, in which teachers of sampled students described the contexts and instruction provided to individual LM-LEP students; (c) the School Characteristics Questionnaire, in which principals or their designees described school programs; and (d) the School District Services Questionnaire in which district-level officials described general policies and programs.

7.2 School Environments Within Which Services Are Provided

Data on the physical environment and student composition of classes in which special services for LM-LEP students were provided were collected at the district, school, and classroom levels. Most services were provided in regular elementary schools rather than in special facilities. Overall, the predominant instructional grouping pattern was one in which LM-LEP students were provided with special services in regular or mainstream classrooms which contained some English-proficient students, where they remained for all or most of the school day.

As shown in Table 7.1, most districts (84%) reported that at least some of their special services were provided in regular (mainstream) classrooms, but 67% reported some use of specially designated classrooms in regular elementary schools. Relatively few districts used special facilities, such as magnet schools, newcomer centers or schools, or neighborhood or community centers to serve LM-LEP students.

TABLE 7.1

TYPES OF FACILITIES USED BY DISTRICTS TO PROVIDE SPECIAL INSTRUCTIONAL SERVICES TO LM-LEP STUDENTS IN GRADES K-6[1]

Type of Instructional Facility	Unweighted N	Percentage of Districts Offering Special Services[2]
Regular (Mainstream) Classrooms in Regular Elementary Schools	176	84%
Specially Designated Classrooms in Regular Elementary Schools	174	67
Magnet Schools	184	13
Newcomer Centers or Schools	180	5
Neighborhood or Community Centers	173	1

[1] These data are based on the 173 to 184 districts for which responses were available. The data from these districts were weighted and represent 82-94% of districts with LM-LEP students in grades 1-5.

[2] Percentages total more than 100% since districts were asked to check all facilities which were applicable.

The data presented in Table 7.2 indicate that the prevailing pattern was for LM-LEP students to be grouped together for all or most of the day. When students were pulled out of class for instruction by someone other than their regular classroom teacher or aide it was usually only for short periods. In over a third of the schools, some LM-LEP students were together for the entire academic day. (The data are presented separately for grades K-3 and 4-6 in order to show differences in practices for lower elementary and middle grades.)

TABLE 7.2

PERCENTAGE OF SCHOOLS USING DIFFERENT LM-LEP STUDENT GROUPING PATTERNS BY GRADE RANGE
(Unweighted N=490 Schools)

LM-LEP Student Groupings	Percentage of Schools With:[1] Grade K-3 Classes[2]	Grade 4-6 Classes[2]
Students are together for a full day's instruction (not including gym, music, or art)	42%	35%
Students are together for most of the day's instruction, but some are pulled out for short periods of special instruction	59	58
Students are brought together from various homerooms, and they are together for two or more periods of instruction	18	23
Students are brought together from various homerooms, and they are together for only one period of instruction	32	34

[1] Percentages total more than 100% since schools reported all groupings which were applicable.

[2] These data are based on the 490 schools for which responses were available. The data from these schools were weighted and represent 91% of schools with LM-LEP students in grades 1-5.

Table 7.3 shows the distribution of class sizes in which LM-LEP students were taught. The question eliciting these data concerned classes in which at least one LM-LEP student was enrolled. Thus, although the data indicate that over two-thirds of the schools had LM-LEP students who were taught in relatively large classes (i.e., in classes with more than 20 students), it should not be inferred from these data that all (or even most) of the students in those classes were LM-LEP students.

TABLE 7.3

PERCENTAGE OF SCHOOLS IN WHICH LM-LEP STUDENTS WERE TAUGHT IN CLASSES OF DIFFERENT SIZES
(Unweighted N=490 Schools)

Class Size	Percentage of Schools With:[1] Grade K-3 Classes[2]	Grades 4-6 Classes[2]
1-2 Students	15%	18%
3-5 Students	17	17
6-10 Students	15	12
11-20 Students	18	13
Over 20 Students	70	69

[1] Percentages total more than 100% since schools reported all applicable class sizes.

[2] These data are based on the 490 schools for which responses were available. The data from these schools were weighted and represent 92% of schools with LM-LEP students in grades 1-5 for grades K-3 data, and 85% for grades 4-6 data.

Indeed, as shown in Table 7.4, most schools mixed LM-LEP students with English-proficient students for at least part of the school day. Over half of the principals of schools reported that they had classes in which students from various language-minority backgrounds were mixed with English-language-background students. About a third of the schools had classes in which students from a single language background were mixed with English-proficient students. However, slightly over one-quarter of the schools reported that they had classes in which all students were from the same language-minority background.

TABLE 7.4

STUDENT LANGUAGE CHARACTERISTICS OF CLASSES
IN WHICH LM-LEP STUDENTS ARE TAUGHT
(Unweighted N=493 Schools)

Student Language Characteristics	Percentage of Schools With:[1] Grade K-3 Classes[2]	Grade 4-6 Classes[2]
Students from various language-minority backgrounds are mixed with English-language-background students	58%	60%
Students from a single minority background are mixed with English-language-background students	35	32
Students are from various language-minority backgrounds	30	33
All students are from the same language-minority background	29	26

[1] Percentages total more than 100% since schools were asked to report all applicable class groupings.

[2] These data are based on the 493 schools for which responses were available. The data from these schools were weighted and represent 92% of schools with LM-LEP students in grades 1-5 for grades K-3 data, and 84% for grades 4-6 data.

7.3 Classroom Grouping Arrangements

Data from the Student Instructional Questionnaire on the kinds of group (whole class, large group, small group, or tutorial) in which instruction is presented to the children in the student sample are summarized in Table 7.5. The types of grouping arrangements used did not differ by grade; the data presented therefore combine results for grades 1 and 3. Some differences in the types of groupings used did occur; however, between the subject areas of mathematics and English, as shown in Table 7.5. Although in both subject areas, whole-class and small-group instruction were the most frequent types of instruction of LM-LEP students, both types of grouping were more prevalent for mathematics than for English. Small groups, or a combination of small group and whole class instruction, were more frequently used for English instruction.

TABLE 7.5

PERCENTAGE OF FIRST AND THIRD-GRADE LM-LEP STUDENTS TAUGHT IN VARIOUS INSTRUCTIONAL GROUPINGS FOR ENGLISH AND MATHEMATICS

Form of Instructional Group	English	Mathematics
Whole Class	23%	28%
Large Group	13	21
Small Group	38	29
Tutorial	1	1
Whole Class and Small Group	10	6
Whole Class, Small Group, and Tutoring	4	4
Other Combinations	12	11
Total	100%	100%
Unweighted N	1571[1]	1562

[1] These data are based on the 1,562 to 1,571 students about whom responses were available. The data about these students were weighted and represent 97% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

7.4 English Language Proficiency of Other Language Students

One of the factors that determines the extent of LM-LEP students' exposure to English is the degree to which other students in their classes are proficient in English. This variable is particularly relevant when the majority of students in classes attended by LM-LEP students belong to language-minorities. As shown in Table 7.6, the most common situation in both the first and third-grades was one in which some language-minority students were proficient in English, while most were limited-English-proficient. However, the data also indicated that third-grade students were less likely than first-grade students to be in classes in which all of the language-minority students were limited in

English proficiency, and more likely to be in classes in which most of the language-minority students were considered by the teacher to be proficient speakers of English.

TABLE 7.6

ENGLISH PROFICIENCY LEVELS OF LANGUAGE-MINORITY CLASSMATES OF FIRST AND THIRD-GRADE LM-LEP STUDENTS

English Proficiency Level of Language-Minority Classmates	Percent Of LM-LEP Students	
	Grade 1	Grade 3
A. All are Limited-English-Proficient	32%	17%
B. Some are proficient in English but most are Limited-English-Proficient	45	46
C. Most are proficient in English	11	23
D. Both A and B[1]	6	5
E. Both A and C[1]	3	3
F. Both B and C[1]	3	6
Total	100%	100%
Unweighted N	790[2]	777

[1] Students in this group receive instruction in two different types of classrooms, as indicated.

[2] These data are based on the 1,567 students about whom responses were available. The data about these students were weighted and represent 98% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

7.5 Native Language Proficiency of Other Language-Minority Students

When classes include several students from a single language group, the native language proficiency levels of these students will have implications for the amount of English used among the students. If students are proficient in their native language, much of their informal conversation with classmates is likely to be in the native language rather than English.

Teachers completing the Student Instructional Questionnaire for members of the first and third-grade sample of LM-LEP students indicated that about 75% of these students were in classes where some of the other language-minority students were proficient in their native language and some were not. Approximately 16% of the LM-LEP students in both grades were reported to be in classroom situations where all of the other language-minority students were considered to be highly proficient in their native language. Assuming the validity of the data,[1] it appears that language-minority students in general are maintaining proficiency in their native language as they progress through schools, or at least that the same mix of native language abilities is present at both grades 1 and 3.

7.6 Parental and Community Involvement

Members of language-minority communities sometimes participate in designing and providing services to LM-LEP students. Indeed, in districts which receive Title VII ESEA federal funding, the development of a Parent Advisory Council is required. Because of such participation, services may be made more relevant, and therefore students may be more motivated to take part in them. Parents may also perform such important classroom functions as translating and tutoring.

School-level personnel were therefore asked to provide information on the number of hours per week contributed by all volunteers from language-minority communities, and also to specify in what types of activities these volunteers were engaged. Fifty-two percent of schools did not have any volunteer involvement by members of language-minorities. In the 48% of schools in which there was some such volunteer activity, the mean amount per school was 10.4 hours. Of the time spent by volunteers, approximately 39% was devoted to instructional services, and the remaining 61% to non-instructional services.

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[1] Since these data were based on the judgments of the teachers completing the forms, they are valid only to the degree that the teachers themselves were proficient in the students' native language or had an accurate assessment of the students' proficiency available to them.

The amount of volunteer involvement by members of the language-minority community was significantly related to the numbers and percentages of LM-LEP students in the school. The total number of volunteer hours correlated .37 with the number of LM-LEP students in the school, and .31 with the percentage of LM-LEP students in the overall school population.

Table 7.7 indicates that members of language-minorities were involved in their children's schools in several ways. Of the 12 types of involvement listed in the table, there was a mean of 3.3 per school. Although some of these types of involvement are not truly volunteer activities, they are included to give a fuller picture of language-minority participation. As Table 7.7 indicates, adult members of language-minority communities participated most often in four types of school involvement activities: serving as classroom volunteers (stated by 47% of schools), helping to improve communication and interpersonal relations among LM-LEP parents and school staff (45%), serving on school-level advisory committees (42%), and serving as information resources for the school on LM-LEP student-related topics (40%).

To analyze further the data on involvement of adult members of language-minorty communities, several composite indices were constructed. A total of 92% of schools stated that their language-minority, adult community members were offering assistance in instructional roles (at least one of items a, f, g, h, and k in Table 7.7.). A total of 75% of schools stated that adult members of the language-minority community were assisting in governance or decision-making roles as members of advisory committees (i.e., either item c or e). Furthermore, 85% of schools received assistance in improving school and community relations (either item b or d), while 33% of schools received non-instructional assistance from adult language-minority community members (either item i or j).

Another composite index was constructed in order to explore further the pattern of active parental involvement in classroom or curricular concerns. This index equaled the number of positive responses to items a, c, d, f, g, h and k. Valid scores therefore ranged from 0 to 7, with 0 indicating a school had no parental participation in any of these areas, and 7 that a school had a maximum number of parental involvement activities.

TABLE 7.7

TYPES OF SCHOOL INVOLVEMENT BY ADULT MEMBERS OF LANGUAGE-MINORITY COMMUNITIES (Unweighted N=483 Schools)[1]

Type of Assistance	Percentage of Schools[2]
(a) Served as classroom volunteers	47%
(b) Participated in activities to improve communication and interpersonal relations among LM-LEP parents and school staff	45
(c) Served on school-level advisory committees	42
(d) Served as information resources for the school regarding LM-LEP students	40
(e) Served on district or area-wide advisory committees	33
(f) Provided extracurricular programs in the native language or culture, using school facilities	26
(g) Served as paid instructional aides	21
(h) Assisted with curriculum planning for LM-LEP students	20
(i) Provided political and moral support to the school for special services for LM-LEP students	19
(j) Raised or donated funds or other contributions to support special services for LM-LEP students	14
(k) Served as volunteers or aides for special instructional services offered to LM-LEP students outside the regular school day (e.g., tutoring after school)	9
(l) Participated in other ways	13

[1] These data are based on the 483 schools for which responses were available. The data from these schools were weighted and represent 98% of schools with LM-LEP students in grades 1-5.

[2] Percentages total more than 100% since more than one type of assistance from adult members of language-minority communities was mentioned by some schools.

Overall, 72% of all schools had an index greater than 0, indicating that parents or some other adult members of the language-minority community were involved in one or more of the seven selected areas. Involvement index scores showed an interesting pattern when analyzed by the predominant language group in the school (see Table 7.8). Only 18% of schools where Spanish was the predominant language group had an index of 0, while the corresponding figures were 42% for schools where Asian languages predominated, and 57% where a non-Spanish, non-Asian language predominated.

Table 7.8

DISTRIBUTION OF OVERALL INVOLVEMENT OF LANGUAGE-MINORITY ADULTS (PARENTS AND OTHERS) IN SCHOOL BY PREDOMINANT LANGUAGE OF SCHOOL[1]
(Unweighted N=483 Schools)

Index Range[2]	Spanish	Southeast or East Asian	Other
0	18%	42%	57%
1-2	44	42	39
3-4	22	14	0
5-7	16	3	4
Total	100%	100%	100%

[1] These data are based on the 483 schools for which responses were available. The data from these schools were weighted and represent 98% of schools with LM-LEP students in grades 1-5.

[2] Based on the number of positive responses by schools to questionnaire items a,c,d,f,g,h and k as listed in Table 7.7.

Another, somewhat more predictable, finding is shown in Table 7.9. The table shows that parental involvement in instruction was also associated with the size of the LM-LEP enrollment in the school. As the index increased from 0 to 7, the mean number of LEP students tended to increase, from a low of 4.1 to a high of 34.2.

TABLE 7.9

MEAN NUMBER OF LM-LEP STUDENTS IN SCHOOLS BY THE INDEX OF LANGUAGE-MINORITY PARENTAL INVOLVEMENT[1]
(Unweighted N=483 Schools)

Index of Parental Involvement[2]	Mean Number of LM-LEP Students in School
0	4.1
1	9.0
2	10.6
3	19.8
4	21.5
5	16.4
6	31.9
7	34.2

[1] These data are based on the 483 schools for which responses were available. The data from these schools were weighted and represent 98% of schools with LM-LEP students in grades 1-5.

[2] Based on the number of positive responses by schools to questionnaire items a, c, d, f, g, h, and k, as listed in Table 7.7.

The index of parental involvement in instruction was also related to the presence of Title VII funding. Schools in districts which had received Title VII funding in the previous five years had a mean index score of 2.4, while schools in districts without such funding had a mean index score of 1.6. No association was found between parental involvement and the percentage of LEP students born in the United States.

7.7 Non-Instructional Services Provided to LM-LEP Students and Parents of LM-LEP Students

The main thrust of the study dealt with instructional services provided to LM-LEP students. However, some attention was also devoted to determining if non-instructional services were provided by schools to such students and their parents. Findings indicat . that a variety of non-instructional support

services were indeed provided to LM-LEP students and their parents. Typically, these services were the same as those offered to the general school population, and they were not tailored specifically to the LM-LEP population.

The percentage of schools which provided student counseling, transportation, medical-dental referrals, and other support services to students is indicated in Table 7.10.

TABLE 7.10

PERCENTAGE OF SCHOOLS PROVIDING SUPPORT SERVICES BY TYPE OF SERVICE AND TYPE OF RECIPIENT[1]

Type of Recipient	Student Counseling	Transportation	Medical-Dental Referrals	Other Non-Instructional Services[2]
Not Provided to Any Students	28%	15%	16%	21%
LM-LEP Students Only	0.1	2	1	0.2
Some Students, Not Necessarily LM-LEP, but Not All Students	8	43	11	26
All Students	64	40	72	53
Total	100%	100%	100%	100%
Unweighted N	495	495	495	219

[1] These data are based on the 219 to 495 schools for which responses were available. The data from these schools were weighted and represent 85% of schools with LM-LEP students in grades 1-5.

[2] Data on "other non-instructional services" were provided by schools representing 47% of the schools in the population. The chief kinds of services included in this category were physical therapy, speech therapy, psychological testing and services, and provision of a resource room.

Most of the schools provided student counseling (72% of schools), transportation (85%), and medical-dental referrals (84%) to at least some students. In hardly any schools (0.1-2%) was the student's eligibility for such services determined on the basis of whether he or she was limited-English-proficient.

Schools were also asked to report if any differences existed between the way support services were provided to LM-LEP students and to other students; 17% indicated that such differences were present. Of that 17% of schools, 81% used a translator or interpreter to assist in the provision of service. Another 5% used the student's native language.

In addition, virtually all schools (98%) reported having some services or activities which the school organized or made available and in which parents of LM-LEP students participated (see Table 7.11). These most often included such traditional activities as parent-teacher conferences (98% of schools) and PTA meetings (86%). However, school orientation classes or workshops (51%), parent counseling (42%) and ethnic heritage festivals were also frequently offered. When parent-teacher conferences and PTA meetings were excluded from the analysis, 17% of schools reported no other services or activities in which LM-LEP parents participated.

TABLE 7.11

TYPES OF SERVICES PROVIDED BY SCHOOLS
TO PARENTS OF LM-LEP STUDENTS
(Unweighted N=490 Schools)[1]

Types of Activities	Percentage of Schools Providing Service[2]
Parent Teacher Conferences	98%
PTA Meetings	86
School Orientation Classes or Workshops	51
Parent Counseling	42
Ethnic Heritage Festivals	40
Adult ESL Classes	21
Cross-Cultural Awareness Classes or Workshops	20
Day Care or Pre-K Services	14
Community Outreach Programs	11
Other Types of Services	4

[1] These data are based on the 490 schools for which responses were available. The data from these schools were weighted and represent 98% of schools with LM-LEP students in grades 1-5.

[2] Percentages total more than 100% because a school may provide more than one service to parents of LM-LEP students.

7.8 Summary

This chapter discusses the organizational contexts within which special instructional services were provided to LM-LEP students, and presents data concerning the types of classrooms used, grouping patterns, classroom composition, parental and community involvement, and auxiliary services provided.

The major findings are that:

- Special services were normally provided either in regular (mainstream) classrooms in regular elementary schools (84% of districts) or in specially designated classrooms of regular elementary schools (67%);
- More schools had classes in which LM-LEP students were mixed with English-language-background students than had classes for LM-LEP students containing only language-minority students;
- LM-LEP students most frequently received instruction in a whole class setting or in small groups (2-10 students); the use of whole class or large group (more than 10 students) instruction was more frequent for mathematics instruction (49% of students) than for English instruction (36%).
- For both first and third-grade LM-LEP students instructed in classes where other language-minority students are present, most frequently some of the language-minority students were proficient in English while most were limited-English-proficient. However, third-grade students were more likely to be in classes in which most of the language-minority students were proficient in English.
- 52% of schools serving LM-LEP students did not have any volunteer involvement by members of the language-minority community, in those schools with some involvement, the amount of volunteering was correlated with the number and percentage of LM-LEP students in the overall school population.
- The most frequent types of involvement in schools by adult members of language-minority groups were serving as classroom volunteers, participating in activities to improve communication and interpersonal relations, serving on school and district-level advisory committees, and serving as information resources concerning LM-LEP students.
- Involvement by members of the language-minority community in classroom or curricular concerns was greater when Spanish was the predominant language in the school than when another language was predominant.
- Parent-teacher conferences (98% of schools) and PTA meetings (86%) were the most frequent activities or services offered to parents of LM-LEP students; however, school orientation classes or workshops (51%), parent counseling (42%), and ethnic heritage festivals (40%) were also frequently offered.

CHAPTER 8

INSTRUCTIONAL SERVICES

8.1 Introduction

Persons within the educational community use a variety of terms to describe special services for LM-LEP students (e.g., "transitional bilingual education," "English as a Second Language" and "High Intensity Language Training"). However, when the actual services provided to LM-LEP students are examined closely, there is often wide variation in how these terms are applied. Although they may be summarized under the same terminology, services may differ among schools in a district, among classrooms in a school, or even among students in the same classroom.

Therefore, in order to understand the nature of special services which LM-LEP students are receiving, it is necessary to go beyond the labels and examine the particular services which are being offered to students. Such descriptions of services are presented in this chapter and in Chapter 9. This chapter provides descriptions of particular features of service provision such as instructional time and language usage, while Chapter 9 provides a more holistic view by summarizing services within "service clusters."

The particular features of services to LM-LEP students which are examined within this chapter are:

- the Instructional Time devoted to content subjects, i.e., how many hours per week of instruction in a particular content subjects students receive;
- the Content and Level of Instruction, i.e., whether the objectives, content, and level of instruction provided to LM-LEP students are the same as that provided to native English-speaking students;
- the Emphasis on English Language Skills, i.e., the relative emphasis placed on teaching English oral language development versus English reading versus English writing to different groups of students;

- the Use of Native Language in Instruction, i.e., how the extent of use of the students' native language differs for students from diferent native language groups;

- the teachers' Classroom Activities and Management, i.e., how different teachers of LM-LEP students organize their classrooms, and the kinds of activities they use in providing instruction to these students; and

- the Coordination of Instructional Services, i.e., what approaches teachers of the same LM-LEP students employ to integrate and coordinate the services which they provide.

To obtain detailed information on these topics, data at the individual student level were gathered about a random sample of first and third-grade LM-LEP students. These data were gathered from the students' academic subject area teachers in a sample of 187 of the schools visited during the study. In addition, questions of a generic nature on these topics were included on a separate questionnaire completed by a sample of teachers in grades 1-5 (see Chapter 2 for detail). The findings reported in this chapter draw on both of these sources of information.

8.2 Instructional Time

The first and third-grade LM-LEP students in the sample were under the supervision of a teacher an average of 23.5 hours per week (mode:25 hours per week), or about five hours a day. An aide or volunteer provided at least some in-class instruction for 73% of the students, the average for whom was of 3.5 hours per week, or about 42 minutes a day.

Table 8.1 presents the mean amounts of instructional time reported for the first and third-grade students for eight academic subject areas. Instruction in these subjects averaged 18 hours per week for both first and third-grade students, or 3.6 hours per day. Instruction in oral English was provided to almost all students (97% of first-graders and 96% of third-graders), while oral language development in the LM-LEP student's native language was provided to 61% of the first-graders and 45% of students in the third-grade.

TABLE 8.1

PERCENTAGE OF FIRST AND THIRD-GRADE LM-LEP STUDENTS RECEIVING ACADEMIC INSTRUCTION IN SPECIFIC SUBJECTS AND MEAN AMOUNTS OF INSTRUCTION FOR THOSE STUDENTS

Subject Area	Grade 1		Grade 3	
	Percentage of Students Instructed	Mean Hours Per Week	Percentage of Students Instructed	Mean Hours Per Week
Oral Development: English	97%	4.1	96%	3.6
Reading: English	59	5.1	85	4.8
Oral Development: Native Language	61	3.1	45	2.7
Reading: Native Language	53	3.9	44	3.2
Mathematics	96	3.9	92	4.3
Social Studies	91	1.7	88	2.1
Science	87	1.4	85	1.8
Ethnic Heritage	69	1.0	58	1.2
Total Hours of Academic Instruction per Week[2]		18.1		18.2
Unweighted N[1]	781		758	

[1] These data are based on the 1,539 students about whom responses were available. The data about these students were weighted and represent 78-97% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Mean hours total more than the overall total since not all students received instruction in all subjects.

As shown in Table 8.2, the amount of instruction in the various subject areas differed according to students' native language group, as well as according to grade. At grade 1, Spanish-speaking LM-LEP students received more instruction than other LM-LEP students in native language oral development, native language reading, and ethnic heritage, and received less instruction in English oral development and English reading. At grade 3 the pattern was similar, except that the differences in amount of English instruction were smaller, and Spanish-speaking LM-LEP students were also somewhat more likely to receive instruction in mathematics, social studies, and science.

The differences between Spanish and other LM-LEP students in the total hours of academic instruction per week (especially in grade 3) could have been caused by a number of factors. The data collection process may have missed teachers who provided some academic instruction to non-Spanish LM-LEP students, and thus the data may be inaccurate. On the other hand, non-Spanish LM-LEP students may have actually received less academic instruction, possibly because language-proficient personnel were not available for the entire school day. While we believe the latter to be the case, the available data do not suggest a clear choice between these competing hypotheses.

8.3 Content and Level of Instruction

The objectives and content of instructional services provided to LM-LEP students are not necessarily identical to those provided to English-proficient students in the same grade. However, as indicated in Table 8.3, administrators in 60% of the schools reported that the English-language skills taught to LM-LEP students were "very nearly identical" to those provided English-proficient students in the same grade, while administrators in only 8% of schools stated that they were "dissimilar in many important respects" or "very nearly completely dissimilar." In addition, administrators in 89% of these schools stated that the instructional objectives and content covered in mathematics for LM-LEP students did not differ from those for English-proficient students in the same grade.

TABLE 8.2

PERCENTAGE OF FIRST AND THIRD GRADE LM-LEP STUDENTS RECEIVING ACADEMIC INSTRUCTION IN SPECIFIC SUBJECTS AND MEAN AMOUNTS OF INSTRUCTION BY LANGUAGE GROUP OF STUDENT[1]

	Grade 1				Grade 3			
	Spanish (Unweighted N=524)		Other (Unweighted N=248)		Spanish (Unweighted N=509)		Other (Unweighted N=235)	
Subject Area	Percentage Instructed	Mean Hours Per Week	Percentage Instructed	Mean Hours Per Week	Percentage Instructed	Mean Hours Per Week	Percentage Instructed	Mean Hours Per Week
Oral Development: English	96%	3.9	98%	4.7	96%	3.5	96%	3.8
Reading: English	52	4.9	86	5.7	83	4.9	91	4.6
Oral Development: native language	72	3.1	16	2.1	59	2.7	11	1.9
Reading: native language	64	3.9	8	2.6	56	3.3	13	3.1
Mathematics	96	3.7	94	4.4	95	4.3	86	4.3
Social Studies	91	1.7	92	1.8	92	2.1	81	2.0
Science	87	1.4	83	1.5	91	1.1	73	1.6
Ethnic heritage	76	1.0	38	0.8	78	1.2	34	1.0
Total Hours of Academic Instruction per Week[2]		18.1		17.4		18.8		15.3

[1] These data are based on the 1,516 students about whom responses were available. The data about these students were weighted and represent 78-97% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Mean hours total more than the overall total since not all students received instruction in all subjects.

TABLE 8.3

SIMILARITY OF ENGLISH LANGUAGE SKILLS TAUGHT TO LM-LEP STUDENTS COMPARED WITH ENGLISH-PROFICIENT STUDENTS IN THE SAME GRADE (Unweighted N=477 Schools)[1]

Similarity of Skills Taught	Percentage of Schools
Very Nearly Identical	60%
Similar in Many Important Respects	28
Neither Markedly Similar nor Markedly Dissimilar	3
Dissimilar in Many Important Respects	6
Very Nearly Completely Dissimilar	2

[1] These data are based on the 477 schools for which responses were available. The data from these schools were weighted and represent 97% of schools with LM-LEP students in grades 1-5.

Information was also provided by the academic content area teachers concerning the level of instruction they provided to first and third-grade LM-LEP students. Instruction was rated as either 1 = below, 2 = at, or 3 = above "the level which would be provided to an average English-proficient student."

As indicated in Table 8.4, there was virtually no difference between LM-LEP students in grades 1 and 3, and the mean overall level of instruction in both grades was rated at 1.8; that is, at slightly below the level provided the average English-proficient student in those grades. As might be expected, the level of instruction received by LM-LEP students was lowest for English reading and oral English, ranging from 1.5 to 1.7 over the two grades; and was generally highest (by a very slight margin) for oral native language and ethnic heritage instruction, where levels of 2.0 were reported. In other subjects, the level was either at or very close to 2.0, the level provided to an average English-proficient student in those grades.

TABLE 8.4

MEAN LEVEL OF INSTRUCTION IN ACADEMIC SUBJECTS PROVIDED TO FIRST AND THIRD-GRADE LM-LEP STUDENTS[1]

Subject Area	Grade 1 Mean Level[2]	Grade 3 Mean Level[2]
Oral English	1.7	1.7
Reading English	1.5	1.6
Oral Native Language	2.0	2.0
Reading Native Language	1.8	1.8
Mathematics	1.9	2.0
Science	1.9	1.8
Social Studies	1.9	1.8
Ethnic Heritage	2.0	2.0
Overall Level	1.8	1.8
Unweighted N	711	718

[1] These data are based on the 1,539 students about whom responses were available. The data about these students were weighted and represent 74-95% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Academic teachers rated the level of instruction as being either: 1 = below, 2 = at, or 3 = above the level of instruction provided to an average English-proficient student.

8.4 Emphasis on English Language Skills

Students in different language groups have already been shown to differ in the amount of English reading instruction they received (see Table 8.2). Within the time devoted to English instruction, differences with respect to the amount of attention given to various English skills were also examined. On the Teacher Questionnaire, teachers indicated how much attention they devoted to instruction in particular skills dealing with English: oral usage, reading and writing. Three composites were formed by averaging teacher responses across the following items:

- Oral Usage: development of English textbook vocabulary, comprehension and production of everyday conversational English or of spoken English as used in the classroom, and English pronunciation.

- Reading: mechanics of reading in English, and reading comprehension of narrative or expository materials.
- Writing: mechanics of writing in English, paragraph writing and simple story writing, and handwriting.

These data are presented in Table 8.5, along with the percentages of teachers who indicated that they did not address these skill areas. The mean scores were generally quite high, indicating that teachers tended to rate virtually all of the skill areas as receiving a moderate amount to a great deal of attention. Also, analyses of data across language groups indicated few substantial differences. However, teachers of Spanish-speaking LM-LEP students were somewhat more likely than teachers of other LM-LEP students to report that they did not devote any attention to English reading and writing.

TABLE 8.5

RELATIVE AMOUNT OF ATTENTION GIVEN TO ENGLISH LANGUAGE SKILLS BY TEACHERS OF VARIOUS LANGUAGE GROUPS OF LM-LEP STUDENTS

	Only Spanish Speaking Students Taught		Only Asian Language Students Taught		Only Other Language Students Taught		More Than One Language Group Taught	
Skill Area	Mean[1]	Percentage Devoting No Attention	Mean	Percentage Devoting No Attention	Mean	Percentage Devoting No Attention	Mean	Percentage Devoting No Attention
English Oral Usage	3.5	2%	3.5	1%	3.5	2%	3.6	2%
Reading	3.2	9	3.3	4	3.4	1	3.4	2
Writing	3.1	5	3.2	3	3.2	2	3.3	1
Unweighted N	2099		220		110		1085	

[1] Mean scores are based on averaged responses to individual questions rated on a four-point scale: 1=No attention, 2=A little attention, 3=A moderate amount of attention, 4=A great deal of attention.

[2] These data are based on the 3,514 teachers from whom responses were available. The data from these teachers were weighted and represent 87% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

8.5 The Use of Native Language in Instruction

The extent and purpose of instructional use of the student's native language are key factors which vary in the teaching of LM-LEP students. Data from teachers of specific first and third-grade students concerning native language use for mathematics, science, social studies, and ethnic heritage instruction are presented in Table 8.6. This table shows across all four subjects that the native language was generally used more for instructional purposes with first-grade LM-LEP students than with third-grade LM-LEP students.

Data from the sample of LM-LEP teachers across grades 1-5 were consistent with this finding. For analytic purposes, the responses of teachers were grouped into three categories: exclusive use of the native language, any mixed use of English and the native language, and exclusive use of English. Since there was little variation in teacher responses involving mathematics, science, and social studies, only the pattern found for mathematics is reported. As shown in Table 8.7, more teachers at grades K-1 reported exclusive use of the student's native language in mathematics than did teachers in grades 2-3 (7% vs. 3%). The exclusive use of English in mathematics was also greater in the higher elementary grades (e.g., 39% in K-1 vs. 50% in grades 4-6.)

Table 8.7 also shows that native language use in the instruction of English language skills was relatively consistent for teachers regardless of grade range. In fact, at every grade range, the LM-LEP student's native language reportedly was used by more teachers in teaching English than in teaching mathematics or other academic subjects.

TABLE 8.6

LANGUAGE OF INSTRUCTION FOR ACADEMIC CONTENT AREA SUBJECTS
BY GRADE AND SUBJECT

	Grade 1 Students				Grade 3 Students			
	Math-ematics	Science	Social Studies	Ethnic Heritage	Math-ematics	Science	Social Studies	Ethnic Heritage
Pattern of Language Use								
All Native Language	11%	9%	13%	23%	5%	7%	7%	11%
Native Language with English Supplement	15	14	13	11	9	5	7	13
Both English and the Native Language	20	19	19	24	19	16	16	18
English with Native Language Support	25	24	24	21	30	31	31	30
All English	30	34	30	21	38	41	39	27
Total	100%[1]	100%	100%	100%	100%	100%	100%	100%
Unweighted N	765[2]	789	740	533	737	681	692	492

[1] Totals do not always add to 100% due to rounding error and varying sample sizes.

[2] Cases were excluded if two or more teachers used different patterns.

[3] These data age based on the 492 to 765 students about whom reponses were available. The data about these students were weighted and represent 68-95% of students in schools with 12 or more LM-LEP students in either of Grades 1 or 3.

TABLE 8.7

EXTENT TO WHICH TEACHERS USE LM-LEP STUDENTS' NATIVE LANGUAGE IN MATHEMATICS AND ENGLISH INSTRUCTION AT VARIOUS GRADE LEVELS

	Percentage of Teachers Using LM-LEP Students' Native Language in Instruction							
	Mathematics Instruction				English Instruction			
Pattern of Language Use	Grades K-1 Only	Grades 2-3 Only	Grades 4-6 Only	Several Grades[1]	Grades K-1 Only	Grades 2-3 Only	Grades 4-5-6 Only	Several Grades[1]
All Instruction in Native Language	7%	3%	2%	4%	NA	NA	NA	NA
English and Native Language	54	52	47	67	83%	83%	83%	82%
All Instruction in English	39	45	50	28	17	17	17	18
Total	100%	100%	100%	100%	100%	100%	100%	100%
Unweighted N	1080[2]	1405	1001	101	976	1242	952	193

[1] Data in this column are for teachers whose grade level responsibilities extended across at least two of the three grade ranges.

[2] These data are based on the 3363 to 3587 teachers from whom responses were available. The data from these teachers were weighted and represent 82-87% teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

To investigate whether the overall pattern of language use varied by language group, members of the LM-LEP student sample were classified into one of five major language groups: Spanish, Other European, Southeast Asian, East Asian, and Other. Since the extent of use of the native language was about the same for mathematics, science, social studies, and ethnic heritage, the data on native language use in content areas are reported for mathematics only. Also, since the pattern for first and third-grades were similar, only the data for first-grade students are reported.

As shown in Table 8.8, almost all of the relatively small number of LM-LEP students who received math instruction entirely in their native language were members of the Spanish language group. Similarly, substantially more members of the Spanish language group received math instruction in a combination of English and their native language than did any of the other language groups.

TABLE 8.8

NATIVE LANGUAGE USE IN MATHEMATICS INSTRUCTION
FOR FIRST-GRADE LM-LEP STUDENTS BY NATIVE LANGUAGE GROUP

Pattern of Language Use	Spanish Languages	Other European Languages	Southeast Asian Languages	East Asian Languages	Other Languages
All Native Language	13%	0%	2%	0%	0%
Primarily Native Language With English Supplement	17	4	2	8	0
Both Languages Equally	25	17	3	12	0
Primarily English with Native Language Support	25	6	15	21	36
All English	20	73	78	59	64
Total	100%	100%	100%	100%	100%
Unweighted N	524[1]	44	102	26	69

[1] These data are based on the 765 students about whom responses were available. The data about these students were weighted and represent 87-100% of first-grade students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

With respect to instruction in English language skills, the use of the native language is generally restricted to a support role. Therefore, teachers were asked only to indicate whether or not the native language was used at all in that instruction. As shown in Table 8.9, students in the Spanish language group were most likely to receive native language support in their English language instruction. Also as shown, the amount of such support decreased from first to third-grade, overall and for almost all of the groups.

TABLE 8.9

PERCENTAGE OF FIRST AND THIRD-GRADE LM-LEP STUDENTS FOR WHOM THE NATIVE LANGUAGE IS USED IN ENGLISH INSTRUCTION BY GRADE AND NATIVE LANGUAGE GROUP

	Spanish Languages	Other European Languages	Southeast Asian Languages	East Asian Languages	Other Languages
Grade 1 %	63%	56%	32%	36%	57%
Unweighted N	478[1]	40	107	21	62
Grade 3 %	56%	37%	37%	37%	15%
Unweighted N	482	38	104	32	55

[1] These data are based on the 1,419 students about whom responses were available. The data about these students were weighted and represent 89% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

For more than half of the sampled first and third-grade students, English language skills instruction involved at least some use of bilingual dictionaries or other bilingual materials. Across all language groups, this was true for 60% of LM-LEP students in grade 1 and 54% in grade 3. As shown in Table 8.10, however, there was variation among the different language groups. Undoubtedly reflecting the availability of materials, two-thirds of the Spanish-speaking students used bilingual materials at both grade 1 and grade 3, while less than a quarter of the Southeast Asian and East Asian students had their English instruction supplemented by the use of bilingual materials.

TABLE 8.10

PERCENTAGE OF FIRST AND THIRD-GRADE LM-LEP STUDENTS FOR WHOM BILINGUAL MATERIALS ARE USED IN ENGLISH INSTRUCTION BY LANGUAGE-MINORITY GROUP

Language-Minority Group	Grade 1 Students		Grade 3 Students	
	Un-weighted N	Percentage Using Bilingual Materials	Un-weighted N	Percentage Using Bilingual Materials
Spanish	464	68%	464	65%
Other European Languages	39	32	36	47
Southeast Asian Languages	104	13	103	17
East Asian Languages	21	24	28	4
Other Languages	61	32	54	8
Total	689[1]	60%	685	54%

[1] These data are based on the 1,374 students about whom responses were available. The data about these students were weighted and represent 86% of students in schools with 12 or more LM-LEP students in either of grades 1 or 3.

8.6 Classroom Activities and Management

Academic Teachers of LM-LEP students used a variety of activities in their classrooms, as shown in Table 8.11. The most frequently used classroom activities were individual seatwork, question-and-answer sessions, discussions, drills, and lecture/demonstration.

In order to examine differences among types of teachers in terms of classroom activities, two composite scores or mean ratings were calculated for each teacher: (1) use of teacher-directed activities (drills, lecture/demonstration, recitation); and (2) use of interactive activities (question-answer sessions, discussions, show-and-tell type activities, role-playing). Means for each of these composite scores were then compared for teachers who had different credentials.

TABLE 8.11

CLASSROOM ACTIVITIES USED BY ACADEMIC TEACHERS
OF LM-LEP STUDENTS
(Unweighted N=4010 Teachers)[1]

Activity	Percentage of Use By Teachers				
	Never	Occasionally	Fairly Often	Very Often	Mean Rating[2]
Individual seatwork	3%	10%	31%	56%	3.4
Question-answer sessions	3	10	41	46	3.3
Discussions	4	12	41	43	3.2
Drills	5	17	36	42	3.2
Lecture-demonstration	7	21	39	33	3.0
Audio-visual activities	5	30	39	26	2.9
Arts and crafts exercises	9	29	36	26	2.8
Recitation	9	31	35	26	2.8
Music and singing activities	13	28	32	26	2.7
Show-and-tell type activities	11	41	30	18	2.6
Role playing	15	49	24	11	2.3
Computer-related activities	74	16	7	3	1.4

[1] These data are based on the 4,010 teachers about whom responses were available. The data about these teachers were weighted and represent 98% of teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Based on a four-point rating scale: 1 = Never, 2 = Occasionally, 3 = Fairly Often, 4 = Very Often.

The differences among teachers, based on their credentials, in the types of classroom activities used are shown in Table 8.12. There were no clear differences in terms of use of teacher-directed activities, but teachers with ESL or bilingual credentials (but not both) reported using interactive activities slightly less often than other teachers.

As shown in Table 8.13, teachers of LM-LEP students also used a variety of techniques in conducting or managing their classes. (The table is arranged in descending mean rating sequence so that the most frequently used techniques are listed first.) At least 15% of teachers reported each technique "in some cases."

TABLE 8.12

USE OF CLASSROOM ACTIVITIES BY ACADEMIC TEACHERS WITH DIFFERENT CREDENTIALS
(Unweighted N=3969 Teachers)[1]

Credentials of Teachers	Mean Rating[2]: Teacher-Directed Activities	Mean Rating[2]: Interactive Activities
Bilingual Only	3.0	3.2
ESL Only	3.1	3.1
Bilingual and ESL	2.9	3.5
Elementary but not Bilingual or ESL	3.0	3.4
Other	2.9	3.4

[1] These data are based on the 3,969 teachers about whom responses were available. The data about these teachers were weighted and represent 98% of teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Based on a four-point rating scale: 1=Never, 2=Occasionally, 3=Fairly Often, 4=Very Often.

TABLE 8.13

INSTRUCTIONAL AND MANAGEMENT TECHNIQUES
USED BY ACADEMIC TEACHERS OF LM-LEP STUDENTS
(Unweighted N=3970 to 4009 Teachers)[1]

Instructional Technique	Extent of Use: In Few or No Cases	In Some Cases	In Most Cases	Mean Rating[2]
Lessons are reviewed with students for several days after they are first presented	1%	15%	84%	2.8
Students advance through the curriculum in a predetermined sequence of steps	4	26	70	2.7
Students are exposed more to practical than abstract concerns	2	39	59	2.6
Students are divided into groups more often than they are all together for instruction	12	39	49	2.4
Students are given tests in one or more subject areas at least once a week on the average	18	29	53	2.4
Students often work independently of the rest of the class at a pace which is appropriate for their level of proficiency	9	48	44	2.3

(continued on next page)

TABLE 8.13
(continued)

Instructional Technique	Extent of Use: In Few or No Cases	In Some Cases	In Most Cases	Mean Rating[2]
Students' progress and gain are assessed primarily through testing	10	48	42	2.3
Students are encouraged to help one another in one-to-one situations during class time	8	52	40	2.3
When students work individually, they may leave their seats without permission to seek assistance from a staff member or another student, or go to a resource area.	19	33	48	2.3
Students are encouraged to try their own strategies to solve problems, even if these are probably wrong	13	52	35	2.2
Each student is assigned a seat and mostly stays in that seat for all instruction	24	39	37	2.1

[1] These data are based on the 3,970 to 4,009 teachers about whom responses were available. The data about these teachers were weighted and represent 98% of teachers in schools with 12 or more LM-LEP students in either of grades 1 or 3.

[2] Based on a three-point rating scale: 1 = In Few or No Cases, 2= In Some Cases and 3 = In Most Cases.

8.7 Coordination of Instructional Services Provided to LM-LEP Students

LM-LEP students may receive instruction in specific academic subjects from more than one teacher. When this occurs, the coordination of such instruction is an extremely important aspect of the service program. Teachers of LM-LEP students were therefore asked about the extent of instructional overlap, and about methods used to coordinate instruction.

Almost three-fifths (58%) of the responding teachers reported that subject areas which they covered in instruction were also taught to LM-LEP students by other teachers. The overlap was reported to occur most frequently in reading (32% of all teachers), language arts (21%), and mathematics (20%). In no other subject area was overlap reported by more than 10% of teachers.

When teachers were asked how they coordinated instruction in specific subjects with other teachers, the most frequent response was that it occurred through reinforcement, review or follow-up of skills taught by other teachers (3% of all teachers). The use of regular meetings (6%), team teaching techniques (3%), impromptu meetings (2%), and sharing of materials (2%) were also frequently mentioned. A large variety of other responses were provided, although none accounted for more than 1% of teachers.

8.8 Summary

This chapter describes a number of the characteristics of instructional services provided to LM-LEP students, including instructional time devoted to particular subjects, the level of instruction provided, and the languages used in instruction. Most of the data were provided by teachers concerning instruction to specific first and third-grade LM-LEP students, although there were also some general questions to teachers and school administrators.

The major findings are that:

- The average LM-LEP student was under the supervision of a teacher for 23.5 hours per week, and received instruction in academic subjects for 18 hours per week;
- Approximately half of LM-LEP students received instruction in their native language as an academic subject, and approximately three-quarters received instruction relating to their ethnic heritage;
- Spanish-speaking LM-LEP students received more instruction than other LM-LEP students in native language oral development, native language reading, and ethnic heritage; at the first-grade level, Spanish-speaking LM-LEP students received less instruction in English oral development and English reading;
- At both grades 1 and 3, the average LM-LEP student received instruction at slightly below grade level for most academic subjects;
- The native languages of LM-LEP students were more frequently used for instructional purposes with first-grade than with third-grade students;
- The native languages of LM-LEP students were more frequently used during English instruction than during mathematics, social studies, or science instruction;
- Spanish-speaking LM-LEP students were more likely to receive instruction in their native language than were other LM-LEP students; and
- 58% of teachers of LM-LEP students reported that subject areas which they covered in instruction were also taught to LM-LEP students by other teachers; the most common areas of overlap were in reading (32% of all teachers), language arts (21%), and mathematics (20%).

CHAPTER 9

CLUSTERS OF SERVICES

9.1 Introduction

The preceding chapters provide data on the range of services offered to LM-LEP students in public elementary schools nationwide. While it may be useful to look at the individual services being provided to LM-LEP students, schools almost always provide students with a combination of services rather than with just one. For example, LM-LEP students may be provided with intensive English language development assistance together with native language assistance in content subjects, or they may receive classes in intensive English language development and also tutorial assistance in content subjects given in English. Further, LM-LEP students in the same school may receive different arrays of services, depending on language proficiency, native language, parental desires, program funding, or other factors.

Despite the complexity of service patterns, it is still important to identify clearly and to be able to discuss different distinctive combinations of services which LM-LEP students receive. To accomplish this, the study adopted a strategy of categorizing services into sets based on their most salient features; the resultant combinations are called service clusters. In this chapter, the specific service clusters which were found are described along with the analytic procedures used to identify them. In addition, variations within clusters are discussed, as well as the relationship between service cluster types and a number of significant school-level variables.

9.2 Variables Used to Define Service Clusters

A service cluster was defined for the study as a set of instructional services that is provided to one or more LM-LEP students at a particular school or schools. In some cases, all of the services are provided by a single teacher. In other cases, the services provided by the main teacher are supplemented by those provided by aides or pull-out teachers in the same school. In yet other cases, the main teacher's services are supplemented by services provided at a center away from the primary school.

The service cluster typology used here was created by characterizing particular services into sets based on a comparatively small number of variables which were identified in the literature as related to academic achievement and second language acquisition. These key variables dealt with the use of the native language in instruction (in terms of extent of use, goal, and duration) and the methods used to teach English. In addition, variables such as native language arts instruction and narrative program descriptions were used at times to distinguish between service cluster types. The rationale for using these key variables is discussed in more detail below.

Use of Native Language

There is considerable professional disagreement among scholars in the field of second language acquisition concerning the degree to which the student's native language should be used in instruction. Some contend that the native language should not be used at all, or that it should be used only to facilitate instruction in English. Others contend that it should be used initially to teach academic subjects so that students will be able to develop basic academic skills while learning English. Yet another position is that a certain level or "threshold" of development in the native language is necessary before there can be academic progress through instruction in a second language.

In other words, the important issue is not only whether the native language should be used in instruction, but in what manner it should be used. In order to encompass the various possibilities, a number of variables were developed based on LM-LEP service coordinators' or principals' responses to questions asked in the School Services Interview form (henceforth referred to as the SSI form).

The variable, EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS, was based on the amount of instruction students received in the native language in mathematics and other academic subjects, such as social studies and science (but not English or language arts in the student's native language). The proportion of instruction that was conducted in the native language in a

typical day was averaged across subjects to obtain an EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS score. For example, if the instructional staff used the native language 20% of the time when teaching mathematics, 40% of the time when teaching science, and 75% of the time when teaching social studies, the extent score would be 45%.

When the native language was used in teaching academic subjects (exclusive of teaching language per se) the variable PURPOSE OF NATIVE LANGUAGE USE indicated whether the native language was used for content instruction or whether it was used only to facilitate instruction (e.g., to clarify, provide classroom directions, maintain order, etc.). If there was variation in purpose across subjects, then the time spent in each subject and the extent to which the native language was used were considered in order to determine whether the native language use was predominantly content-oriented or facilitation-oriented.

Another variable, NATIVE-LANGUAGE-PROFICIENT PERSONNEL, was used to identify situations in which there was usually an adult speaker of the non-English native language in the classroom for at least part of each day. The native language speaker might be the teacher, a parent, or an aide.

Finally, another important aspect of native language use was whether school personnel anticipated that the EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS would remain constant throughout the school year, or whether it was subject to change. From the responses to the SSI form, it was possible to create a CHANGE IN NATIVE LANGUAGE USE variable which had the values "no change", "decrease", (or, as sometimes was found to occur) "increase".

Special Instruction in English

It is frequently hypothesized that the instructional approaches used to teach English influence the pupil's English language acquisition. The variable SPECIAL INSTRUCTION was therefore based on the presence or absence of special instruction in English for LM-LEP students, in addition to or in place of the regular English instruction that would be provided to native English-speaking students.

Rate of Transition

Many schools provide services which include the use of the pupil's native language only until sufficient competence in English is developed. The change in language of instruction may be rapid; after one or two years of special services the students might exit into all-English-medium classrooms. Or, it may be very gradual, spanning three to six years of services. For the purpose of clustering such services, two years was decided upon as the cut-off point for the variable RATE OF TRANSITION. If services continued for two years or less, the rate of transition was considered to be 'fast'; if they continued longer than two years, then the rate was 'slow'.

Native Language Arts Instruction

Schools differ with regard to whether or not they provide native language arts instruction for their LM-LEP students. The assumption is that schools that provide such services have a commitment to maintaining native language proficiency. Each cluster was therefore scored for the presence or absence of NATIVE LANGUAGE ARTS INSTRUCTION.

Narrative Program Description: By School Personnel

A final variable used in clustering focused on how school personnel described the special instructional services provided to LM-LEP students. More than anything else, the variable PROGRAM DESCRIPTION was used as a cross-check on the validity of the clustering procedures. For example, in using the variables discussed above, if it was determined that the typical service cluster was an all-English cluster but school personnel noted that they provided "bilingual" services, then the cluster in question became a "problem case". To the extent possible, school personnel at "problem case" schools were recontacted, and clarification was sought so that the services provided could be properly clustered.

9.3 Nature of Service Clusters

A number of attempts were made to combine the service cluster variables into a typology that was both comprehensive and concise -- comprehensive in the sense of encompassing the arrays of services offered at the study's nationally representative sample of 520 schools serving LM-LEP students in grades 1-5, and concise in the sense of containing a relatively small number of types that acknowledged and displayed the essential differences between clusters. In the end, it was found that five major types of service clusters, three of which were split into two subdivisions each, provided the most workable array. They are presented in Table 9.1 and explained below. Although descriptive names, such as "Continued Instruction in Native Language and English", have been given to the cluster letter designations to facilitate referencing, they are defined operationally through the cluster variables discussed earlier.

Type A: "Native Language Primacy"

In Type A "Native Language Primacy" clusters the expectations are that all students in the classroom will have the same language background and that instruction will be mainly in that language. Operationally, the critical distinction for this service cluster was that EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 90% or greater. Further, the high reliance on native language was expected to continue throughout the school year, as demonstrated by either a "no change", or possibly an "increase" response for the variable CHANGE IN NATIVE LANGUAGE USE.

Additionally, to be included in this category, the services had to include the presence of NATIVE LANGUAGE ARTS INSTRUCTION, and PROGRAM SELF DESCRIPTION had to include one of the following services: bilingual classroom, content instruction in the native language, or all instruction in the native language.

TABLE 9.1

SERVICE CLUSTER TYPES

Cluster Type	Descriptive Name	Subdivision Type	Subdivision Name
A	Native Language Primacy	None	-
B	Continued Instruction in Native Language and English	None	-
C	Change in Language of Instruction	C1	Slow Transition
		C2	Fast Transition
D	All English with Special Instruction in English	D1	With Native-Language-Proficient Personnel
		D2	Without Native-Language-Proficient Personnel
E	All English without Special Instruction in English	E1	With Native-Language-Proficient Personnel
		E2	Without Native-Language-Proficient Personnel

Type B: "Continued Instruction in Native Language and English"

In Type B clusters, there is an attempt to balance native language instruction and proficiency with English language instruction and proficiency. The expectation is that the native language will continue to be used in instruction to some extent even after the child is English-proficient.

Operationally, schools that offered any one of the following four different patterns of instruction in the native language were classified into the Type B cluster: (1) EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 90% or more, CHANGE IN NATIVE LANGUAGE USE was "decrease"; (2) EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 16-89%, CHANGE IN NATIVE LANGUAGE USE was "no change"; (3) EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 1-89%, CHANGE IN NATIVE LANGUAGE USE was "increase"; or (4) EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 1-15%, CHANGE IN NATIVE LANGUAGE USE was "no change", PURPOSE OF NATIVE LANGUAGE USE was content instruction.

Further, in all cases the variable PROGRAM SELF DESCRIPTION was coded to include at least one of the following services: bilingual classroom, bilingual pull-out, content instruction in the native language, all instruction in the native language.

Type C: "Change in Language of Instruction"

The primary characteristic of Type C clusters is the movement away from native language content instruction in academic subjects towards all-English instruction. As with the B clusters, instructional native language use could follow more than one pattern. To be a Type C cluster, either EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 1-15%, CHANGE IN NATIVE LANGUAGE USE was "no change", and PURPOSE OF NATIVE LANGUAGE USE was facilitation; or EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was 1-89%, and CHANGE IN NATIVE LANGUAGE USE was "decrease".

Two subdivisions of C clusters were formed based on the variable RATE OF TRANSITION. A Type C1 cluster designates a Type C cluster with slow transition; a Type C2 cluster designates a C cluster with fast transition.

Type D: "All English with Special Instruction in English"

In Type D clusters, the instruction is essentially all in English and the students are taught English partially through the use of special instruction. (Operationally, the variable SPECIAL INSTRUCTION must have been scored as present.)

In most of the cases included as a Type D cluster, the EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS was zero percent. However, in certain Type D cases it was as high as 15%. Notwithstanding the use of some native language, these cases were still considered all-English-medium services, when the PROGRAM SELF DESCRIPTION variable did not indicate any form of a bilingual program and native language arts were not taught.

Two subdivisions of Type D clusters were formed based on the presence or absence of NATIVE-LANGUAGE-PROFICIENT PERSONNEL. Thus, a D1 cluster designates a D cluster with Native-Language-Proficient Personnel present; in a D2 cluster, Native-Language-Proficient Personnel are not present.

Type E: "All English without Special Instruction in English"

A Type E cluster designation indicates a regular mainstream instructional situation; that is, the students are part of an all-English-medium classroom and receive no instruction in English separate from the instruction normally received by English-proficient students.

Operationally, to be included as an E cluster, the variable SPECIAL INSTRUCTION had to be scored as "absent", and PROGRAM SELF-DESCRIPTION could not indicate any special services such as "bilingual program" or "native language arts instruction".

Although the assumption is that these are all-English-medium classrooms, and in most cases English is the only language used in instruction, EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS could be as high as 15 percent, as with Type D clusters. This allowed for the few cases in which all other type E cluster conditions were met, but in which students received a small amount of native language help from a teacher or aide.

Within the E cluster there are two subdivisions (E1 and E2) based on the presence or absence of Native-Language-Proficient Personnel, respectively.

9.4 Prevalence of Service Clusters

In order to place schools in clusters as described in Sections 9.2 and 9.3 above, data were needed from both the School Characteristics Questionnaire and the School Services Interview. There were a total of 493 schools with LM-LEP students in grades 1-5 for which such data were available. For most of the analyses, however, the focus was on clusters provided to first-grade students, because these data were the most detailed and complete. The relevant sample group of schools for those analyses was 428.[1] In addition, for most of the analyses, the data provided by 31 schools were either incomplete or contradictory. Therefore, most of the information presented in this chapter is based on data from 397 schools. These 397 schools when weighted represent 93% of all schools with LM-LEP students in grade 1.

Table 9.2 presents the distribution of the most prevalant set of services provided to first-grade LM-LEP students of the predominant language-minority group at each of the sampled schools. This distribution is presented in unweighted form. The table also presents weighted percentaages. The latter addresses the question, "Of all schools nationwide that serve LM-LEP students, what percentage have a particular type of service cluster?"

Although an analysis of third-grade clusters was also undertaken, this distribution is not reported separately because it is almost identical to the first-grade distribution. Over 65% of the schools reported that services did not differ by grade. Of those that did report different services, in the great majority of cases the differences they reported were not relevant to their cluster designation. Overall, the cluster designations for the first and third-grades were the same in 92% of the schools.

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[1] While the weighted percentage of school included in such analyses (i.e., with first-grade LM-LEP students) was only 73%, the schools tended to have many LM-LEP students and thus represented 95% of the total LM-LEP student population in grades K-6.

TABLE 9.2

DISTRIBUTION OF TYPICAL SERVICE CLUSTERS FOR FIRST-GRADE LM-LEP STUDENTS FROM THE PREDOMINANT LANGUAGE-MINORITY GROUP

Cluster Type and Subdivisions	Unweighted Number of Schools In Analysis Sample	Unweighted Percentage of Schools In Analysis Sample	Weighted Estimated Percentage of Schools Nationally[1]
A. Native Language Primacy	27	7%	3%
B. Continued Instruction in the Native Language and English	106	27	11
C. Change in Language of Instruction[2]	132	33	29
C1 Slow Transition	99	25	20
C2 Fast Transition	25	6	6
D. All English with Special Instruction	121	30	51
D1 With Native-Language-Proficient Personnel	31	8	13
D1 Without Native-Language-Personnel	90	23	38
E. All English without Special Instruction	11	3	6
E1 With Native-Language-Proficient Personnel	2	0.5	2
E2 Without Native-Language-Proficient Personnel	9	2	4
Total of Primary Clusters	397	100%	100%

[1] These data are based on the 397 schools for which responses were available. The data from these schools were weighted and represent 93% of schools with LM-LEP students in grade 1. Other data suggest that schools with LM-LEP students in grades 2-5 but not grade 1 may have been more likely to have Type D and E clusters, and less likely to have Type A, B, and C clusters.

[2] In Cluster C, the total of the subdivisions is less than the respective cluster total because the information needed to place some schools' services within a cluster subdivision was incomplete.

The distributions shown in Table 9.2 indicate that nationally, relatively few schools provided either Type A or Type E clusters of services (3% and 6%, respectively, at the first-grade level). By far the most common cluster was Type D (51%), followed by Type C (28%) and Type B (11%).

Table 9.2 does not tell the entire story, however. Although there were few differences between the clusters provided in grades 1 and 3, there was often more than one cluster in a school. For example, some schools provided different services to different categories of LM-LEP students. In some cases the services provided to students of other language groups differed from the services provided to students of the predominant language-minority group at a school. Also, LM-LEP students who were more proficient in English sometimes received services which were different from the services provided to least proficient LM-LEP students. Furthermore, some schools provided two or more service clusters for the same category of students. For example, equally proficient Spanish-speaking students at the same school were sometimes placed in either a Type B "Continued Instruction in the Native Language and English" cluster, or a Type D "All English with Special Instruction" cluster.

To determine the extent to which schools did provide multiple clusters of services, the analyses provided for cluster designations to be made for four categories of students. These were the following: Least English-Proficient -- Predominant Language-Minority Group; More English-Proficient -- Predominant Language-Minority Group; Least English-Proficient -- Other Language-Minority Groups; More English-Proficient -- Other Language-Minority Groups. Up to three clusters within each of these four categories were also used in the analytic approach. Under this classification system, each school could therefore have as many as 12 distinct cluster designations at each grade level. For example, in one school the More English-Proficient students from the Predominant Language-Minority Group might be served by three different combinations of services (B1, D1, and D2), while in the same school, the Least English-Proficient students from Other Language-Minority Groups might be served by D1 or E1 clusters of services.

In actuality, schools did not offer nearly the range of services possible. No more than eight clusters were identified at any one school, and in the great majority of cases, no more than one cluster was identified for each category of student. Table 9.3 presents the distribution of first-grade clusters by category of LM-LEP student, weighted to be nationally representative of schools serving LM-LEP students in any of the grades 1-5.

The most striking finding from Table 9.3 concerns the differences between the services provided to LM-LEP students of other than the predominant language-minority groups at a school compared with the services provided to the students of the predominant language-minority group. Overwhelmingly, these "other" students received Type D "All English with Special Instruction" services.

The distribution of services to students in the predominant language-minority group shown in Table 9.3 is very similar, although not identical, to the distribution indicated in Table 9.2 for the "typical" services to predominant language LM-LEP students.

Of the 428 study sample schools, only 32 had identifiable 'multiple' clusters for this category of students in the predominant language-minority groups. The multiple clusters mainly consisted of schools offering a Type D cluster in addition to a Type B or C cluster; 85% of the 32 'multiple' clusters were of this type. The number of 'multiple' clusters associated with other categories of students was even smaller; 26 for more proficient, predominant language-minority student groups; 5 for least proficient, other language-minority group students; and 7 for more proficient, other language-minority group students. Within all these groups the principal tendency was, as above, to offer Type D services, in addition to Type B or C services.

Finally, the data in Table 9.3 suggest that the services provided were about the same regardless of the student's level of proficiency in English.

TABLE 9.3

PERCENTAGE OF SCHOOLS WITH LM-LEP STUDENTS BY SERVICE CLUSTER AND TYPE OF FIRST-GRADE STUDENT SERVED

Major Service Cluster Types	Percentage of Schools: Predominant Language-Minority Group — Least English Proficient Students[1]	Predominant Language-Minority Group — More English Proficient Students	Other Language-Minority Group — Least English Proficient Students	Other Language-Minority Group — More English Proficient Students
A Native Language Primacy	3%[3]	2%	0.2%	0.2%
B Continuation in the Native Language and English	11	9	2	2
B/C[2]	-	4	5	5
C Change in Language of Instruction	28	29	3	3
D All English With Special Instruction in English	54	58	91	99
E All English Without Special Insturction in English	7	4	11	4
Unweighted N	399	396	218	197

[1] A small number of cases are included in these analyses which are not included in the analyses in Table 9.2. Thus the sample sizes and percentages may vary slightly.

[2] Unclear whether services are Type B or C.

[3] Percentages total more than 100% since an individual school could offer more than one type of service cluster to students within a particular category.

Another way of looking at service clusters is to focus on the numbers of students rather than numbers of schools; that is, to ask the question, "Nationally, how many first-grade LM-LEP students are served by each type of service cluster?" In order to calculate the estimates displayed in Table 9.4, some simplifying assumptions were necessary. All of the first-grade students of the school's predominant language-minority group were assumed to attend the cluster of the typical least English-proficient students of the predominant language-minority group. Although this was most often true, it was not always so. Similarly, all of the first-grade LM-LEP students of other than the predominant language group were assumed to receive the services of the typical, least English-proficient students of the other than predominant language-minority groups. Again, this is most often, but not always, true. These assumptions were necessary because the available enrollment figures were categorized only by language and not by services received. The final step in arriving at the national estimates in Table 9.4 was to multiply the school-level enrollment figures for predominant language-minority group and other language-minority group students by the appropriate sampling weight for the school.

Comparing Table 9.4 with Table 9.2 highlights some important distinctions. Although the greatest number of schools nationally (51%) offered Type D cluster services, the greatest number of first-grade pupils nationally (40%) received Type C cluster services. Also, while only 14% of all schools offered Type A or Type B cluster services, these schools enrolled 33% of all first-grade LM-LEP students.

TABLE 9.4

NATIONAL ESTIMATES OF THE NUMBER AND PERCENTAGE
OF FIRST-GRADE LM-LEP STUDENTS BY SERVICE CLUSTER TYPE

Service Cluster Type	Estimated Number of Students: Predominant Language Group	Other Language Group	Total 1st Grade LM-LEP Students	Percentage of Total
A Native Language Primacy	10,174	86	10,260	7%
B Continued Instruction in the Native Language and English	39,400	428	39,828	26
C Change in Language of Instruction	58,001	3,425[1]	61,426	40
D All English with Special Instruction in English	22,664	15,571	38,235	25
E All English without Special Instruction in English	1,481	662	2,143	1
Total Students[2]	131,720	20,172	151,892	100%[3]

[1] Includes 2,184 students receiving services which could not be easily classified as either type B or C.

[2] These data based on the 397 schools for which responses were available. The data from these schools were weighted and represent 92% first-grade LM-LEP students.

[3] Row percentages do not add to 100% due to rounding error.

9.' Variation Within Each Service Cluster

Although clusters are a convenient way of summarizing services, all services within a cluster type are not identical. In this section the variation within cluster types is explored in relation to the key variables EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS, PURPOSE OF NATIVE LANGUAGE USE, and EXTENT OF NATIVE LANGUAGE USED IN TEACHING ENGLISH.

Table 9.5 presents the distribution of EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS subdivided by cluster type. It should be remembered that this variable does not include instruction in English or language arts in the student's native language. The clustering decision rules allowed Type A clusters to vary between 90% and 100%. In practice, almost all the identified Type A clusters used the native language 100% of the time in mathematics and other academic subjects. The mean was over 97%.

For both Type B ("Continued Instruction in the Native Language and English") and Type C ("Change in Language of Instruction") clusters a wide variation was possible in the extent of native language used (1 to 100% and 1 to 89%, respectively). The full range is represented in the data. However, although the ranges are similar, the Type C programs, as would be expected, tended to use the native language less. The mean for the Type C programs was 42% compared to 67% for the Type B programs.

While under certain conditions Type D and Type E programs could have as much as 15% academic native language use, such use was rare. Of the Type D programs, only 8% made any use of the native language for instruction in mathematics and other academic subjects. Of the Type E programs, not one indicated using it. The respective means for EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS were 1% and 0%.[1]

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[2] It is probable that, even when 0% language use was recorded for certain subjects by the principal or LM-LEP program coordinator, some native language use occurred when a native-language-speaking person was present. In fact, some program descriptions explicitly included mention of native language assistance, while no use of the native language was indicated on the corresponding data collection instrument.

TABLE 9.5

EXTENT OF NATIVE LANGUAGE USE IN ACADEMIC SUBJECTS
BY SERVICE CLUSTER TYPE

Percentage of Native Language Use	Percentage of Schools					
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	All Clusters
0%	-	-	-	92%	100%	53%
1-10	-	3%	20%	8	-	10
11-20	-	3	9	-	-	3
21-30	-	7	4	-	-	2
31-40	-	10	7	-	-	3
41-50	-	15	25	-	-	9
51-60	-	8	8	-	-	3
61-70	-	5	14	-	-	4
71-80	-	8	8	-	-	3
81-90	27%	10	6	-	-	4
91-100	73	30	-	-	-	5
Total	100%	100%	100%	100%	100%	100%
Unweighted N	27	106	132	121	11	397
Mean	97%	66%	42%	1%	0%	22%

The distribution of PURPOSE OF NATIVE LANGUAGE USE, shown in Table 9.6, similarly presents few surprises. In all of the Type A and 89% of the Type B clusters, the exclusive or primary purpose of native language use was content instruction. In Type C clusters there was considerable variation, with 57% using the native language exclusively for content instruction and 32% using it exclusively for facilitation purposes. In the rare cases within Type D clusters in which the native language was used, it was used exclusively for facilitation. Finally, none of the schools with Type E clusters had any native language use in academic classes.

TABLE 9.6

PURPOSE OF NATIVE LANGUAGE USE IN ACADEMIC CLASSES BY SERVICE CLUSTER TYPE

Purpose of Native Language Use	Percentage of Schools					
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	All Clusters
Exclusively Content Instruction	100%	89%	57%	0%	0%	29%
Mainly Content Instruction	-	?	5	-	-	2
Equally Content Instruction and Facilitation	-	2	2	-	-	1
Mainly Facilitation	-	3	3	-	-	1
Exclusively Facilitation	-	3	32	8	-	14
No Academic Native Language Use	-	-	-	92	100	53
Other (Missing or Unscorable data)	-	1	1	-	-	-
Total	100%	100%	100%	100%	100%	100%
Unweighted N	27	106	132	121	11	397

Another variable of special interest was the EXTENT OF NATIVE LANGUAGE USE IN TEACHING ENGLISH LANGUAGE ARTS. Its distribution is shown in Table 9.7. For the Type D and Type E clusters there was, as might be expected for "All English" classrooms, little use of the native language in teaching English. The percentage of native language used in teaching English language arts was zero for all the Type E cluster schools, and zero for 78% of the Type D cluster schools.

TABLE 9.7

EXTENT OF NATIVE LANGUAGE USE IN TEACHING ENGLISH BY SERVICE CLUSTER TYPE

Percentage of Native Language Use	Percentage of Schools					
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	All Clusters
0%	50%	43%	15%	78%	100%	57%
1-10	23	22	19	14	-	16
11-20	-	9	11	2	-	5
21-30	-	5	16	5	-	8
31-40	-	4	9	-	-	3
41-50	5	11	9	1	-	4
51-60	-	-	1	-	-	-
61-70	-	-	1	-	-	-
71-80	-	1	9	-	-	3
81-90	22	2	10	-	-	4
91-100	-	2	-	-	-	-
Total	100%	100%	100%	100%	100%	100%
Unweighted N	27	106	132	121	11	
Mean	24%	16%	32%	3%	0%	13%

For the Type A, B, and C clusters the distributions were quite different -- in each case the range of use was from 0% to over 80%. Somewhat surprisingly, the percentage of schools that used no native language in teaching English decreased across the clusters A, B, and C (from 50% to 43% to 15%). Apparently, Type A clusters, which used the native language extensively in the academic subjects, used it less frequently when teaching English. The situation may well have been that they had different teachers for the two subjects, each of whom used one language exclusively; 30% of the first-grade LM-LEP students sampled in this study did have two or more teachers. Within a Type C cluster, on the other hand, there may be a tendency to rely on the native language for support and facilitation across all subjects.

The main distinction between the All English clusters (Types D and E) was whether or not students received special instruction in English, in addition to that received by native English-speaking students. Type D clusters provided students with special instruction in English and Type E clusters did not. In terms of Type A, B, and C clusters, there seemed to be little systematic variation. There was special English instruction in 85% of the Type A clusters, 93% of the Type B clusters, and 90% of the Type C clusters. Similarly, whether or not students received instruction in mathematics and other academic subjects showed little systematic variation. Of the 347 schools in the first-grade cluster sample, only 2 schools were identified as not teaching these subjects to LM-LEP students.

9.6 Correlates of Service Clusters

The goal of this section is to explore the relationship between cluster type and a number of other significant variables, in order to gain a better understanding of the contexts in which these services were offered. Since the other variables of interest were mainly school-level variables, it became necessary to "elevate" service cluster to a school-level variable. (As defined and used earlier, service cluster refers to a group of services provided to one or more LM-LEP students at a school; consequently, each school could have a number of cluster types associated with it.)

For the purposes of this section, the typical services provided to the least English-proficient first-graders of the predominant language-minority group were considered as the school's cluster. The rationale behind this decision was that there are proportionally more LM-LEP students at the first-grade level at most schools than at other grade levels. Also, the typical services provided to the least proficient LM-LEP students of the predominant language represent the services provided to the largest number of first-graders. Furthermore, in most cases the services provided for the first-graders are the same as the services provided for other pupils, and the services received by the least proficient are the same as those received by the more proficient LM-LEP students.

Language

Table 9.8 presents the association between school cluster and the most common language of LM-LEP students in the school, weighted to represent the number of schools nationally. The table shows a clear association between language and cluster. The A, B, C and E clusters were much more prevalent in schools at which Spanish was the predominant minority language (100% of the A clusters, 95% of the B's, 85% of the C's and 81% of the E's). On the other hand, 44% of

TABLE 9.8

FIRST-GRADE SERVICE CLUSTERS BY PREDOMINANT LANGUAGE AT SCHOOL

Predominant Language At School	Percentage of Schools					
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	All Clusters
Spanish	100%	95%	85%	56%	81%	72%
Vietnamese	-	-	1	7	-	4
Hmong	-	-	-	7	-	3
Korean	-	-	1	5	-	3
Chinese	-	-	1	3	-	2
All Other	-	5	13	22	19	16
Total	100%	100%	100%	100%	100%	100%
Unweighted N of Schools	27	106	132	121	11	397

the D clusters were at schools at which Spanish was not the predominant minority language. Within the first-grade cluster sample of 397 schools, not one of the non-Spanish schools had an A cluster and only 6 of the 91 non-Spanish schools had B clusters. (The predominant languages in these six schools were Cape Verdean/Portugese, Arabic, Russian, Lao, Cambodian, and Amharic.)

An important consequence of this finding is that any simple relationship of cluster with another variable may well be confounded by language differences. Therefore, to clarify the situation the Spanish-predominant schools were divided into two groups: those in which there were only Spanish LM-LEP students at the school in the first-grade, and those in which there were other language-minority students as well. As shown in Table 9.9, systematic variation exists. Schools at which Spanish was the only language were most likely to have a Type C cluster. Schools at which Spanish was the predominant language, but at which there were also other language groups present, were most likely to have a Type D cluster. Finally, the schools at which languages other than Spanish predominated were highly likely to have a Type D cluster.

TABLE 9.9

FIRST-GRADE SERVICE CLUSTERS BY PREDOMINANT LANGUAGE

Languages of LM-LEP Students in the School	Percentage of Schools						
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
Spanish Only	5%	14%	44%	28%	9%	100%	155
Spanish-Other	3	15	24	53	5	100%	151
Other Only	-	2	15	78	4	100%	91

In order to avoid the danger of confounding cluster differences with language difference in subsequent analyses, correlates of service clusters were explored separately for Spanish-Only, Spanish-Other, and Non-Spanish Predominant schools.

Size of School

In addition to the particular language-minority groups present, another variable which may have great impact on services provided is the total number of LM-LEP students enrolled at the school. Table 9.10 presents the percentage of schools with particular clusters by size of school, and Table 9.11 presents that data not only by size of school but also in relation to the three predominant language subgroups discussed above. The averages have been weighted to represent the number of schools nationally.

TABLE 9.10

SERVICE CLUSTER TYPE BY SIZE OF SCHOOL

Number of LM-LEP Students in School	Percentage of Schools						
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
1-50	-	-	21%	68%	11%	100%	94
51-100	7%	18%	34	40	1	100%	86
101-200	4	28	39	29	-	100%	100
201-500	13	36	45	6	-	100%	86
501-1592	11	50	39	-	-	100%	31

The pattern is clear: schools with large LM-LEP populations overwhelmingly had Type B and C clusters (89% of the schools with LM-LEP populations greater than 500) while schools with small LM-LEP populations overwhelmingly had Type C and D clusters (89% of the schools with LM-LEP populations less than 51). This tendency was consistent across all three of the language groupings: Spanish-Only, Spanish-Other and Other-Only.

TABLE 9.11

SERVICE CLUSTER TYPE BY SIZE OF SCHOOL AND PREDOMINANT LANGUAGE GROUP

(1) Spanish only (N=155)

Number of LM-LEP Students in School	Percentage of Schools Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
1-50	-	0.4%	38%	46%	16%	100%	31
51-100	17%	32	33	16	2	100%	28
101-200	5	32	61	2	-	100%	40
201-500	14	28	58	-	-	100%	41
501-1592	5	62	33	-	-	100%	15

(2) Spanish-Other (N=151)

Number of LM-LEP Students in School	Percentage of Schools Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
1-50	-	-	14%	75%	11%	100%	25
51-100	4%	18%	35	43	-	100%	33
101-200	5	33	31	31	-	100%	40
201-500	13	47	30	10	-	100%	39
501-1592	17	45	38	-	-	100%	14

(3) Other-Only (N=91)

Number of LM-LEP Students in School	Percentage of Schools Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
1-50	-	-	12%	83%	5%	100%	38
51-100	-	1%	32	65	2	100%	25
101-200	-	11	13	75	-	100%	20
201-500	-	38	36	26	-	100%	6
501-1592	-	-	100	-	-	100%	2

Affluence of School Neighborhood

Interviewers who visited descriptive study sites were asked to characterize the relative affluence of the areas in which the schools were located. In all, 335 schools were visited, and because of data collection guidelines, these schools had relatively large numbers of LM-LEP students. Thus, there was a way to relate cluster to the affluence of the surrounding community, with the following two caveats: (1) this rating was not fully representative of the affluence of LM-LEP students since no data were obtained on the proportion of students who actually lived in the immediate community of these schools; and (2) the rating was a judgment made by the interviewer after discussions with school personnel. Results showed that both globally and within each language sub-category, affluent and middle income neighborhoods were less likely to have Type A and B clusters than low-income and poverty neighborhoods, and more likely to have Type D clusters.

For example, across all predominant language groups, 23% of schools in affluent or middle income neighborhoods had Type B clusters, compared to 44% of schools in low income or poverty neighborhoods. On the other hand, 38% of schools in affluent or middle income neighborhoods had Type D clusters, compared to 8% of schools in low income or poverty neighborhoods.

Duration of Services

Table 9.12 presents data on the relationship between school cluster and the mean number of years which students participate in special services. As the table shows, the overall trend was a progressive decrease in the number of years of participation in special services from Cluster A to Cluster D. (Because of the nature of Cluster E, a learning situation in which students receive no instruction separate from the instruction normally received by English-proficient students, years of participation was not a meaningful variable, and therefore was excluded from Table 9.12.) The differences among clusters on this variable may have been due to: (1) differences in the English proficiency levels of students entering special services; (2) differential exit criteria; and/or (3) differential effectiveness of instructional approaches in clusters. Data were not available to judge the relative importance of these factors.

TABLE 9.12

MEAN DURATION OF SERVICES BY SERVICE CLUSTER TYPE AND LANGUAGE GROUPING
(Weighted)

Languages of LM-LEP students in the School	Number of Years of Duration				
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E[1]
Spanish Only	3.5	3.0	2.5	2.5	N.A.
Spanish - Other	3.6	3.3	2.7	2.5	N.A.
Other - Only	-	2.7	3.5	2.7	N.A.
Overall	3.5	3.1	2.7	2.6	N.A.
Unweighted N	26	104	129	116	11

[1] Cluster E schools provide no special services.

State Activity

The relationship between service cluster and the level of state activity in services to LM-LEP students was also examined. For this purpose, the state activity index described in Chapter 5 was used. Table 9.13 shows the percentages of schools having various service cluster types within states with different levels of activity. In general, schools in states with high levels of activity were more likely to have Type A and B clusters, and less likely to have Type E clusters.

TABLE 9.13

SERVICE CLUSTER TYPE BY SCORE ON STATE ACTIVITY INDEX

State Activity Index[1]	Percentage of Schools						
	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
1-3	0%	0%	7%	79%	14%	100%	42
4-6	3	14	40	38	5	100	239
7-9	5	10	17	63	6	100	116

[1] See Table 5.1 for a full description of the index. Generally, states in the range 1-3 are minimally active, while states in the 7-9 range are highly active in the provision of services to LM-LEP students.

Title VII Funding

It is reasonable to hypothesize that schools in districts with ESEA Title VII Federal funding have different patterns of services from schools in districts without such funding. To examine that question, schools in districts with and without funding in 1983-84 and anytime in the previous five years (1979-84) were each compared in terms of the typical school service cluster. Table 9.14 shows the percentages of schools having various service clusters within funding categories. The results generally showed that schools in districts with Title VII funding were more likely to have Type A, B, and C clusters, and less likely to have Type D clusters than schools without such funding.

TABLE 9.14

SERVICE CLUSTER TYPE BY TITLE VII FUNDING IN 1983-84 AND IN PREVIOUS FIVE YEARS (1979-84)

	Percentage of Schools						
Title VII Funding in 1983-84	Cluster A	Cluster B	Cluster C	Cluster D	Cluster E	Total	Unweighted N
Yes	4%	18%	30%	44%	4%	100%	144
No	2	8	28	54	7	100	253
							397
Title VII Funding in Any of Previous Five Years (1979-84)							
Yes	4%	15%	31%	43%	8%	100%	325
No	2	3	24	68	3	100	72
							397

9.7 Summary

This chapter delineates the services offered to LM-LEP students in U.S. public elementary schools in terms of sets of instructional services that are provided to one or more LM-LEP students at a particular school. Services were classified into service clusters according to specific variables, such as: the extent and purpose of native language use in instruction, change in the extent of native language use, and the presence or absence of special instruction in English for LM-LEP students.

Five major types of service clusters were identified, ranging from a service type in which 90% or more of the time the native language is used to provide instruction throughout the entire school year (Type A) to one in which all instruction is provided in English, with the LM-LEP students receiving no additional services outside of that provided to any other non-LEP student in the school (Type E). The remaining three service cluster types (B, C, and D) fall between these two extremes. Some of the clusters were further subdivided, based on such variables as rate of transition from native language to English, and the presence or absence of native language personnel. The five service clusters found to optimally characterize the combinations of services were the following:

- Type A: Native Language Primacy
- Type B: Instruction in Native Language and English
- Type C: Change in Language of Instruction
- Type D: All English with Special Instruction in English
- Type E: All English without Special Instruction in English

When schools and students are placed within this service cluster categorization, the results indicate that:

- The service clusters offered by schools to first-grade least-English-proficient LM-LEP students from the predominant language-minority group in a school were Type D (54% of schools), Type C (28%), Type B(11%), Type E (7%), and Type A(3%) (some schools offered more than one cluster); results for third-grade students were very similar;

- The service clusters offered by schools to first-grade least English-proficient LM-LEP students from non-predominant language-minority groups were Type D (91% of schools), Type E(11%), and Types B or C (10%);

- Using certain simplifying assumptions, national estimates of the percentages of all first-grade LM-LEP students receiving each type of service cluster were Type C (40%), Type B (26%), Type D (25%), Type A (7%), and Type E (1%);

- In Type A and Type B clusters, the purpose of native language use was almost always for content instruction; in Type C clusters, native language use was sometimes for content instruction and sometimes for facilitation purposes;

- Type A and Type B clusters were offered almost exclusively at Spanish-predominant schools; schools at which a language other than Spanish was predominant were much more likely to offer Type D cluster services;

- As the number of LM-LEP students in a school increased, the probabilities of a school offering Type A, Type B, and Type C clusters also increased, and the probabilities of a school offering Type D and Type E clusters decreased;

- Schools in affluent and middle income neighborhoods (as rated by data collectors) were less likely to have Type A and Type B clusters than schools in low income and poverty neighborhoods, and were more likely to have Type D clusters;

- Mean number of years of duration of services was highest for the Type A cluster, next highest for the Type B cluster, and lowest for Type C and D clusters (duration of services is not relevant for the Type E cluster);

- Schools in states with high levels of involvement in services to LM-LEP students were more likely to have Type A and B clusters, and less likely to have Type E clusters;

- Schools in districts with federal Title VII funding were more likely to have Type A, B, and C clusters, and less likely to have Type D clusters.

CHAPTER 10

STUDY SUMMARY AND CONCLUSIONS

10.1 Introduction

In the latter part of the 1960s, and during the 1970s, there was a tremendous increase in the number and diversity of special services provided to language-minority limited-English-proficient (LM-LEP) students. This was due in large part to sudden increases in the numbers of such students nationwide. In order to assist local education agencies, the federal and state governments became involved in setting policy and funding these services. As federal, state, and local government involvement in this area has grown, so too have policy-makers' needs for accurate information on the different kinds of services being provided to LM-LEP students and how they affect these students' performance in all-English-medium classrooms. The purpose of the "National Longitudinal Evaluation of the Effectiveness of Services for Language-Minority Limited-English-Proficient Students" has been to address this need for accurate information.

The descriptive phase of this study focused on estimating the number of LM-LEP students in grades K-6 receiving special, language-related services in public schools in the United States, and on describing the services these students receive regardless of their source of funding. Over the past decade the federal government has commissioned several studies for the purpose of obtaining estimates of the number of school-age LM-LEP students (e.g., O'Malley, 1981, Oxford et al., 1980). However, the sizes of the estimates from these and related studies (such as Milne and Gombert, 1981) have varied to a great extent, at least in part because the studies have used different definitions of LM-LEP students. This study based its estimates of LM-LEP students on the definitions which were functionally operative in local school districts. It is local school and district staffs who are responsible for identifying LM-LEP children in their schools and deciding who will receive or not receive special, language-related services.

The study is based on the premise that schools rarely provide LM-LEP students with one service alone. Rather, students tend to be provided with combinations of services, which over the years have come to be associated with certain labels (e.g., "transitional bilingual education," "High Intensity Language Training;" "English as a second language," etc.). Each of these labels, however, has been applied so many times, by so many people, in so many different situations, that they have become ambiguous and all but useless as descriptors. Thus, the study adopted a strategy of categorizing services into sets, called "service clusters," based on their most salient features.

The study's findings are based on a four-stage national probability sample. The sample yielded information from 19 states, and within them 191 public school districts. Within these districts, data were obtained concerning 520 schools, 4,061 teachers of LM-LEP students in grades 1-5, and 1,665 LM-LEP students in the first and third-grades. The data were collected during the Fall of 1983 by mail questionnaire, telephone interview and site visits. Visits were made to 80 of the study's school districts and to 360 schools within these districts.

The visited districts all had substantial numbers of LM-LEP students (225 or more) in grades 1-5 or high concentrations of such students (50 or more in grade 1 or grade 3 in one or more schools). The visited schools within these districts, from which all the teacher and student data were obtained, had moderate to large numbers of LM-LEP students (12 or more in grade 1 or grade 3). With certain caveats,[1] the study's data from school district officials may be generalized to all public school districts in the United

[1] Technically, generalizations should exclude the state of Pennsylvania and northern portions of New York State; however, quite similar districts in adjacent states were included and we believe these exclusions pose no serious threat to the generalizability of the data. Also, although response rates were quite high (81% or more for each data collection instrument) and care has been taken to report only data which we believe to be representative and valid, non-response may have introduced bias which has gone undetected.

States with one or more LM-LEP students in grades 1 to 5; the same is true for data from school officials. Generalization of data from the teacher and student samples should be limited to public elementary schools having 12 or more LM-LEP students in either grade 1 or grade 3. Although only 33% of schools serving LM-LEP students meet these criteria (i.e., 12 or more LM-LEP students in grades 1 or 3), these schools contain 82% of LM-LEP students in grades K-6 nationwide.

10.2 Definitions of Limited English Proficiency

All estimates of the number of LM-LEP students and the descriptions of the services they receive are contingent upon the definition of LM-LEP student used. In the abstract, developing a precise, operational definition of limited English proficiency poses many difficult conceptual and measurement problems. In the context of public schools, these problems are compounded by an overlay of court and legislative requirements, financial and personnel limitations, and personal values pertaining to the evolution of American society and the roles that language and the schools may play.

The study's survey of school district and building level personnel indicates that there is considerable variation in the operational definition of a LM-LEP student from district to district, and also from school to school within some districts. At one extreme, some districts have neither an official definition of a LM-LEP student nor official entry criteria for eligibility for special LM-LEP services. At the other extreme, some districts have very specific, elaborate definitions and criteria which are uniformly applied in all district schools.

More specifically, 61% of the school districts reported having an official definition for a language-minority limited-English-proficient student, and 75% reported setting official entry criteria for eligibility for special LM-LEP services. Many of the districts (43%) with official definitions had various categories of LM-LEP students (for example, 11% used a four-way language proficiency classification: "beginner/intermediate/transitional/fluent in English"). The complexity of the definitions are associated with

state regulations and the number of LM-LEP students in the district, with almost all (91%) of the districts which do not have entry criteria having small numbers of LM-LEP students (under 200).

District officials reported using three main factors as entry criteria, typically with two or three of these factors combined. The factors were:

- tested oral proficiency in the English language (92%);
- judgment by school or district personnel of student need (82%); and
- tested proficiency in reading or writing English (65%).

Overall, a comparison between factors used by schools to define LM-LEP students and by school districts to define program entry criteria indicates that schools tend to use fewer criteria than districts reported was their official policy (e.g., 7% of districts reported using a single criterion, while 49% of the schools reported using only one). However, a more detailed comparison of the entry criteria for first and third-grade LM-LEP students used by schools with the entry requirements of the districts in which these schools were located revealed a moderately high percentage of agreement. Only in those cases where districts require oral and written tests of English, or oral and written tests plus staff judgment, were schools likely to use fewer than the district requirements. In such cases they were likely to ignore the required use of written tests of English. Conversely, in cases where districts did not require staff judgments or tests of oral English, these criteria were frequently added at the school level.

With respect to exiting LM-LEP students from special services, most schools used the same criteria as they used for entry. Schools also tended to adopt the exit requirements of their districts, although they sometimes added requirements not imposed by the district.

Thus, both with respect to local definitions of limited English proficiency and to criteria used for determining entry and exit from special services, there is considerable variation across schools and school districts. In addition, within these general categories there are important differences in the measurement instruments and procedures used which further add to the variation.

10.3 Number of LM-LEP Students

Because of the problems and variations in the definition of limited English proficiency, all counts and estimates of LM-LEP students will be problematic. Thus, it is not surprising that previous estimates of school-age children have varied widely, from a low of 700,000 to a high of 3,600,000, and that the fluctuation corresponds to the differences in the definitions used.

In this study, the U.S. Department of Education decided that it wanted estimates of the number of LM-LEP students in school as defined by local school districts. This provides the Department with an estimate of the number of language-minority students with limited English proficiency as judged by the educational agencies most directly responsible for identifying such children, and avoided the problem of imposing a definition on school personnel which did not correspond to their existing categories.

The study's estimates were developed on the basis of the number of LM-LEP students in grades K-6 reported by the school districts and on the basis of the corresponding numbers reported by schools. Both of these estimates were obtained by weighting the data appropriately so that the end result would describe the nation as a whole. The district-level data are more complete and provide a more accurate estimate of the overall number of LM-LEP students.

While the study's estimates at the K-6 level are believed to be quite valid, like all such estimates they have their limitations. Thus, the reader should bear in mind that the sample was restricted to public schools, the data collected concerned only grades K-6, and the estimates presented are specific to the Fall of 1983, when the data were collected. This latter point is important because the functionally operative definition of who is considered a LM-LEP student in a particular district or school may vary from year to year as a result of administrative policy, legal requirement, or economic pressures. Firally, there is a possibility that the interaction between externally imposed requirements to serve all students in need of special English language services and limitations of finances and personnel led some districts to define and report LM-LEP students in terms of services provided rather than in terms of an external criterion of need.

Based on the data collected from school districts in the 1983-84 school year, there are estimated to be approximately 882,000 students locally defined as LM-LEP in grades K-6 of public schools in the U.S. Of these, approximately 76% have Spanish as their native language.

Expanding the public school estimate to include private school enrollments, there are approximately 970,000 LM-LEP students in grades K-6. When the estimate is further expanded to include all grades (K-12), the results indicate approximately 1.355 million LM-LEP students.[2]

10.4 Characteristics of LM-LEP Students

Data collected concerning 849 randomly selected first-grade and 816 third-grade LM-LEP students enrolled in schools having 12 or more LM-LEP students in either grades 1 or 3 and data gathered on all LM-LEP students in these schools indicate that:

- Spanish was the predominant native language of LM-LEP students in 63% of schools, and Southeast Asian languages in 14% of schools; a wide variety of other language groups were predominant in the remaining 23% of schools.
- Thirty-six percent (36%) of schools with LM-LEP students in grades 1-5 had only 1 foreign language represented, and 3% had 12 or more; the mean was 3.5 languages. Eighty-one percent of schools had at least one Spanish-speaking LM-LEP student, 24% had at least one Korean LM-LEP student, 22% had at least one Vietnamese student, and 20% had at least one Cantonese student.
- Of the first and third-grade LM-LEP students, 78% spoke Spanish as their native language; 3% spoke Cantonese; 2% spoke Vietnamese; 2% Tagalog, and 2% Cambodian. No other language accounted for more than 1% of the LM-LEP students.

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[2] The estimates beyond grades K-6 in public schools are based on extrapolation and thus of necessity are on less firm ground than the estimates not using extrapolation.

- Approximately 55% of first and third-grade LM-LEP students were born in the U.S.; 16% were born in Mexico, and 4% were born in Puerto Rico; Spanish-speaking LM-LEP students were more likely to be born in the U.S. than LM-LEP students speaking other languages (64% vs. 23%); 3% of first-grade and 15% of third-grade LM-LEP students have received some formal education outside of the U.S.

- Both male and female third-grade LM-LEP students were slightly older (by four or five months) than national norms for third-grade students; first-grade LM-LEP students were very near national age norms.

- 91% of LM-LEP students in grades K-6 received free or reduced price lunches, compared to 47% of all students in the same schools.

- First and third-grade LM-LEP students were rated by their teachers as, on the average, being below grade level proficiency in English language arts, native language arts, and mathematics; in all areas, however, third-grade LM-LEP students were rated as being closer to grade level proficiency than first-grade LM-LEP students; furthermore, 29% of first-grade and 38% of third-grade LM-LEP students were given equal or higher ratings on their overall English skills compared to their overall native language skills, although the ratings on skills in both languages were below grade level proficiency levels.

Thus, the typical LM-LEP student in the lower elementary school grades is U.S.-born, speaks Spanish, is from a low income family, and has attended school exclusively in the U.S. First-grade LM-LEP students are approximately the same age as their English-proficient classmates but are viewed by their teachers as being below grade level proficiency in mathematics and in their native language, as well as in English. Third-grade LM-LEP students are slightly older than national norms but are viewed by their teachers as being not as far below grade level in mathematics and English as are their first-grade LM-LEP peers.

10.5 Services Provided to LM-LEP Students

According to school district sources, 97% of districts with LM-LEP students in grades K-6 offered special instructional services to those students, and some sort of special service was actually being received by approximately 94% of these students. However, in the judgment of about 12% of teachers, there were additional language-minority children who needed LM-LEP services and were not receiving them. Conversely, about 30% of the schools offering services to LM-LEP students indicated that they had also occasionally

provided such services to students that they thought would benefit from them, but whom they did not officially classify as LM-LEP. The percentage of LM-LEP students receiving special services was greater in the ten states with the highest LM-LEP populations (96%) than in other states (86%).

Every district offering special services reported that a goal of such services was to bring the English proficiency of LM-LEP students to the level necessary to function effectively in an all-English-medium classroom; 91% of districts stated that another goal was to provide other skills necessary to function effectively in public school classrooms; and 15% of districts said a goal was to maintain and improve the native language proficiency of LM-LEP students.

Special services for LM-LEP students were normally provided in regular elementary schools rather than magnet schools or special centers. Typically, services were in regular mainstream classrooms (84% of districts), and/or in specially designated classrooms (67% of districts). More schools had classes in which LM-LEP students were mixed with English-language-background students than had classes for LM-LEP students containing only language-minority students. Most frequently, LM-LEP students received instruction in a whole class setting or in small groups of 2-10 students; the use of whole class or large group (more than 10 students) instruction was more frequent for mathematics instruction (49% of students) than for English instruction (36%). For both first and third-grade LM-LEP students who are taught in classes where other language-minority students are present, most frequently some of the language-minority students were proficient in English while most were limited-English-proficient. However, third-grade students were more likely than first-grade students to be in classes in which most of the language-minority students were proficient in English.

The average LM-LEP student was under the supervision of a teacher for 23.5 hours per week, and received instruction in academic subjects for 18 hours per week. At both grades 1 and 3, the average LM-LEP student received instruction at slightly below grade level for most academic subjects.

Spanish-speaking LM-LEP students were more likely to receive instruction in their native language than were other LM-LEP students, and the native languages of LM-LEP students were more frequently used for instructional purposes with first-grade than with third-grade students. Approximately half of the LM-LEP students received instruction in their native language as an academic subject, and approximately three-quarters received instruction relating to their ethnic heritage. Spanish-speaking LM-LEP students received more instruction in native language oral development, native language reading, and ethnic heritage than did other LM-LEP students. At the first-grade level, but not at the third-grade, Spanish-speaking students received less instruction in English oral development and English reading than other LM-LEP students.

In order to analyze services more fully, five major types or clusters of services were identified. These ranged from a service type in which 90% or more of the instruction is provided in the native language throughout the entire school year (Type A) to one in which all instruction is provided in English, with the LM-LEP students receiving no additional services outside of that provided to any other (non-LEP) student in the school (Type E). The remaining three service cluster types (B, C, and D) fall between these two extremes. Some of the clusters were further subdivided, based on such variables as rate of transition from native language to English, and the presence or absence of native language personnel. The five service clusters used to characterize the combinations of services were the following:

- Type A: Native Language Primacy
- Type B: Continued Instruction in Native Language and English
- Type C: Change in Language of Instruction
- Type D: All English with Special Instruction in English
- Type E: All English without Special Instruction in English

Table 10-1 presents the distribution of the most prevalent set of services provided to first-grade LM-LEP students of the predominant language group in each of the sampled schools and the percentage of such students associated with each service cluster. The results have been weighted to provide national-level estimates.

TABLE 10.1

PERCENTAGE OF SCHOOLS AND STUDENTS FOR TYPICAL SERVICE CLUSTERS FOR FIRST-GRADE LM-LEP STUDENTS FROM THE PREDOMINANT LANGUAGE-MINORITY GROUP

Service Cluster Type	National Percentage of Schools	National Percentage of LM-LEP Students[1]
A. Native Language Primary	3%	7%
B. Continued Instruction in the Native Language and English	11	26
C. Change in Language Instruction	29	40
D. All English with Special Instruction in English	51	25
E. All English without Special Instruction in English	6	1
Total of Primary Clusters	100%	100%

[1] Column percentages do not add to 100% because of rounding.

As the table shows, although the greatest number of schools nationally (51%) offered Type D cluster services, the greatest number of first-grade pupils nationally (40%) received Type C cluster services. Also, while only 14% of all schools offered Type A or Type B cluster services, these schools enrolled 33% of all first-grade LM-LEP students.

Type A and Type B service clusters were offered almost exclusively at Spanish-predominant schools, while schools at which a language other than Spanish was predominant were much more likely to offer Type D cluster services. As the number of LM-LEP students in a school increased, the probabilities of a school offering Type A, Type B, and Type C clusters also increased, and the probabilities of a school offering Type D and Type E clusters decreased.

It should be noted that some schools provided more than one cluster of services, with services varying by type of student. Overwhelmingly (91% of schools), schools offered their first-grade, least English-proficient LM-LEP students from non-predominant language-minority groups Type D service clusters.

With respect to the duration of special services, approximately 20% of all LM-LEP students were reported by school personnel to have been mainstreamed into all-English-medium classrooms during the year preceding the study. Other estimates of the percentage mainstreamed range from roughly 30% to 40%, depending on the duration of time needed for receiving certain types of services.

10.6 Instructional Staff

The instructional personnel who provided services to LM-LEP students varied widely in their background and experience. Data provided by districts indicate that in 1983-84, an estimated 44,296 teachers in grades K-6 in the U.S. were offering LM-LEP students special services related to these students' limited English proficiency. There were also an estimated 4,083 special education teachers providing services to LM-LEP students, 4,920 resource or instructional support staff for LM-LEP students (resource teachers, curriculum or materials developers, etc.), and 26,474 paraprofessionals (aides or tutors) serving LM-LEPs in grades K-6.

Schools serving any LM-LEP students had an average of 4.0 teachers who provided special services, 3.5 paraprofessionals, .8 special education teachers, and 1.1 resource or instructional support staff members. Overall, there was an average of 15.6 LM-LEP students for each teacher offering special services. The average class size for these teachers, however, was undoubtedly larger, since some of the classes included English-proficient students as well as LM-LEP students. The teachers were almost all full-time employees (92%), but a majority of the paraprofessionals serving LM-LEP students (56%) were part-time staff members.

Fifty percent of academic teachers of LM-LEP students reported that they were able to speak a language other than English which their students also spoke. In 98% of the cases where the teacher spoke another language, that language was Spanish. Teachers with bilingual credentials and teachers who spoke another language were more likey to stress the importance and usefulness of native language use as part of their teaching philosophy than were other teachers.

Teachers providing academic instruction to LM-LEP students had a median of 10.7 years of teaching experience in grades K-6, and 5.8 years of experience teaching LM-LEP students. Ninety-four percent of these teachers had elementary teaching credentials or certificates, 28% had bilingual credentials, 12% had secondary school credentials, 11% had early childhood credentials, and 6% had ESL credentials.

Sixty-three percent of the districts required teachers of LM-LEP students to have state or district ESL or bilingual education certification. In a number of districts where certification was required, however, some teachers of LM-LEP students had only provisional certification or a waiver. Waivers or provisional certification was allowed in 84% of these districts, and the median district had 12% of its teachers of LM-LEP students on waivers. Of all districts requiring such certification, 37% had no teachers under waiver, but in 14% certification had been waived for them all (i.e., in 9% of all districts serving LM-LEP students in grades 1-5, nationwide). In addition, schools reported that approximately 60% of teachers and 56% of paraprofessionals instructing LM-LEP students had received college or in-service training related to teaching LM-LEP students.

10.7 Conclusions

This study made no assessment of the appropriateness of the entry-exit criteria in use by local schools, the extent to which students were in need of special instructional assistance because of their limited proficiency in English, nor of the quality and effectiveness of the services being offered. These issues will be addressed in the longitudinal evaluation which is the second phase of this study. However, from the descriptive data obtained several conclusions may be drawn which are germane to current policy debates and to the conduct of further research. Briefly, these are that:

- The presence of students with limited proficiency in English poses a large and complex problem for many of the nation's schools. For some, the problem is coping with large numbers from one language group, for others, it is coping with smaller numbers of students from up to 10 and 12 different language groups; and for still others, it is coping with both a large and a highly diverse population of limited-English-proficient students. For the most part, these students are not only limited in their English proficiency, they also come from poor families and enter first-grade academically behind in math and other subjects as well as English. Most of these students were born in the United States.

- Almost all schools and school districts are making special efforts to assist their LM-LEP students, although they are not necessarily serving them all. In virtually all cases, a goal of these special services is to enable students to function in an all-English-medium classroom. Although some schools are also attempting to maintain and enhance their students' proficiency in their native language, this is true in only a relatively small proportion of schools. And, even in these, considerable energy is devoted to teaching students the English language.

- There is no common operational definition of a LM-LEP student nor a common set of criteria for entry and exit from special services. For complex methodological and practical reasons, the definition of LM-LEP and the entry-exit criteria in use vary considerably among school districts and even among some schools within the same district. Many personnel at the school and district level who are working closely with LM-LEP students are not satisfied with the procedures they themselves are using to identify students needing special assistance.

- The quality of the instructional staff providing services to LM-LEP students is far from uniform. Some teachers of these students are well qualified but others are not, and there is an apparent shortage of specially trained staff in some locations. Most teachers of LM-LEP students have elementary school teaching certificates and several years of relevant teaching experience. Relatively few teachers have received state or local certification in bilingual education or ESL. About 60% have received recent special training in the teaching of students with limited English ability.

- There are various instructional approaches to serving the needs of LM-LEP students, often with several being used in the same school. There are also little sound data indicating the conditions under which the various approaches are most effective. The design of research concerning the effectiveness of such approaches should explicitly recognize the diversity of instructional practice which occurs under the same programmatic rubric (e.g., ESL or bilingual education), the variations in the criteria actually used in assigning students to services even within the same school districts, and the considerable variation in the linguistic and other salient background characteristics of LM-LEP students.

- Finally, there is a positive climate in most schools toward serving the needs of LM-LEP students. While many school personnel are harassed, overworked and skeptical about the merits of innovative programs and further research, they were found during the course of this study to be sincerely interested in effectively serving their LM-LEP population and eager to participate in activities which they believed would further that end.

In sum, this report has provided an analytic description of the services offered to limited-English-proficient elementary school students regardless of the source of funds, and estimates of the numbers of such students being served. In doing so, it has also laid a foundation for the second phase of the overall study, the longitudinal evaluation of the effectiveness of services which is currently underway.

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APPENDICES

APPENDIX A: TECHNICAL ADVISORY PANEL MEMBERS

APPENDIX A

TECHNICAL ADVISORY PANEL MEMBERS

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APPENDIX B: LIST OF SCHOOL DISTRICTS PARTICIPATING IN THE DESCRIPTIVE STUDY PHASE

APPENDIX B

LIST OF SCHOOL DISTRICTS PARTICIPATING IN THE DESCRIPTIVE STUDY PHASE

STATE	SCHOOL DISTRICT (SD)
ARIZONA	Amphitheater SD 10
	Bisbee Unified SD 2
	Douglas Unified SD 27
	Duncan Unified SD ?
	Kayenta Unified SD 27
	Nogales Unified SD 1
	Sunnyside SD 12
CALIFORNIA	Alameda Unified SD
	Alum Rock Union Elementary SD
	Banta Elementary SD
	Bitterwater Tully Unified SD
	Buttonwillow Union SD
	Calipatria Unified SD
	Cambria Unified Elementary SD
	Chatom Union Elementary SD
	Coalinga-Huron Unified SD
	Coronado Unified SD
	Delta Islands Unified SD
	El Centro SD
	Emery Unified SD
	Gonzales Union Elementary SD
	Holt Union Elemetary SD
	Jefferson Elementary SD
	La Habra City SD
	Lammersville Elementary SD
	Lincoln Unified SD
	Little Lake City Elementary SD
	Live Oak Elementary SD
	Long Beach Unified SD
	Los Alamitos Unified SD
	Los Angeles Unified SD
	Meadows Unified Elementary SD
	Merced River Union Elementary SD
	Middletown Unified SD
	Monterey Pen Unified SD
	Mountain View Elementary (El Monte) SD
	New Jerusalem Elementary SD
	Oak Grove Elementary SD
	Oakdale Union Elementary SD
	Oakland City Unified SD
	Ojai Unified SD

CALIFORNIA (Cont.)	Ontario-Montclair SD
	Oxnard Elementary SD
	Paradise Elementary SD
	Pasadina Unified SD
	Patterson Joint Unified SD
	Richmond Unified SD
	Riverbank Elementary SD
	Roberts Ferry Union Elementary SD
	Salida Union Elementary SD
	San Diego SD
	San Francisco Unified SD
	San Marino Unified SD
	Santa Ana Unified SD
	Santa Cruz City SD
	Saratoga Union Elementary SD
	Snelling-Merced Falls Union SD
	Sonora Elementary SD
	Stanislaus Union SD
	Tres Pinos Union Elementary SD
	Turlock SD
	Valley Home Joint Elementary SD
	Waterford SD
	Winton Elementary SD
	Woodlake Unified Elementary SD
COLORADO	Alamosa SD
	Aurora SD
	Boulder Valley SD
	Center Consolidated SD
	Del Norte SD
	Denver SD
	Ignacio SD
	Mapleton SD
	Monte Vista SD
	South Conejos SD
	Westminster SD
CONNECTICUT	East Haven SD
	Hartford SD
	New Haven SD
	West Haven SD
	Woodbridge SD
FLORIDA	Broward County SD
	Dade County SD
	Lee County SD
ILLINOIS	Chicago Public SD
	Evanston SD
MARYLAND	Baltimore City SD
	Baltimore County SD
	Montgomery County SD

MASSACHUSETTES	Boston SD
	Lynn SD
MICHIGAN	Comstock Park SD
	Detroit Public SD
	Ferndale Public SD
	Grand Rapids SD
	Grosse Pointe School System
	Hamtramck Public SD
	Highland Park SD
	Lansing Public SD
	Oak Park City SD
MINNESOTA	Mounds View SD
	St. Paul Independent SD
	Wayzata SD
NEVADA	Clark County SD
	Pershing County SD
	Washoe County SD
NEW JERSEY	East Newark SD
	Guttenberg SD
	Haledon SD
	Hawthorne SD
	Highland Park Public SD
	Hoboken SD
	Jersey City SD
	Newark SD
	North Brunswick Township SD
	Old Bridge Township SD
	Paterson SD
	Piscataway Township SD
	Pompton Lakes SD
	Prospect Park SD
	Ringwood Public SD
	Sayreville SD
	Secaucus SD
	South River SD
	Totowa SD
	Union City SD
	Wayne Township SD
	Weehawken SD
	West Milford Township SD
	West Paterson SD
NEW MEXICO	Chama Valley Independent SD
	Dulce SD
	Espanola SD
	Gadsden Independent SD
	Hatch Valley Municipal SD
	Las Cruces SD
	Penasco SD
	Taos Municipal SD
	Tularosa SD

NEW YORK	Great Neck Public SD
	Mineola Union Free SD
	New York City Community SD 6
	New York City Community SD 7
	New York City Community SD 19
	New York City Community SD 20
	New York City Community SD 22
	New York City Community SD 30
	Westbury Union Free SD
NORTH CAROLINA	Charlotte-Mecklenberg District 30
	Cumberland County SD
	Duplin County SD
	Fayetteville City SD
	Winston-Salem Forsythe County SD
	Wake County SD
OHIO	Cleveland City SD
	Lakewood City SD
TEXAS	Birdville Independent SD
	Brownsville Independent SD
	Dallas Independent SD
	Dilley Independent SD
	Donna Independent SD
	Eagle Mt. Saginaw SD
	Edgewood Independent SD
	Edinburgh Independent SD
	Fort Worth Independent SD
	Harlandale Independent SD
	Houston Independent SD
	Lake Worth Independent SD
	Lubbock Cooper SD
	Lubbock Independent SD
	Mercedes Independent SD
	Monte Alto Independent SD
	Poteet Independent SD
	Roosevelt Independent SD
	San Antonio Independent SD
	Santa Rose Independent SD
	Weslaco Independent SD
	White Settlement Independent SD
	Wilmer Hutchins SD
UTAH	Alpine SD
	Davis County SD
	Duchesne County SD
	Logan City SD
	Murray City SD
	Ogden City SD
	Salt Lake City SD
	Weber County SD

WISCONSIN	Glendale River Hills SD
	Kenosha Unified SD
	Milwaukee SD
	Shorewood SD
	Sheboygan SD
	Wausau SD
	Wauwatosa SD
	West Allis-West Milwaukee SD
	Whitefish Bay SD 1

APPENDIX C: BRIEF SUMMARIES OF THE CONTENTS OF THE DESCRIPTIVE STUDY INSTRUMENTS

APPENDIX C
BRIEF SUMMARIES OF THE CONTENTS OF THE DESCRIPTIVE STUDY INSTRUMENTS

1. School District Services Questionnaire

This structured, self-administered questionnaire dealt with:

- School district policies and practices regarding the provision of services to Language-Minority Limited-English-Proficient students (LM-LEPs);
- Administrative definitions, categories and numbers of LM-LEPs in each of grades K through 6 in the school district; and
- School district LM-LEP service funding sources.

2. School Characteristics Questionnaire

This structured, self-administered questionnaire dealt with:

- LM-LEP student body characteristics (e.g., number of LM-LEPs by grade, language backgrounds of LM-LEPs);
- LM-LEP services staff types and qualifications;
- Ancillary services provided to LM-LEPs; and
- Language-minority parent and community involvement in school activities.

3A. School Services Interview Guide

This structured interview dealt with:

- The categories of LM-LEP students enrolled in the school;
- The assessment process used to identify LM-LEP students;
- The entry and exit criteria used by the school for their LM-LEP services;
- The instructional services provided to LM-LEP students in grades K-5 in the school; and
- The integration of LM-LEP services with those offered to students in all-English-medium classrooms.

3B. Services Flow Diagram

This form was completed by field staff and was reviewed for accuracy by the Form 3A respondent. It therefore accompanied the School Services Interview Guide and, based on the information contained in that instrument, provided a graphic representation of the LM-LEP services, by grade, that existed in the school, and how they were linked.

4. Teacher Questionnaire

This structured, self-administered questionnaire dealt with:

- Teacher characteristics (e.g., credentials held, years of teaching experience);
- Types and extent of services provided to LM-LEPs;
- Pattern of language use in the instruction of LM-LEPs;
- Administrative and supervisory responsibilities of the teacher; and
- The educational philosophy underlying the teacher's instructional approach.

5. Student Instructional Information Questionnaire

This structured, self-administered questionnaire dealt with:

- Individual student proficiencies in language and mathematics related skill areas;
- Content areas and amount of instruction received;
- Pattern of language use in the provision of instruction; and
- Settings in which instruction was provided.

6. Student Background Questionnaire

This structured questionnaire was completed by field staff from school records and dealt with:

- Individual student demographic information (e.g., sex, date of birth, country of birth); and

- Individual student educational background information (e.g., schooling completed outside of the U.S., participation in special educational programs, length of enrollment in current school).

7. Interview Guide for Planning Longitudinal Study

This interview dealt with:

- Suitability of various alternative measures of special service effectiveness;
- Factors at the local school level which might affect the suitability of using certain alternative measures of service effectiveness; and
- Procedures used by schools to assess the effectiveness of their program for LM-LEP students, and information on how valid these procedures were considered.

8. School District Telephone Interview Guide

This interview dealt with:

- The school district's regular district-wide program of achievement testing for all students in grades K-6;
- The achievement testing practices relevant to the district's LM-LEP students in grades K-6; and
- The availability of statistical summaries on LM-LEP students regarding English language arts achievement, mathematics achievement and native language arts achievement.

9. Data Collector Notes

This form was completed by field staff for schools they visited and dealt with:

- Neighborhood characteristics (e.g., affluence, size and type of housing) in which the school was located or from where most of the LM-LEPs in the school came ;
- Overall climate in the school with respect to LM-LEP students and special problems for them;
- Problems, if any, in securing complete and valid data for each instrument;
- Any special comments potentially useful in interpreting the collected data; and
- Factors useful to consider in longitudinal study design planning.

APPENDIX D: SAMPLE DESIGN

APPENDIX D
SAMPLE DESIGN

A. Overview and Background for Sampling Decisions

The requirements for the total study called for a descriptive study phase of 100 sites, and a subsequent longitudinal study phase involving 30 sites. For purposes of addressing these requirements, a site was defined as an aggregation of 4 to 5 schools (in the same school district or in proximal districts) serving LM-LEP children in any of grades 1 through 5. While the specifics of sampling design and implementation for the descriptive phase study are discussed in subsequent subsections, an understanding of the basic nature of the descriptive phase, subsequent longitudinal phase, and the integration of the latter phase with the former are necessary to understand some constraints on sampling.

The principal goals of the descriptive phase were to identify the number of LM-LEP students nationally in elementary school grades, particularly those who received special, language-related instructional services, to describe the nature of these services and the context within which they are provided, to identify common service configurations (or clusters) and their prevalence, and to otherwise inform design decisions for the longitudinal phase. The principal goal of the longitudinal study phase was to assess the impact of specific service configurations (clusters) identified in the descriptive phase within several contexts and as applied to different language groups, through a 3-year follow-up of a sample of LM-LEP students starting in grades 1 and 3.

Because the service clusters were to be developed specifically for the schools and school districts selected for the descriptive phase, reliable information regarding the classification of schools, in terms of such service configurations, would be available only for that set of schools. Selection of schools or districts outside of this set would be cost ineffective and would increase the burden on such units (since much of the data already collected from descriptive component sample units would have to be collected again from newly selected schools and districts). Consequently, the schools and school districts selected for the longitudinal phase were designed to be a subset of the schools and districts selected for the descriptive phase.

Given the plan to obtain the sample of students for the longitudinal study phase from a subsample of the sites selected for the descriptive study phase, the entire sampling strategy was constrained by this ultimate aim. That is, it was necessary for the descriptive component sample not only to be

nationally representative of LM-LEP children and the services offered to them (including services offered in areas within which LM-LEP concentrations were small), but also to include schools and school districts of sufficient LM-LEP concentrations to support the subsequent 3-year longitudinal study phase, with allowance for reasonable degrees of freedom in subsampling for that phase.

To maximize the number of LM-LEP student per site in target grades as well as to increase precision of important estimates both for the student-based longitudinal phase and the descriptive phase, allocating the sample with probability proportional to the size (PPS) of the LM-LEP target population was clearly indicated. Further, to minimize the extent of data collection and other effort necessary for frame development within a PPS sampling allocation, a multi-stage sample was also indicated. Additionally, certain stratification factors (e.g., language group, general program type) were potential considerations.

Two techniques are effective in allocating a sample in proportion to a selected size measure. The first is stratified sampling with allocation proportional to the summed size measure for each stratum; the second is PPS sampling. These two techniques can be used effectively in conjunction with one another, and have been in the final design. Given the parameters previously determined, the basic sample design for the descriptive phase was established as a four-stage stratified design. First-stage units were states, second-stage units were school districts or counties (or clusters of proximal districts or counties), third-stage units were schools, and fourth-stage units were teachers and students.[1]

As with any PPS sampling strategy, a major consideration was the determination of an appropriate measure of size. Because the definition of the population of interest was allowed to vary among different school districts (see below), and because of differential availability of data of record from which to build sampling frames at successive sampling stages, proxy or estimated size measures

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[1] This design was chosen over a three-stage design, using counties or districts as the first-stage units, to reduce the data burden required in building the district/county frame (i.e., size measures for districts/counties in the four-stage design were only required within the selected first-stage states).

were used in some instances.[2] The more closely the proxy measure is related to actual LM-LEP population size, the greater will be the efficiency of the resultant sample; however, regardless of the relationship between the proxy measure and the actual LM-LEP population size, the resultant sample is still an entirely valid probability sample. The proxy measures actually used were carefully selected toward maximizing sample efficiency (as indicated below).

Other constraints on sample selection were introduced at various points of the frame construction and selection process; however, these are discussed subsequently in descriptions of the stages of selection. The procedure developed was expected to yield a descriptive phase sample of approximately 500 schools in 200 school districts. Additionally, the sample design was expected to yield approximately 4,500 elementary grade teachers of LM-LEP students and a sample of 2,000 LM-LEP children in grades 1 and 3 within a subsample of 200 schools. A schematic of the sampling procedure, identifying frame, sample, and respondents at each level of sampling is provided in Table D.1.

The study definition of an LM-LEP student, as specified by the Department of Education, is "a language-minority student in a particular community in the United States who, on the basis of criteria used at the site and degree of English proficiency, is judged unable to function successfully in a classroom where the language of instruction is English." The target population for the descriptive component was all such students in public schools in elementary grades, together with the teachers and other staff, schools, and districts that serve these students. The restriction of the target population to those in public schools was based on a recently completed NIE-funded, national study of private school services conducted by the Educational Testing Service, which indicated that few special services were offered to LM-LEP students in private schools. Consequently, this restriction is not seen as unduly limiting, and it considerably simplified sampling procedures.

The use of a locally defined judgmental determination of LM-LEP students was intentionally general. As such, it did not limit the study to students

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[2] It is worth nothing that a different proxy size measure may be used legitimately at each stage of sample selection as long as it is judged to be highly related to the LM-LEP population within that stage of sample. It should be noted that unbiased estimates of the actual size of the target population are possible from the data subsequently obtained by application of sampling weights (see Appendix E); such empirical estimates should not be confused with the proxy measures used in sampling.

TABLE D.1

OUTLINE OF SAMPLING PROCEDURES

Stage	Population	Sample	Respondents
1 (States)	All states and the District of Columbia	Probability sample of states (N=20)	None
2 (School Districts)	All districts serving LM-LEP students in any of grades 1-5	Probability sample of districts (N=229) in the selected states	Prespecified district-level staff (no sampling required)
3 (Schools)	All schools serving LM-LEP students in any of grades 1-5	Probability sample of schools (N=562) in the selected districts	School-level staff in prespecified categories (no sampling required)
4 (Teachers and Students)	All academic content teachers of LM-LEP students in any of the grades 1-5 in schools having 12 or more LM-LEP students in either grade 1 or grade 3	All academic content teachers of LM-LEP students in any of grades 1-5 (N=4995) in visited schools[1] (N=342) having 12 or more LM-LEP students in either grade 1 or grade 3	Teachers in prespecified categories (no sampling required)
	All LM-LEP students in grades 1 and 3 of schools having 12 or more LM-LEP students in either grade 1 or grade 3	Probability sample of students (N=1909) in a probability sample of visited schools[1] (N=202) having 12 or more LM-LEP students in either grade 1 or grade 3	Academic teachers of the selected students; school records

[1] A description of which schools were visited is presented in Section 2.3 .

eligible for or being served by specific federal, state, or local programs, thus allowing a considerably less confounded examination of the number and nature of such students and the several services provided to them (independent of funding source). The definition did provide some sampling problems; while many of these were solved by use of carefully selected appropriate proxy size measures, some were not (as indicated below).

B. Sampling Procedures and Outcomes

1. The State Sample

a. Size Measure

The preferred size measure for selecting states and for allocating LM-LEP sites to states would have been the associated state-level LM-LEP student population in grades 1-5 based on local LEA and school definitions, since the use of that measure would have eliminated any sampling error due to inefficiency of the size measure.[3] As stated previously, however, such state-level summaries of these counts were not generally available, and it was necessary to develop a substitute size measure, preferably one that correlated highly with the local LM-LEP count.

Several substitute size measures were considered in light of the quality of their relationship to the study definition, the timeliness of the information, and quality and limitations of the original data. Potential sources of data[4] included the 1980 Census of Population and other federal sources, including federally funded studies. Some potential data sources, other than the Census Bureau, that were considered include the Immigration and Naturalization Service (INS) (Gordon, 1982) and the Office of Refugee Resettlement (ORR), Development Associates' evaluation of the Classroom Instructional Component of ESEA Title VII, projections of the number of limited English proficient persons developed by InterAmerican Research Associates, Inc. (Oxford, 1980), and the commercial

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[3] That is, when selected with probabilities strictly proportional to the preferred size measure, the state sample would have yielded an estimate of grade 1-5 LM-LEPs that was equivalent to the population total across all states.

[4] Another important source of LEA-level data was later prepared by the National Center for Education Statistics and the Bureau of the Census, associating the 1980 Census data to the individual LEAs; however, these data files were not availble in time for use in this study.

Quality Education Data (QED) data base.[5]

Of the several size measures considered, the most uniform and consistent was available from the 1980 Census data. From Summary Tape File 3, counts were obtainable for the following populations:

(1) persons 5-17 years who speak Spanish at home and speak English poorly or not at all;

(2) persons 5-17 years who speak other than Spanish or English at home and speak English poorly or not at all;

(3) persons 5-14 years by race;

(4) persons 5-14 years of Spanish origin;

(5) persons enrolled in kindergarten and elementary school or in high school by race; and

(6) persons of Spanish origin enrolled in kindergarten and elementary school or in high school.

These counts were available both at county and state levels. While the Census data items address portions of the study definition of an LM-LEP student, none are fully compatible with the LM-LEP student definition. Also, by the self-reporting nature of the Census, some data items are subject to under-reporting, especially the counts on language proficiency.

The count of persons who speak a language other than English at home and speak English poorly or not at all corresponds most closely to the definition of an LM-LEP student. However, because this item is for persons 5-17 years, methods were considered to adjust these data to an age range closer to the target grades 1-5. The Census age by race data were considered but the age categories did not correspond adequately with the desired age ranges. The school enrollment data by race and Spanish origin, however, were considered the best source for an adjustment factor, namely, the ratio of enrollment in kindergarten and elementary school to the enrollment in kindergarten or elementary school and high school.

The ratio of the number of persons enrolled in kindergarten and elementary school to the sum of counts for persons enrolled in kindergarten, elementary

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[5] This organization maintains computerized files containing limited data on enrollment for all LEAs and schools.

school, and high school was computed separately for: (1) persons in the combined Asian, Pacific Islander, American Indian, Eskimo, and Aleut racial group, and (2) persons of Spanish origin. These age group adjustment factors were applied to Census counts for persons 5 to 17 years who speak other than Spanish or English at home and who speak Spanish at home, respectively, yielding estimates of non-Spanish-speaking elementary LM-LEP counts, Spanish-speaking elementary LM-LEP counts and, in combination, a total elementary LM-LEP count.

The estimated count of elementary LM-LEPs derived from the Census data has the advantages that the data: (1) were collected in a uniform fashion in 1980 for all states, (2) address approximately the grade levels of interest, and (3) include a measure of the limited English proficiency for language minority persons. It is recognized that the measure of language proficiency may not have reflected local definitions, and that the count of limited English proficiency was possibly subject to underreporting because of the self-reporting nature of the Census. Nonetheless, with the underreporting assumed to be approximately constant for all states, the measure based on these Census estimated counts should reasonably have reflected the relative size of the LM-LEP student population across the states. Further, assuming that no major shifts occurred in the LM-LEP student population among the states, this relative distribution, based on the 1980 Census data should have closely approximated the relationship among the states at the time of sampling.

The Census estimates were compared with some of the other data investigated. The Census-estimated state elementary LM-LEP counts and the 1980 projections of the LM-LEP population prepared by InterAmerican had a correlation of .96; the correlation for students of Spanish origin was .97, and the correlation for other-than-Spanish origin was .92. Upon inspection of the InterAmerica projections and the Census estimated elementary LM-LEP counts, the percentages of the national LM-LEP population in the states tended to be quite similar.[6] The data of estimated cumulative totals of recent Indochinese refugees (arrivals from 1975 to December 1981) also had a high correlation (.90) with the estimated elementary LM-LEP student counts.

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[6] Some of the differences can be attributed to the level of estimation used by InterAmerican (projections were in thousands) and the lack of projections for some states.

b. Frame Development and Selection

(1) General

For reasons of cost, operational efficiency, and reduction of burden, a general constraint was imposed on the state sampling; specifically, that no fewer than two sites would be allocated to any selected state. With this constraint, the first-stage sampling procedure involved allocating 100 sites within a frame consisting of the 50 states and the District of Columbia. PPS allocation was implemented using the size measure described above.

(2) Identification of Self-Representing States and State Allocation

Some states contained relatively large portions of the national LM-LEP student population. In order to control the number of sites selected from such states and to permit an adequate distribution of sites to other states, a separate stratum was defined to contain states that individually contained approximately 2 percent or more of the national estimated LM-LEP population. Under a PPS allocation of site, any state in this stratum would be allocated at least two sites and, therefore, these states were designated as self-representing (SR) states.[7] Ten states were identified for the SR stratum; those states (identified in Table D.2) contain in total an estimated 84 percent of the elementary LM-LEP student population, and were selected into the sample directly.

In the sense of a strict proportional allocation, 84 sites would be selected from the states in this stratum and 16 sites allocated to the non-self-representing (NSR) states. With the constraint of 2 sites per state, this allocation would result in the selection of 8 NSR states and, therefore, a total of 18 states in the first-stage sample. Although such a state sample would be sufficient for estimation purposes, it was decided to decrease the allocation of sites to the SR states stratum from 84 to 80 sites, in order to provide for greater sample diversity among the remaining states on state level factors such as state funding and state involvement in service provision.

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[7] County-level data as well as the state-level data were considered to account for situations in which LM-LEP student counts for a state were not among the largest but, due to pouplation concentrations, were relatively large for a particular area of the state.

Table D.2

Self-Representing States in Sample
and Percent of Estimated National Elementary LM-LEP Students

State	Percent of National Total†
California	31.5
Texas	20.1
New York	10.9
Illinois	5.4
New Jersey	3.6
Florida	3.4
Arizona	2.8
Massachusetts	2.0
Pennsylvania	1.9
New Mexico	1.9
Remaining states	16.5
Total	100.0

† The 10 SR states were estimated to contain approximately 92 percent of the Spanish LM-LEP population and 64 percent of the non-Spanish LM-LEP population.

This adjustment increased the allocation of NSR state sites to 20 and, consequently, allowed the selection of 10 NSR states.[8]

(3) Stratification and Selection of NSR States

Having identified the self-representing states and determined the sample size for the NSR states, stratification factors were identified for the NSR state sample. Stratification variables consisted of the relative size of the estimated elementary LM-LEP population in the state and a composite of indicators of each state's activities in LEP service provision. The indicators are identified in Table D.3.

NSR states were divided into two implicit strata based on the size measure. Using the relative size measure as the first stratification factor,[9] over half (5.2) of the 10 state selectons would be expected (on average over repeated samples) from among the 9 NSR states with the largest remaining proportion of elementary LM-LEP students; these states are identified in Table D.4. The second NSR size stratum contained the remaining 31 NSR states and the District of Columbia. These were subsequently stratified by the composite activity index.[10] Table D.5 shows the classification of these states by activity index and the expected number of state selections within each composite score value.

To select the NSR state sample, the states were first sorted into a list containing the 9 largest states ordered by size (largest to smallest) followed by the remaining states ordered by the composite score and within composite score by size. One state selection was made from each of 10 equal size zones (implicit strata) with boundaries formed in terms of the relative size measure aggregated through the ordered state listing. The 10 NSR state selections were made with probabilities strictly portional to the size measure using

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[8] This departure from strict proportional allocation results in a relatively minor reduction in the statistical efficiency of the sample relative to estimating the LM-LEP population count. Further, it should be noted that the 80 sites allocated to the SR state stratum were not constrained to follow the strict proportional allocation across the states based on the percentages shown in Table D.2 (except to the extent that at least 2 sites were to be selected from each state).

[9] The decision to group the NSR states initially by size was made in recognition of the fact that size is typically the single most important stratification variable for controlling the precision of estimated target population counts.

[10] Stratification by the activity index guarantees representation of states with different levels of activity in LEP services provision.

Table D.3

Rating Factors for Determining a State's Relative Participation in LEP Service Provision

Factor	Score
1. Title VII State Allocations:	
A. Training Grant:	
(1) Proportion allocated is 1% or more greater than LEP proportion	2
(2) Proportion allocated is more than 1% smaller than LEP proportion	0
(3) Otherwise	1
B. SEA Program:	
(1) Proportion allocated is 1% or more greater than LEP proportion	2
(2) Proportion allocated is more than 1% smaller than LEP proportion	0
(3) Otherwise	1
2. Transition Program for Refugee Children	
A. State was allocated 3% or greater of the total funds	2
B. State was allocated between 1 and 3% of total funds	1
C. State was allocated less than 1% of total funds	0
3. State Funds for LEP Students	
A. State expenditure per pupil exceeds national average	2
B. State expenditure per pupil less than national average	1
C. No state funds	0
4. Certification Policy	
A. State certifies bilingual education instructors or English as a second language (ESL) instructors	1
B. Otherwise	0
5. State Legislation for Bilingual Education	
A. In place or under development	1
B. Otherwise	0

Range of Score: minimum, 0; maximum, 10

Table D.4

Non-Self-Representing States with Largest Proportion of Estimated National Elementary LM-LEP Population

State	Percent of Estimated National Total of Elementary LM-LEP Population
Ohio	1.30
Connecticut	1.28
Washington	1.18
Michigan	1.14
Colorado	.90
Louisiana	.83
Maryland	.66
Indiana	.66
Virginia	.64

Table D.5

Non-Self-Representing States with Less than .6 Percent of Estimated National Elementary LM-LEP Population by Activity Index

Activity Index	Expected Number of Selections	States (Percent of Estimated National Elementary LM-LEP Population)
0	.56	Alabama (.19) Arkansas (.11) Missouri (.34) North Dakota (.04) South Carolina (.19) West Virginia (.05)
1	.61	Georgia (.40) Mississippi (.15) Nebraska (.16) Nevada (.24) Wyoming (.05)
2	.71	Delaware (.10) Kentucky .20) Maine (.13) Montana (.07) North Carolina (.38) Tennessee (.26) Vermont (.03)
3	.62	Idaho (.19) Iowa (.30) New Hampshire (.09) Oklahoma (.35) South Dakota (.08)
4	.66	District of Columbia (.11) Oregon (.59) Utah (.40)
5	.22	Kansas (.37)
6	.59	Hawaii (.58) Rhode Island (.39)
7	.48	Alaska (.24) Minnesota (.55)
8	.34	Wisconsin (.57)

Chromy's (1981) sequential selection scheme.[11] While providing for unbiased sampling variance estimation, the use of Chromy's selection routine on an ordered list also maintains implicit stratification by the ordering factors in a fashion similar to systematic selection.

(4) Final Sample

The total state sample of SR and NSR states is provided in Table D.6 by activity index. In aggregate, these states accounted for approximately 91 percent of the estimated national elementary school LM-LEP population. None of the selected states refused participation at the SEA level.

2. The District Sample

a. General

Given selection of the first-stage units, the second stage of sampling involved selecting districts within selected states. At this stage of sampling, it became important to implement the control necessary to ensure an adequate sample from which the longitudinal phase sites could be subsampled. Since plans for that phase called for an average of 30 LM-LEP students per school in 4 to 5 schools per site, a site-equivalent per-grade LEP count of 150 was established. It was further determined that a ¼-site equivalent district (i.e., a per-grade LEP count of 38) was the smallest feasible operational unit for sampling. Since many districts in selected states (particularly in NSR states) were anticipated to have less than a ¼-site equivalent LEP count, it was decided to cluster proximal districts into aggregate contiguous units representing at least a ¼-site equivalent unit, in order to provide the representation necesary for the descriptive phase.[12] Subsequently, it was determined that districts (or district clusters) of less than ½-site equivalent probably would not be viable longitudinal sites in terms of sufficient per-school

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[11] This routine provided for unbiased sampling variance estimators by insuring that every pair of NSR states had a chance of appearing together in the sample. Treating the list as a circular array, zone formation initiated at a randomly selected point in the circular array guaranteed that states adjacent in the ordering had a chance of falling into different zones and therefore a chance of both being selected despite the single-draw-per-zone character of the sequential selection process.

[12] Some clustering of less than ¼-site equivalent districts with proximal full-site-equivalent districts also obtained in the final implementation of this procedure.

Table D.6

Selected States by Activity Index

Activity Index Value	State
9	Illinois†
	New York†
8	Michigan
	New Jersey†
	Wisconsin
7	Colorado
	Massachusetts†
	Minnesota
6	California†
5	New Mexico†
	Texas†
4	Arizona†
	Connecticut
	Florida†
	Utah
3	Ohio
2	Maryland
	North Carolina
	Pennsylvania†
1	Nevada

† Self-representing states.

concentrations of LM-LEP students. The definitions of terms introduced here and used in subsequent discussion are summarized in Table D.7, for ready reference and ease of presentation.

For a large number of reasons (e.g., different time required to obtain approval or frame information from state, negotiations with districts and replacement of those that refused), it was necessary to draw the district sample in a sequential manner. As a consequence, district sampling was not fully completed until shortly before actual field operations were to begin. While this posed minor problems in itself, the most serious impact was on the subsequent stage of school sampling (see below).

b. Size Measures

The size measure for the second-stage sample was the per-grade estimte of LM-LEP students within a sampling unit (district or district cluster), specified as the LEP count (see Table D.7). In the majority of cases, this count was determined from aggregate district LM-LEP totals over specified grade levels, as determined from data of record in SEA (or in some cases LEA) files. Such counts clearly reflect the local LM-LEP definition of the preferred size measure (see below). Not all states and/or districts maintained such aggregate over-grade counts for the same set of grades, but the totals obtained were corrected to the appropriate LEP count by an equal distribution of the aggregate count over those grades to which the count was applicable.[13]

In other instances (see below), synthetic size measures constructed from Census counts were used to select the districts.[14] In such cases, it was necessary to adjust the Census counts for the observed level of underreporting. Regression equations predicting LEA-provided counts from Census counts and from other district/county demographics were established for those states from which actual district counts were available. The synthetic district/county counts for states in which LEA data were not available were then estimated from the regression equation established for another state that was deemed to be the most similar. Such estimated counts were further adjusted to the per-grade LEP count.

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[13] Since LM-LEP students are typically clustered in the lower grades, the size measure is conservative for purposes of the longitudinal component, while still providing an appropriate measure for the descriptive component.

[14] A similar procedure was also used to select an intermediate county sample (from which the final district sample was derived) when LEA counts were unavailable at the SEA level and had to be obtained directly from district files.

Table D.7

Definition of Terms Used
in District Sampling Discussion

- District LEP Count. Estimated number of LM-LEP students per grade, within a sampling unit.
- District Cluster. A set of proximal districts aggregated into a single sampling unit of at least ¼ site equivalent.
- Site Equivalent. A district LEP count of 150 within a district or district cluster.
- Non-Viable Longitudinal District. A district or district cluster with less than ½-site equivalent.
- Viable Longitudinal District. A district or district cluster with ½ site equivalent or greater.

c. Frame Development, Stratification, and Selection Procedures

(1) Preliminary Steps

As indicated in the previous subsection, sampling of districts was somewhat different depending on the availability of district-level counts of LM-LEP students from SEA files. The differences in sampling were principally related to preliminary steps necessary prior to drawing the final sample of districts. The 20 states selected in the first-stage sample can be categorized into four types in terms of the nature of district LEP count data availability and preliminary steps involved. These categories and the applicable preliminary procedures are described below.

States with Complete District-Level Counts Available from SEA Data of Record. Seven states fell into this category: California, Texas, Arizona, Massachusetts, Colorado, Wisconsin, and Utah. For such states, no preliminary steps were required, and the district frame was constructed directly from the state-supplied data.

States with Partial District-Level Counts Available from SEA Data of Record. Four states fell into this category: Illinois, Michigan, Pennsylvania, and New Mexico. The partial nature of the data was related to state reporting requirements, resulting in data availability only from districts in which LM-LEP counts exceeded some critical value. For these states, an intermediate sample of districts was drawn. First, all districts were aggregated into county units. Then, regression equations were established for those counties with available data (predicting county-level aggregate LM-LEP counts from Census counts and other demographic data available from the Census data and QED data). Synthetic counts were then generated from these prediction equations for counties without available data and a PPS county sample drawn from these counties, using the synthetic size measure. The intermediate sample of districts consisted of all ditricts within selected counties. Subsequently, district counts were obtained directly from data of record in these augmentation districits, when SEA-supplied data had not been previously obtained.

States with No District-Level Counts Available from SEA Data of Record: Case 1, States with Multiple Districts Per County. Five states fell in this category: Connecticut, Minnesota, New Jersey, New York, and Ohio. For these states, an intermediate sample of counties was drawn, using procedures similar to those specified in the previous paragraph. Since no district-level counts were available for these states, the synthetic county size measures were

obtained by using regression equations established for states that were deemed to be "similar." Actual district-level counts were then obtained from all districts in the selected counties, and these districts comprised the frame for subsequent district sampling.

States with No District-Level Counts Available from SEA Data of Record: Case 2, States in Which County and District Boundaries Corresponded Closely. Four states fell into this category: Florida, Maryland, Nevada, and North Carolina. Because of the close corresponence of school district with county in these states, it was decided to use county as a surrogate for purpose of district selection (in order to reduce the burden of frame data collection). Synthetic size measures for the counties in these states were established as defined in the previous paragraph, and the counties then comprised the frame for subsequent district selection.[15]

(2) Selecting Districts in NSR States

Separate district frames were constructed for each of the NSR states. Proximal districts (or counties serving as district surrogates) were clustered into units of ¼-site equivalent or greater, using zip code as the clustering variable. Within each NSR states, implicit strata were formed, consisting of: (1) single district of ¼-site equivalence or greater; (2) multiple district clusters. Within these implicit strata, districts (or district clusters) were further ordered by size. (In obtaining two orderings, a serpentine ordering approach was implemented.) Sequential zone selection (as described above) was applied to the ordered frame, to ensure proportional representation of districts within the implicit strata. Multiple selection of a district of sufficient size was allowed by the procedure, when such districts existed within these states.

Initial selection of districts (or district clusters) was strictly proportional to size, with certain exceptions to maximize equivalence of student selection probabilities for less than full-site equivalent units. The exceptions were: (1) units of ½- ot full-site equivalent were selected at the full-site-equivalent rate; (2) units of 1/3 to ½-site equivalent were selected at 2/3 the full site-equivalent rate; and (3) units of less than 1/3-site-equivalent were selected at ½ the full-site-equivalent rate. The number of selections within each state (corresponding to the number of zones established for that

[15] It should be noted that these are the only states in which the final sample of districts was selected using other than a locally defined actual count of LM-LEP students.

state), together with the number of unique districts selected in the initial sampling, is shown in Table D.8.

A total of 38 initial selections were made in the NSR states, including four single district units that were of sufficient size to receive two selections; 19 of the selections represented viable longitudinal sites. The large number of unique districts (216) selected in the initial sample had been anticipated due to the dispersion of the LM-LEP population among districts in some low concentration states (particularly North Carolina and Wisconsin) and the subsequent necessity to form district clusters containing large numbers of districts to achieve the minimally required ¼-site-equivalent LEP count for a cluster. Consequently, an additional subsampling was implemented within initial selections of district clusters less than ½-site-equivalent (i.e., a non-viable longitudinal district cluster--see Table D.7). For such units, a single district was subsampled with probability proportional to size.[16] After subsampling in non-viable district clusters, a total of 69 unique districts were represented in the final NSR state district sample, as shown in Table D.8.

Table D.8 also indicates the extent to which the total estimated elementary LM-LEP population for the states was represented in the final district sample for the NSR states. Overall, approximately 43 percent of the estimated population was represented within the selected NSR states, and in all but one state, sampled districts represented at least 1/3 of the total state estimate. It should also be noted from Table D.8 that, due to the nature of the subsequent school selection algorithm, some LEAs in multi-district units were not expected to be represented by school selections.

(3) Selecting Districts in SR States

A single frame of districts was constructed for the 10 SR states, allowing for greater implicit stratification to control representation on other variables of interest. Clustering of proximal districts or counties into units of ¼-site-equivalent or greater was implemented in a manner completely analogous to the NSR state frame construction. As with NSR states, implicit

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16 Since such clusters were not considered as potential longitudinal sites, there was no real need to be concerned with the expected LM-LEP yield in the several districts of such clusters. Moreoever, plans for school selection called for selecting only two schools within nonviable longitudinal district clusters, so that no more than two districts in such clusters would have been involved in school data collection.

Table D.8

Number of Selections and Districts in the Initial and Final Samples for Each NSR State with Percentage of Estimated Total State Elementary LM-LEP Population Within Final District Sample

State	Number of Selections (Clusters)	Number of Unique Districts Selected in Initial Sample	Number of Unique Districts Represented * in Final Sample	Percent of Total Estimated Elementary LM-LEP Population in Final District Sample
Colorado	4	11	11††*	54.8%
Connecticut	3†	6	67††	44.6
Maryland	3	4	4	78.7
Michigan	4	10	10††	38.7
Minnesota	4†	11	3*	41.2
Nevada	3	10	3*	75.3
North Carolina	7	63	9*	40.4
Ohio	3†	20	2*	22.0
Utah	3	9	9††	41.5
Wisconsin	4	72	12††*	42.4
Total	38	216	69	42.8

*Contains at least one district subsampled from an initially selected cluster of less than ½ equivalent.

†A single district was selected twice in this state, accounting for two of the total selections.

††Some districts having low LEP counts were clustered with proximal districts with higher LEP counts. Generally, no schools were expected to be selected subsequently from such low count districts.

strata were imposed in a serpentine manner, and the first implicit stratification was the same as for NSR states: (a) single district of ¼-site-equivalence or greater; (b) multiple district clusters.

Within the multiple district stratum, only two additional implicit stratifiers were imposed. The first was a non-Hispanic concentration indicator, determined empirically from Census data or from SEA or LEA counts by language group if available. Two strata were formed: (a) clusters with "high" non-Hispanic to Hispanic ratios; and (b) clusters with "low" non-Hispanic to Hispanic ratios. Within these strata, an additional ordering by state was imposed.

Within the single district stratum, greater implicit stratification was possible. First, a data quality stratum was imposed: (a) states for which language breakdown counts were available; and (b) others. Within these strata, districts were further ordered by the non-Hispanic concentration indicators (see previous paragraph). The fourth level of stratification was an empirically determined index of district wealth (using instructional dollars per pupil from the QED files to classify into a "high" and "low" category). The fifth level of stratification was an empirically determined index of community poverty level (using the Orshansky Percentile from the QED file) to classify into a "high" and "low" category). Finally, within each stratum previously defined, districts were ordered by size.

Selection within the single frame was performed as defined above for NSR states, with the constraint that at least two sites be selected per state. A total of 100 selections were made from the SR states, including several single districts that were of sufficient size to account for multiple selections (multiple selections ranged from 2 to 10 selections per district). Of these selections, 79 represented viable longitudinal sites. The number of selections within each states (corresponding to the number of zones established for that state) together with the number of unique districts selected in the initial sampling is shown in Table D.9.

As with NSR states a large number of unique districts (236) were represented in this initial sample, due to district cluster formations requiring a large number of districts with low LM-LEP concentrations. A single district was sampled from all non-viable longitudinal district clusters, with the same rationale and using the same PPS procedures as with the NSR states. After this subsampling, a total of 152 unique districts were represented in the final SR-state district sample. This sample is summarized by state in Table D.9.

Table D.9

Number of Selections and Districts in the Initial and Final District Samples for Each SR State with Percentage of Estimated Total State Elementary LM-LEP Population Within Final District Sample

State	Number of Selections (Clusters)	Number of Unique Districts Selected in Initial Sample	Number of Unique Districts Represented * in Final Sample	Percent of Total Estimated Elementary LM-LEP Population in Final District Sample
Arizona	4		7	18.1%
California	37†		67††	50.2
Florida	4†		3	66.9
Illinois	6†		2	82.5
Massachusetts	3†		2	32.5
New Jersey	7		19††	38.6
New Mexico	8		11††	17.3
New York	12†	**	9**	17.2
Pennsylvania	2		2	66.4
Texas	17†		30††	43.3
Total	100	236	152	43.9

*All states contained at least one district subsampled from an initially selected cluster of less than ½-site-equivalent.

**This figure includes 5 subdistricts within the central New York City Public School District.

†At least one single district was selected two or more times in this state, accounting for an equivalent number of the total selections.

††Some districts having low LEP counts were clustered with proximal districts with high LEP counts. Generally, no schools were expected to be selected subsequently from such low count districts.

Table D.9 also indicates the extent to which the total estimated elementary LM-LEP population for the states was represented in the final district sample for the SR states. Overall, approxiately 44 percent of the population was represented, and in all but three states approximately 1/3 or more of the total state population was represented. Assuming relative proportionality of initial state representations (Tables D.2, D.4, and D.5), and those used to derive representation percentages shown in Tables D.8 and D.9, the final district sample contained approximately 41 percent of the estimated national LM-LEP population. Also from Table D.9, as with the NSR-state district sample, it should be noted some sampled districts were not expected to be represented by school selections.

(4) Modifications to District Sample

The district sample described above was somewhat modified in two ways as a consequence of operational considerations. In the first instance, it was considered important to include innnovative, unusual, and exemplary sites in sufficient numbers to inform the longitudinal phase study and subsequently to be represented in that study.[17] Second, some selected districts refused to participate in the study when they were contacted; in some instances these refusing districts were replaced with alternate district selections.

To ensure representation of unusual, innovative, and exemplary sites, the 20 selected states were asked to provide nominations of any such sites among their LEAs. In all instances but one, nominated districts had already been selected into the sample. The one remaining nominated district was added to the sample.[18]

District refusals occurred at several stages of the preparatory and operational steps of the study, and the procedures implemented to deal with such refusals depended on the type of refusing district and the timing of the refusal in the flow of operational activities. Some districts were effectively self-representing (i.e., of sufficient size to account for at least two full zone equivalents, thus guaranteeing the selection of the district at least

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[17] In particular, representation of such sites was considered central for a determination of service configurations and differential effects of such service configurations.

[18] Subsequent weighting (see Appendix E) accommodated for the inclusion of this district in the sample; however, the added district was not used in analysis for national estimates.

once). Like the SR states, there existed no replacements for such districts, and consequently, replacements of such districts could not be accomodated. Two such refusals occurred: Philadelphia, PA and Buffalo, NY. As a consequence of the Philadelphia refusal, only one small district remained in the state of Pennsylvania (which had previously been subsampled from a non-viable district cluster), and since this district could not reasonably be expected to represent the state, the decision was reached to drop Pennsylvania from the sample. As a consequence, all inferences from the study are constricted to exclude the state of Pennsylvania (estimated to represent approximately 1.9 percent of the national total elementary LM-LEP population). Study inference is also constricted to exclude the portion of New York state represented by Buffalo (estimated to contain approximately 4.5 percent of the New York State elementary LM-LEP population and approximately .5 percent of the national elementary LM-LEP population).

Among other districts, there was some potential for replacement sampling of refusing districts. Since a list of sampled districts had been supplied to the state previously, the replacement sampling was undertaken only with explicit SEA approval. Such replacement sampling typically was implemented by selecting the district or cluster following the refusing district on the district frame for that state. (Because of the serpentine ordering of the district frame, this selection procedure maximized the probability that the replacement district was similar to the refusing district on the largest number of stratification factors.) In some cases this procedure resulted in substitution of a cluster of districts for a single refusing district. For single districts representing a nonviable district cluster a new selection was made within the original cluster. When replacements were drawn, sampling weights were appropriately adjusted for the augmentation and original sample institutions (see Appendix E). In the event that the SEA would not permit replacement sampling, increased school sampling rates within nonrefusing districts in the state were implemented to adjust non-refusing district weights to accommodate for the refusal.

Other refusals occurred so late in study operations that implementation of either the replacement process or subsequent stage oversampling was infeasible. In these cases, subequent weight adjustment was the principal approach to compensating for the refusals. Table D.10 indicates modifications to the final sample (plus the nominated district) as a result of

Table D.10: Modifications to District Sample

State	Districts in Final Sample	Districts Refusing or Otherwise Dropped	Replacement Districts Added	Final District Field Sample
A. Self-Representing States				
AZ	7	0	0	7
CA	67	2	1	66
FL	3	0	0	3
IL	2	0	0	2
MA	2	0	0	2
NJ	19	3	11	27
NM	11	1	1	11
NY	10[a/]	2	0	8
PA	2	2[b/]	0	0
TX	30	6	3	27
Subtotal	153	16	16	153
B. Non-Self-Representing States				
CO	11	2	2	11
CT	6	1	0	5
MD	4	1	1	4
MI	10	1	0	9
MN	3	0	0	3
NV	3	0	0	3
NC	9	0	0	9
OH	2	0	0	2
UT	9	2[c/]	0	7
WI	12	0	0	12
Subtotal	69	7	3	65
Total	222	23	19	218

[a/] Includes addition of nominated district.

[b/] Includes district dropped after Philadelphia refusal.

[c/] Includes one district indicating it contained no LM-LEPs (a sampling frame error due to proxy measure inefficiency).

refusals and replacements, yielding a final field sample of 218 districts. Of these, five additional districts refused and 11 reported no LM-LEP students, representing frame errors due to inefficiency in proxy size measures.

3. The School Sample

a. General

The third stage of sampling involved selecting schools from the universe of schools in selected districts that contained LM-LEP children in any of grades 1 through 5. As with the district sampling, it was quite important in school sampling to consider within-school concentration of LM-LEP students, to ensure sufficient representation of schools that would be viable for the longitudinal study phase.

The longitudinal phase called for an average of 30 LM-LEP students per grade in each of grades 1 and 3 (approximately a 1½-classroom equivalent). Consequently, a school LEP count was established as the minimum of: (a) the number of LM-LEP students in grade 1, or (b) the number of LM-LEP students in grade 3. Given the longitudinal study requirements, it was determined that schools with LEP counts less than 12 were not viable schools for the longitudinal study. Among schools that were viable, prior studies indicate that some such schools would contain considerably more than the average of 30 needed for the longitudinal phase; some were even expected to obtain sufficient LM-LEP students to serve, effectively, as two schools, and it was considered desirable to obtain such schools in the final descriptive component sample. Schools with an LEP count of 50 or more therefore were designated as double-count schools.

Given complete data on the universe of schools across all selected districts, a procedure of differential selection rates could have been developed relatively easily to produce an expected yield to a specified number of schools and of LM-LEP children. Unfortunately, the sequential procedure required for the district selection (see above) did not allow sufficient time for deferring school sampling activities until all data of record had been collected. Consequently, school sampling was also required to be implemented on a flow basis, as frame data were collected from selected districts and replacements, without full knowledge of the distribution of school concentrations in the total district sample. To accomplish this, a sampling strategy was developed that involved separate frame development within each sampled district (or district cluster) based on district and school viability. The logic underlying

the strategy was the intent to realize a sample to satisfy both the descriptive and longitudinal phases, to roughly equalize selection probabilities for LM-LEP students, and to minimize the number of school selections.

The procedure developed was based on assumptions regarding the distribution of LM-LEP student within-school concentrations both within and among school districts in the sample. Within some fairly wide deviations of these assumptions, the procedure was expected to provide an adequate set of schools to support the subsequent longitudinal phase of the study. To achieve both this base and the representation required by the descriptive component, the procedure was anticipated to yield approimxately 500 unique school buildings (not all of which would be viable longitudinal study schools). Moreover, the assumptions made were relatively conservative toward obtaining an oversampling rather than an undersampling of schools relative to a previously established target figure of 450, to allow for school refusals.

To facilitate subsequent discussion and to provide a ready reference, terms that have been introduced above and which will be used in subsequent discussion related to school sampling are summarized in Table D.11. Terms used in the discussion of district sampling (Table D.7) are also used in describing the school sample.

b. Size Measures

The size measure used for school samping was the school LEP count (as defined in Table D.11). In the majority of cases, this count was derived from data of record as obtained directly from the LEA. When records of LM-LEPs per grade were not maintained for schools at the LEA level, they were determined by other means. Where feasible, these counts were obtained directly from the elementary schools in the district (in some instances subsets of schools, when certain schools could be eliminated by the district as having no LM-LFPs). In other cases (where school contact was not feasible or where only aggregate counts were available at the school or district), it was necessary to construct synthetic size measures. In cases for which data of record contained only aggregate counts of LM-LEP students (as opposed to per-grade counts), the LEP count was estimated by an equal distribution of the aggregate count over the grades in the school to which the aggregate was applicable. In cases where no counts were available for some schools in a district, the LEP count for such schools was imputed. First, a LEP rate was determined for all schools in the district for which data were available; the rate was the ratio

Table D.11

Definitions of Terms Used
in School Sampling Discussion

- School. In general refers to a single building serving any of grades 1 through 5 and LM-LEP students in those grades.
- School LEP Count. Refers to the maximum of (a) number of LM-LEPs in grade 1 or (b) number of LM-LEPs in grade 3.
- Site Equivalent. A district LEP count of 150.
- Non-Viable School. A school with a LEP count of less than 12.
- Viable School. A school with a LEP count of 12 or greater.
- Double-Count School. A viable school with a LEP count of 50 or greater (i.e., school could provide at least two classroom-equivalents (@ 25 per classroom equivalent) LEP count).
- Non-Double-Count School. A viable school with a LEP count of less than 50.
- Proportion in Viable: P(V). Proportion of total district-wide LEP count that is in viable schools.
- Proportion in Double Count: P(DC/V). Conditional proportion of district-wide LEP-count in viable schools that is also in double-count schools.

of LEP enrollment in grades 1-5. The LEP rate was then applied to the total enrollment in grades 1-5 for each school with missing count data and the LEP count for that school determined as 1/5 of the result. In the rare case in which no recorded count of LM-LEP students (by grade or in aggregate) could be obtained for any school in a district, a proxy size measure was computed for all schools in the district (and a separate selection procedure used as indicated below). The proxy size measure was the estimated per-grade Hispanic student count, as determined from the QED data.

c. Stratification and Selection Procedures

(1) Sampling in Districts or District Clusters for Which School-Level LEP Counts Were Not Available

In such districts, no stratification was undertaken and schools were selected PPS on the basis of the proxy size measure, using sequential zone selection procedures. The number of schools selected was determined on the basis of the district-wide site-equivalent determined during district sampling:

- Districts Less Than ½-Site Equivalent. In all such districts, two schools were selected.
- Districts At Least ½- But Less Than 2/3-Site-Equivalent. In all such districts, three schools were selected.
- Districts of At Least 2/3- But Less Than Full-Site Equivalent. In all such districts, four schools were selected.
- Districts of Full-Site Equivalence or Greater. In all such districts, six schools were selected.

(2) Sampling in Districts for Which School-Level LEP Counts Were Available or Could be Estimated

The selection procedures allowed for selection of schools differentially within viable and non-viable longitudinal districts. Within non-viable longitudinal districts, no stratification was attempted, but within viable longitudinal districts, schools were stratified on the basis of viability and, if applicable, viable schools were further stratified on the basis of their double-count status. Selection also differed on the basis of the distribution of non-viable schools, viable schools, and double-count schools within the district.

All school selections within established strata were PPS using school LEP count as the size measure and using a sequential zone selection procedure. To

the extent that other data were available on service configuration at a school and/or language group distributions, these data were considered in the sampling to the extent feasible. When a single district was allocated more than one selection in the district sampling, the specified procedures were replicated for each selection.

Non-Viable Longitudinal Districts. In all such districts, two schools were selected.

Viable Longitudinal Districts With No Viable Schools. In districts that were less than 3/4 site equivalent, two schools were selected. In districts of at least 3/4 site equivalent but less than full-site equivalent, three schools were selected; and in districts of full-site equivalent or greater, four schools were selected.

Viable Longitudinal Districts With at Least One Viable School But Less Than ½-Site Equivalent in all Viable Schools. In all such districts, two schools were selected, at least one of which was drawn from the viable school stratum.

Viable Longitudinal Districts With at Least One Viable School and at Least ½-Site Equivalent But Less Than 3/4-Site-Equivalent in Viable Schools. When there were no double-count schools in the district, up to three viable schools (or all, whichever was less) were selected; one non-viable school was also selected, with probability [3(1-max{P(V),2/3})].[19/] When there was at least one-double count school in the district, one double count school was selected, one of the non-double-count schools was selected (if any), and one non-viable school was selected, with probability [3(1-max{P(V), 2/3})].

Viable Longitudinal Districts With at Least One Viable School and at Least 3/4-Site Equivalent in Viable Schools. When there were no double-count schools in the district, up to five viable schools (or all, whichever was less) were selected. Additionally, one non-viable school was selected with probability [3(1-max{P(V), 2/3})]. When there was at least one double-count school in the district, selection was dependent on the concentration of the viable school LEP count in the double count schools (i.e., P(DC/V), the proportion of the

[19/] For $P(V) \leq 2/3$ (i.e., no more than 2/3 of the district LEP count was in viable schools), one non-viable school was selected with certainty. For $P(V) > 2/3$, the probability is reduced proportionately, approaching 0 as P(V) approaches 1. This allocation formula implies sampling LEPs in non-viable schools at no more than half the rate of LEPs in viable schools.

total viable school LEP count that was accounted for by the double-count school LEP count). For higher concentration in double-count schools (i.e., $P(DC/V) \geq 2/3$), two double count schools (or all, whichever was smaller) were selected; one non-double-count school (if any) was selected; and one non-viable school was selected with probability [3(1-max{P(V), 2/3})]. For moderate double-count schools concentrations (i.e., $2/3 > P(DC/V) \geq 1/3$), one double-count school was selected, and another double-count school (if any) selected with probability [3P(DC/V)-1].[20/] If only one double count school was selected, then two (or all, whichever was smaller) non-double-count schools also were selected. If two double count schools were selected, then one (if any) non-double-count school also was selected. Additionally, one nonviable school was selected with probability [3(1-max{P(V), 2/3})]. For low concentrations (i.e., $P(DC/V) < 1/3$), one double-count school was selected with probability [3{P(DC/V)}]. If a double-count school was selected, then 4 (or all, whichever was smaller) non-double-count schools were selected. If no double-count schools were selected, then 5 (or all, whichever was smaller) non-double count schools were selected. Additionally, one non-viable school was selected with probability [3(1-max{P(V), 2/3})].

d. The Final School Sample

The Initial School Sample reflected the designed attempt to oversample schools, a total of 594 school selections were made initially. Because of the sequential nature of the selection process, the sample took into account some district refusals (e.g., Philadelphia) but not others. Of the 594 selections, 1 school was discovered to have closed (a frame inefficiency error) and 25 schools were in New York districts that refused shortly after the sample was drawn. The distribution of the remaining 568 schools in the Initial School Sample are shown in Table D.12 by state as well as by type of school and district involved in the selection.

Table D.13 shows additional detail on the districts from which schools were selected and on site equivalent representation in selected longitudinal viable districts and in viable schools selected therefrom. The table shows

[20/] The probability of the second selection approaches 1 as P(DV/V) approaches 2/3. Correspondingly, the probability of a second selection approaches 0 as P(DC/V) approaches 1/3.

Table D.12: Schools Selected in the Initial School Sample

State	Schools Selected From Longitudinal Viable Districts*			Schools Selected From Longitudinal Non-viable Districts*	Total Schools Sampled
	Longitudinal Viable Schools†	Longitudinal Non-viable Schools†	Total		
A. Self Representing States					
AZ	6	1	7	3	10
CA	115	26	141	9	150
FL	14	1	15	2	17
IL	16	2	18	2	20
MA	6	1	7	2	9
NJ	16	3	19	11	30
NM	19	4	23	5	28
NY	24	7	31	12	43
PA	0	0	0	2	2
TX	57	6	63	9	72
Subtotal	273	51	324	57	381
B. Non Self Representing States					
CO	11	6	17	9	26
CT	13	3	16	0	16
MD	5	23	28	0	28
MI	14	12	26	0	26
MN	8		12	4	16
NV	5	7	12	1	13
NC	0	0	0	11	11
OH	4	2	6	2	8
UT	7	20	27	0	27
WI	2	8	10	6	16
Subtotal	69	85	154	33	187
Total	342	136	478	90	568

Note: Table excludes 1 selected school determined to be closed and 25 schools from New York districts refusing shortly after the initial sample was drawn.

*Viable districts are those districts with site equivalence $\geq \frac{1}{2}$; districts with site equivalent $< \frac{1}{2}$ are non-viable districts.

†Viable schools are those with 12 or more LM-LEPs in Grades 1 or 3; schools with grade 1 and 3 estimated LM-LEPs < 12 are non-viable schools.

Table D.13: District and Site Equivalent Representation for the Initial School Sample

State	Number of Districts: Longitudinal Study Viable*	Number of Districts: Longitudinal Study Non-viable*	Number of Districts: Total	District Site Equivalents in Longitudinal Viable Districts	Grade 1 Site Equivalents in Sample of Longitudinal Viable Schools† Achieved	Grade 3 Site Equivalents in Sample of Longitudinal Viable Schools† Achieved
A. Self Representing States						
AZ	2	2	4	1.6	1.0	0.8
CA	21	6	27	27.3	25.2	21.4
FL	2	1	3	3.0	2.9	2.3
IL	1	1	2	5.0	3.7	2.6
MA	1	1	2	1.0	1.1	0.9
NJ	6	1	7	5.3	3.3	2.5
NM	5	3	8	5.6	3.5	3.5
NY	6	3	9	9.0	4.0	4.0
PA	0	1	1	0	0.0	0.0
TX	11	3	14	11.6	12.7	11.5
Subtotal	55	22	77	69.4	57.4	49.5
B. Non Self Representing States						
CO	2	1	3	1.5	1.5	1.4
CT	2	0	2	3.0	2.6	2.3
MD	3	0	3	2.9	0.6	0.5
MI	4	0	4	2.7	2.2	1.8
MN	1	2	3	2.0	0.3	0.9
NV	2	1	3	1.6	0.6	0.2
NC	0	7	7	0.0	0.0	0.0
OH	1	1	2	2.0	1.0	0.7
UT	3	0	3	1.9	0.7	0.7
WI	1	3	4	1.0	0.2	0.2
Total	74	37	111	88.0	67.7	58.2

Note: Table excludes 1 selected school about to be closed and 25 schools from New York districts refusing shortly after the initial sample was drawn.

*Viable districts are those districts with site equivalence $\geq \frac{1}{2}$; districts with district site equivalent $< \frac{1}{2}$ are non-viable districts.

†Viable schools are those with a school LEP count greater than 12 a grade site equivalent is 30 LM-LEP students.

that the initial school sample was drawn from only 111 of the districts in the district sample and that the 342 longitudinal viable schools selected were estimated to contain approximately twice the number of site-equivalent students in grades 1 and 3 as required for the longitudinal phase.

Some additional modifications were made to the initial school sample shown in Figure D.12. As stated previously, the entire state of Pennsylvania was dropped and two school selections were thereby lost. Four additional frame inefficiency errors (closed schools) were discovered, and one district required a subsampling which led to the loss of an additional school. Further, one school was added to the sample as a result of the site nomination process, yielding a field sample of 562 schools.

Actual field experience further modified the nature of the sample, since 28 of the selected schools were determined to represent additional frame errors (due to the lack of efficiency introduced by some proxy measures used) in which selected schools, when contacted, indicated no LM-LEPs were enrolled (according to their definitions). As a result, the working sample consisted of 536 schools. Of these, fourteen additional complete school refusals were encountered (most of which were attributable to district refusals), of which two were replaced. (General procedure had not anticipated replacement of schools, due to the time pressures for school selection; however, in one instance a cooperating district requested resampling since the replacement sampling could be easily implemented, it was).

c. Sampling for Site Visits

Of the 342 longitudinal study viable schools selected in the initial sample, on-site data collection, including collection of teacher data, was planned. For a subsample of 202, it was also planned to collect student data. This subsample was drawn PPS by zone selection procedures after implicit stratification of the longitudinal viable sites by size and by state type (self-representing or nonself-representing). Of this subsample of 202 schools, 4 ultimately refused and were not replaced, yielding a final subsample of 198 schools.

4. Teacher and Student Selections

a. General

These selections were made in the field at the participating viable schools from which such data were to be selected. In some cases, specific refusal to contact teachers or students was encountered and in such cases, frames were not constructed by the field staff. As a consequence, the

nature of the sample that was to be drawn was estimated using the best data available (including in many cases recontact of the school for frame reconstruction counts).

b. Teacher Selections

All academic content area teachers of LM-LEP students in grades 1 through 5 were selected at those schools to which site visits were made. Content area teachers were defined as those providing instruction in English language arts, math, social studies, science or language arts of a student's home language.[21/] As previously stated, site visits were made to schools with 12 or more LM-LEP students in grade 1 or grade 3 in visited districts.

A total of 5,213 teachers were selected in participating schools; however, 17 schools would not allow contact with teachers. Estimates of the number of teachers eligible in those schools was determined to be 224 on the basis of best data available, indicating that the selection plan would have yielded approximately 5,205 teachers of LM-LEP children. Because of the nature of the teacher sample, replacement of another 210 individually refusing teachers was also obviously impossible, leaving a total of 4,995 teachers.

c. The Student Sample

The student sample was selected within 198 of the subsample of 202 viable schools. From each of grades 1 and 3 (or a single grade if only one of these grades was served) five LM-LEP students were to be selected. The selection was by grade from a frame explicitly stratified by language group. The first stratum consisted of all LM-LEP students of the predominant language group among LM-LEPs at that school (considering all grades within the span of 1 to 5). The second stratum consisted of all LM-LEP students of other than the predominant language group. Plans called for a total of 5 selections to be made per grade using a random number device applied to a hard copy listing, two from the predominant language group stratum and three from the "other" language group stratum. In the event that either stratum was so sparse that the allocation to the stratum could not be met, the remaining allocation was to be transferred to the other stratum. A back up sample of equal size was also to be drawn for replacement in the event of parent refusal. The form used for student sample selection is included as Exhibit D.1.

[21/] Included were Chapter I remedial teachers and special education teachers; excluded were physical education, music and art teachers.

LM-LEP STUDENT SELECTION WORKSHEET

Used by _____

Date _____
(Month) (Day) (Year)

In District: _____

Grade: 1 3 (Circle one)

School _____ City _____ State _____

A. SAMPLING PROCEDURES FOR LM-LEP STUDENTS *

To the extent possible, all work is to be done by Development Associates. Schools are to be spared as much burden and confusion as possible.

Student Sample

For each school in which LM-LEP students will be sampled:

Step 1 - Identify the predominant LM-LEP language group in the school (grades 1-5) (e.g., the group with the largest number of LM-LEP students).

Step 2 - For each of grades 1 and 3, determine the number of LM-LEPs in the following categories: predominant language group, and all other language groups, combined.

Step 3 - From a random numbers table, select and record 2, then 3 other numbers for each of the language groupings and for each grade.

Step 4 - For predominant language group, identify the names of the two children who hold the places corresponding to the selected random numbers on whatever array of that group is most convenient (e.g., a printout of all LM-LEPs, sequenced class lists, set of file cards or folders, etc.).

- Record the two names on the LM-LEP Student Selection Sheet.
- Repeat for the "All Other Language Group" first graders.

Language Group	Language	Number of LM-LEP Students in Language Group	Number of LM-LEPs Selected From Group	Random Numbers Chosen
Predominant Language Group	_____	_____	_____	_____
All Other Language Groups in Grade	XXXXXXXXXXXXX	_____	_____	_____
	TOTAL	_____	5	

* All LM-LEP students in grade 1 and grade 3 who have been enrolled in the school for 2 weeks or more and who are not enrolled in self-contained special education classes.

B. SELECTION OF LANGUAGE OR CONTENT AREA TEACHERS

Once the students have been selected, identify (from the school secretary, principal or by whatever other method works) each of these students' language and academic content area teachers. For each student, record the type of teacher (e.g., math, ESL, etc.) and the name of each teacher on the Sample Selection Sheet.

SAMPLE SELECTION SHEET: Grade: 1 3 (Circle one)

Group 1 = Group 2 = All Other LM-LEPs in Grade 1 or 3

(1) Student Name:		(2) Student Name:		(3) Student Name:	
Type	Teacher	Type	Teacher	Type	Teacher

(4) Student Name:		(5) Student Name:	
Type	Teacher	Type	Teacher

NOTE: Record in the spaces provided only the names of the students finally selected. If it was necessary to oversample, place an * before the names of any student who was a replacement.

Field data collectors, who were responsible for drawing the samples, were not uniform in the applications of sampling rules (allocations, back up sampling, transferring allocations, etc.); consequently, the expected yield of the student sampling is not clear cut.[22/] As a maximum, the sample should have yielded 1,980 LM-LEP students; however, 1,909 were actually sampled. It was virtually impossible to determine which of these were replacements and which were original sample members, although cases of parent refusal were known to exist.

[22/] Sufficient information as to actual number sampled and stratum sizes were obtained (sometimes after the fact), however, to provide sufficient information for computation of sampling weights.

APPENDIX E: WEIGHTING AND WEIGHT ADJUSTMENTS

APPENDIX E

WEIGHTING AND WEIGHT ADJUSTMENTS

A. General

Since samples for this study are probability samples, it is possible to make unbiased population estimates if one accounts for the differential selection probabilities of units of interest. This is most commonly accomplished by application of sampling weights in computational equations (a procedure allowable by virtually all of the major statistical software packages). Nonlinear estimates (such as weighted averages and correlations) can be constructed as functions of appropriately weighted totals. Thus, sampling weights were computed and provided for each district, school, teacher, and student selected into the sample. In essence, the sampling weight assigned is a function of the inverse of the expected number of times the particular sample unit (district, etc.) would be included in the sample. Resulting weights were thoroughly verified for accuracy of specification and computation.

To correct as much as possible for the potential bias introduced by nonresponse, the raw sampling weights were further adjusted for instrument nonresponse, using a weighting class adjustment. This procedure effectively distributes the sample weight of nonrespondents to respondents within the same class of individuals. Classes were defined on the basis of available variables considered to be related to study outcomes of interest. All weight adjustments were verified for accuracy of specifications and computation. The weight adjustment procedures defined are those accounting for complete instrument nonresponse; additional adjustments for item nonresponse, when used, were implemented in the same manner.

Appropriate analytic weights (raw and adjusted) were computed and included on all of the separately provided data files for this study. Procedures used in weight computations are specified in the following sections.

B. Basic Computational Procedures

1. Raw Sampling Weights

A separate weight was computed for each of the four types of sampling units involved in the study: districts, schools, teachers, and students. The weight for a sampling unit of a particular type consisted of several components,

each being a conditional weight corresponding to one of the stages in which that unit, or a previous sampling unit containing it, was sampled. Each of these components was generally the inverse of conditional inclusion probability (or, more precisely, inclusion expectation--the number of times that a particular sampling unit would be expected to fall into the sample under repeated replications of the sampling design).

Within the multi-stage sample for this study, inclusion probabilities for any unit at a particular stage of sampling (e.g., district, school, instructional staff, student) reduce to the product of conditional inclusion probabilities for the associated units at that and each preceding stage of sampling. For example, the probability (Phijk) of inclusion for student k in school j in district i of state h can be written as

$$P(hijk) = P(h)P(i/h)P(j/h,i)P(k/h,i,j);$$

where

P(h) = probability of selecting state h;

P(i,h) = probability of selecting district i, given the selection of state h;

P(j/h,i) = probability of selecting school j given the selection of state h and district i; and

P(k/h,i,j) = probability of selecting student k, given selection of state h, district i, and school j.

Given the inclusion probability, P(g), for some unit g, the raw sampling weight, W_g, is given by $[P(g)]^{-1}$. For the example given above,

$$W_{(hijk)} = 1/P(hijk) = \left[\frac{1}{P(n)}\right] \cdot \left[\frac{1}{P(j/h)}\right] \cdot \left[\frac{1}{P(j/h,i)}\right] \cdot \left[\frac{1}{P(k/h,i,j)}\right];$$

where each of the terms in the rightmost expression represents a conditional weight component.

Within the zone selection procedure used in most stages of sampling, the conditional weight for sampled unit i at any stage g can generally be expressed as

$$W_g = (N_{gi})(E_{gi});$$

where

N_{gi} = the number of times unit i was selected in g-stage sampling (i.e., number of actual hits), and

$E_{gi} = TM/[(M_i)(H_g)]$.

In this expression, M_i is the size measure used at this stage of sampling for unit i, $TM = \sum_i M_i$ (the sum of all size measures on the gth-stage frame from which unit i was selected), and H_g is the total number of gth-stage hits for the frame from which unit i was selected. As can be seen, W_g is the ratio of the number of selections for unit i (i.e., the number of hits) to the expected number of selections for unit i.

2. Weight Adjustments

Raw sampling weights are useful only in the event that data are available for all sampled units or missing data are treated in the statistical model (e.g., mean plugging or using nonresponse as a separate reporting category). Since both refusals and other forms of nonresponse occurred in this survey, the problem of accounting for less than full response must be addressed in estimation procedures. At the outset, it should be fully acknowledged that there are no known unbiased or even consistent methods available for adjusting for data indeterminacies.

Nonetheless, one well-accepted approach to reducing nonresponse bias due to refusals and/or instrument nonresponse, a major source of complete unit nonresponse in surveys, is a weight adjustment approach. This procedure was implemented in this study and subsequent analyses were performed using such adjusted weights.

The weighting class nonresponse adjustment procedure assigns sample members to one of several categories (weighting classes) on the basis of information available for both respondents and nonrespondents. Within specified weighting classes, individual i is assigned an adjusted sampling weight, W_i'. Specifically, for the mth weighting class;

$$W_i' = \begin{cases} W_i[WS(m)/WR(m)], & \text{if i is a respondent in weighting class m,} \\ 0, & \text{if i is a nonrespondent in weighting class m;} \end{cases}$$

where

W_i = the raw sampling weight for individual i;

WS(m) = sum of raw sampling weights for all analysis units in weighting class m;

WR(m) = sum of raw sampling weights for all responding analysis units in weighting class m.

Given nonresponse rates of 10 percent or less, sufficient numbers (rule of thumb N=20) within weighting classes, sufficiently small adjustment factors (rule of thumb less than 2.5), and sufficiently differential response rates among the classes, this procedure is generally accepted as relatively effective.

Other minor adjustments to weights were made at virtually every stage of sampling (to account for subsampling, replacement sampling, modification (updating) to size measures, etc.) Additionally, some weight trimming and poststratification smoothing/adjusting procedures wer implemented. Where applicable, these are noted in the following discussions.

C. State Weights

States were the first stage of sampling and consequently all additional selection was conditional on state selection. Consequently, a state weight was computed for use in subsequent weighting (even though no data were collected at the state level). Computation of this weight was contingent on the frame from which it was selected (SR states, and two categories of NSR states--see Appendix D). Within each selection frame weights were computed according to the general procedures indicated in the previous section. No adjustments were necessary, since no refusals were experienced at the state level.

D. District Weights

1. District Sampling Weights

Districts (or clusters of proximal districts) generally represented the second stage of sampling, even though there were frequently several substages, within the broad district selection stage, in sampling down to individual district (involving intermediate county and/or district cluster sampling). Basically, the "raw" unconditional weight for district i in state h, DWT_{hi} was determined as

$$DWT_{hi} = (STATEWT_h) \cdot (ADCLWT_{hi}) \cdot (DSUB_{hi});$$

where

$STATEWT_h$ = unconditional weight for state h selection;

$ADCLWT_{hi}$ = adjusted conditional weight for selecting the district cluster in which district i fell within state h;

$DSUB_{hi}$ = conditional adjustment for subsampling within original district clusters.

The computation of ..ATEWT has been described in the previous section; however, it should be recalled that strict within-state sampling occurred only in NSR states, and thus, in a strict sense, the general equation is applicable only to those cases. Recall, however, that in the SR states districts were selected from a single combined frame, constrained only by the requirement of at least two site selections per state. Due to the self-representing nature of the SR states and the consequent selection of each of these states into the state sample with certainty, the general equation reduces appropriately for districts in SR states in any event.

The district cluster (frequently representing a single district) weight shown in the equation had been previously adjusted, as indicated, to account for refusals, replacements, and frame errors (i.e., selected districts reporting no LM-LEP students enrolled in grades 1-5) that were known at the time of weight computation.[1] Consequently, DWT_{hi} is not strictly speaking a raw sampling weight. Additionally, $ADCLWT_{hi}$ incorporated the intermediate inclusion steps of several preliminary substages of sampling to arrive at the district level (involving county and/or district cluster subsampling for ultimate frame development).[2] These computations are not shown in the equation, but are reflected in $ADCLWT_{hi}$, and thus also in DWT_{hi}. Excepting adjustments, the weights at each substage (or single stage if intermediate sampling was not required) were computed according to the general equation specified in Appendix D.B.1. Hits on districts (or district clusters) ranged from 1 to 12.

The final term in the equation was to account for subsampling within district clusters (always more than one district in this case) of less than ¼-site equivalent in the draw-down from the initial to the final district sample (see Appendix D).[3] Since the frames for this

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1 Other refusals and frame errors were encountered in the field operations; and these latter cases were accounted for in final district weight adjustments, discussed below.

2 For the nominated district (see Appendix D) this term was unity, although weights for other districts in the stratum were approximately adjusted.

3 A district cluster, established during initial district sampling activities is a group of districts that were combined to form a site with no less than a quarter of a full site equivalent. A full site equivalent was defined at 150 estimated LEPs per grade in grades 1-5.

were the districts in the affected cluster and sampling was PPS, the general equation defined in Appendix D.B.1. was applicable for this term, with N_{gi} and H_g set to 1 in all applicable cases. For districts not involved in the subsampling (i.e., iritial district cluster equal to or greater than ½-site equivalent, the term $DSUB_{hi}$ was obviously unity.

Following computation of DWT_{hi} and subsequent examination of the weight distributions, the weights of certain districts in three states were trimmed to reduce subsequent variance inflation effect of unusually large weights. In general, the weight trimming procedure involved setting an outlier weight to a fixed maximum value (typically the value of the next largest weight within the post stratum) and distributing the excess weight among other sampling units in the stratum proportional to their prior weight. The final weight resulting from these operations is designated $ADWT_{hi}$ in subsequent discussion.

2. Nonresponse Weight Adjustments

The final district-level sampling weights, $ADWT_{hi}$ (i.e., DWT_{hi}, as subsequently trimmed), for 191 responding districts were adjusted for 15 school districts or subdistricts which did not provide a district-level data collection form (Form #1) due to explicit refusal or other nonresponse. Eleven (11) additional school districts in the field sample with no LEP students were classified as ineligible exclusions during data collection and the sampling weights for these 11 districts were not used in the weight adjustment process. Also, weights for refusing or dropped districts in Pennsylvania and Buffalo, New York were not used in any adjustment, due to decisions to drop them from the study and to restrict sample inferences to exclude Pennsylvania and that portion of New York represented by Buffalo (see Appendix D). The sampling weights used in this nonresponse adjustment had been previously adjusted for refusals, exclusions, and replacements made prior to data collection.

The weight adjustment procedures used state, state type (self-representing or non-self-representing), and size of district cluster to define weighting classes. The weighting classes were defined differentially by state as indicated below:

- In California by district cluster size within state.
- In SR states other than California, by district cluster size combined over all 8 states (Pennsylvania excluded).

- In Colorado and Michigan by district cluster size within state.
- In remaining NSR states, no additional weight adjustment was required.

District size categories were (a) less than ½ site, (b) ½ to full site, and (c) full site or larger. Within defined classes, adjustments were performed using the genera equation presented above in Appendix D.B.2.

E. School Weights

1. School Sampling Weights

Individual school buildings generally represented the third stage of sampling. The "raw" unconditional building weight for school j within district i in state h, BWT_{hij}, was computed as

$$BWT_{hij} = (ADWT_{hi}) \cdot (ASCHWT_{hij});$$

where

$ADWT_{hi}$ = unconditional weight for district hi, as subsequently adjusted; and

$ASCHWT_{hij}$ = conditional weight for selecting school j within district h_i.

The computation of the unconditional adjusted district weight, $ADWT_{hi}$, has been described previously; however, as indicated above, the weight was not a raw sampling weight, and consequently BWT_{hij} also was not strictly speaking a raw weight.

The conditional weight, $ASCHWT_{hij}$, also had been adjusted previously to account for sample anomalies that were discovered in buildings prior to data collection;[4] i.e., adjustment for refusals, a nominated school within a district that had been selected,[5] frame inefficiencies (selected schools that had closed), resampling that had been instituted at district request using updated school LEP counts, and subsampling that had been required for district approval. Excepting such adjustments, the conditional weight was computed according to the general equation of Appendix D.B.1., within a specific district (or cluster of districts) frame. The maximum number of hits per building was 3.

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[4] Other anomalies were encountered during the field operations, including refusals and frame errors, such cases were accounted for in final school weight adjustments, discussed below.

[5] The nominated school was assigned a building weight of unity (since it was in an SR state) and inclusion expectations for other schools within the district were appropriately adjusted.

2. Nonresponse Weight Adjustments

Of the 565 schools for which "raw" sampling weights had been computed, 30 reported that no LM-LEPs were enrolled within grades 1-5. These buildings represent frame errors due to the inefficiency of the size measures used in the third stage of sampling (see Appendix D). Consequently, these schools were excluded from nonresponse adjustment procedures.

Among the remaining schools, data unavailability (as a result of refusal or other nonresponse) was not the same for the two district-level forms (Forms 2 and 3A). Consequently, four nonresponse adjusted weights were computed to accomodate analysis of data from these forms, singly or in combination. The numbers of respondents and nonrespondents for each form or combination of forms are indicated below for the 535 buildings with nonzero LEP counts.

Form	Respondents	Nonrespondents
Form 2	495	40
Form 3A	520	15
Either Form 2 or 3A	521	14
Forms 2 and 3A	494	41

The data elements used to establish weighting classes for the adjustment were: (a) state; (b) state type (SR states and NSR states); (c) district cluster size (i.e., estimated LM-LEP counts with 2 levels: less than full-site equivalent (less than 150 LM-LEPs per grade in grades 1-5; and full-site equivalent or greater); (d) building size (estimated LM-LEP count with three levels: less than 12 LM-LEP students; between 12 and 25 LM-LEP students; and 25 or more LM-LEP students).[6] The weighting classes defined by these factors were defined differentially by state as indicated below.

- In California, New York, and Texas, by district cluster size and building size within state;
- In remaining SR states, by district cluster size and building size across these six states (excluding Pennsylvania);
- In NSR states, by district cluster size and building size across these ten states.

[6] Building size was based on grade 1 LEP count, if that count was greater than zero, otherwise it was based on the grade 3 LEP count.

Within defined classes, adjustments were performed using the general equation presented above in Appendix D.B.2.

Following adjustment and subsequent examination of the adjusted weight distribution, one building weight was trimmed to reduce subsequent variance inflation effects. The trimming was accomplished by setting the outlier weight to the value of the next largest building weight and distributing the excess weight among other sample units in the same weighting class proportional to their prior weight.[7]

F. Teacher Weights

1. Teacher Sampling Weights

Original plans called for selection of both teachers and students in a subsample of 200 schools that had been determined to contain at least 12 LM-LEP students in either of grade 1 or grade 3. The subsample was drawn from the subset of such schools established by the size definition that existed within districts containing an estimated per-grade elementary LM-LEP population of 75 or more LM-LEP students. Since the district sampling was accomplished sequentially to accomodate field operations in light of delays in obtaining frame data from some districts, the subsampling was also sequential (for the same reason).

Over the 3-month period in which the subsampling was accomplished, 379 eligible buildings were identified. Eleven of these buildings were in two districts that refused to participate prior to data collection. One of those districts was replaced and eligible buildings in the replacement district were included in the frame. For the second district (Buffalo, NY), a replacement district was not used because Buffalo was a self-representing district. The final frame from which the subsampling was accomplished contained 369 eligible buildings. As a result of periodic sampling, 201 buildings were selected from among the 369 eligible buildings.[8] One additional building was included in the subsample (which was the nominated school as described in the previous section), for a total of 202 buildings in the subsample.

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[7] In the process of adding the adjusted weights to the data file, an earlier version of the weight file was inadvertently used; consequently, this final weight adjustment is not reflected in the analytic weights used.

[8] As a consequence of the sequential nature of the subsampling, the achieved subsample size of 201 did not correspond precisely to the target size of 200.

The weight for sub-selected school buildings, $SUBWT_{hij}$, was computed on the basis of the sampling fraction used at each of the k sequential stage of subsampling as follows:

$$SUBWT_{hij} \equiv SUBWT_{hij}^{(k)} = (BWT_{hij}) \cdot ([FRACT_k]^{-1});$$

where

BWT_{hij} is defined in the previous section, and

$FRACT_k$ is the subsampling fraction used at stage k of the subsampling (typically within district).

Because the nominated site was included with certainty from an SR state, its subsample weight was set to unity.

As a result of operational decisions, it was ultimately decided to collect teacher data at all originally sampled buildings with at least 12 LM-LEP students in grade 1 or grade 3, within districts associated with the subsample of 202 schools. This change resulted in the addition of 168 buildings. The weight calculation and nonresponse adjustment activities were based on 370 buildings (202 in the original sample and 168 added schools).[9]

To compute the teacher-level weights within the expanded building sample, a district-level multiplicity factor was developed to account for the number of buildings that could result in the inclusion of the district for teacher data collection. The multiplicity factor, M_{hi}, was the ratio of the number of buildings selected in the district for the original 202 building sample to the expected number of selected buildings in the district. That is, for district i in state h,

$$M_{hi} = N_{hi}/E_{hi},$$

where

N_{hi} = number of buildings selected in the original subsampling for district i in state h; and

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[9] Teacher data were also collected in three additional buildings within districts that did not contain a building selected in the original 202 building sample and these buildings and teacher data were excluded from the weight calculation and adjustment procedures.

E_{hi} = expected number of buildings selected in the original subsampling for district i in state h.

The adjusted building weight for teacher data collection, $ATCHBWT_{hij}$, was computed as

$$ATCHBWT_{hij} = (ADWT_{hi})\cdot(M_{hi})\cdot ASCHWT_{hij} = M_{hi}*BWT_{hij};$$

where

$ADWT_{hi}$, $ASCHWT_{hij}$, BWT_{hij}, and M_{hi} have been previously defined.

Since BWT_{hij} already reflected some adjustment for district and school refusal and other frame anomalies, these corrections were also reflected in the adjusted weight for the buildings from which teacher data were collected. Since all academic subject matter teachers of LM-LEP students within the selected schools were selected with certainty, the sampling weight for each selected teacher m in school hij, TWT_{hijm}, was determined as

$$TWT_{hijm} = ATCHBWT_{hij}.$$

2. Nonresponse Weight Adjustments

Nonresponse adjustments to teacher-level weights were conducted in two stages; first to adjust for building-level refusals that resulted in an unknown teacher frame count and second to adjust for teacher refusals or other forms of nonresponse to the single Teacher Questionnaire when a teacher frame count was available. To compensate for the 29 buildings that did not provide a teacher frame count, the teacher weights for 341 buildings were adjusted at the building level using four factors to define weighting classes: (a) state; (b) state type (self-representing and non-self-representing); (c) district cluster size (less than full-site equivalent and full-site equivalent or greater); and (d) building size (less than 12 LEP students, between 12 and 25 LEP students, and 25 or more LEP students). Weighting classes defined by these factors were determined as follows:

- In California and New York by district cluster size and building size within state;
- In Texas by building size within state;

- In remaining SR states (excluding Pennsylvania) by district cluster size and building size across these six states; and
- In NSR states by district cluster size and building size across these ten states.

Weight adjustments were performed within these classes using the basic equation presented above in Appendix D.B.2.

Following the initial adjustment, subsequent examination of the adjusted weight distribution revealed outlier weights for one school building in an SR state district. The weight was subsequently trimmed to reduce variance inflation in analytic operations, by setting the outlier weight to the value of the next largest building weight within the weighting class and distributing the excess weight among other sample school buildings in the same weighting class (proportional to their prior weights).

The second-stage adjustment compensated for individual teacher explicit refusals or other form of nonresponse and for the teachers in five buildings within which a teacher frame count was provided but administration of the teacher questionnaire was prohibited by the school. The nonresponse adjusted teacher weight resulting from the first-stage adjustment procedure was further adjusted, under the basic procedure defined in Appendix D.B.2. above, by the ratio of estimated cumulative weight of all teachers to the estimated cumulative weight of responding teachers, using essentially the same weighting classes that were used for the first-stage weight adjustment.

G. Student Weights

1. Student Sampling Weights

Students were to be selected from the subsample of 202 schools described in the previous section, but because of refusals (at the district or school level), student frame development and subsequent student selection was accomplished in only 187 of these schools. To compensate for the 15 refusals, the building-level subsampling weight, $SUBWT_{hij}$ (as described in the previous section) was adjusted using weighting classes. The factors defining the weighting classes were: (a) state; (b) state type (SR states and NSR states); (c) district cluster size (less than full-site and full-site equivalent or greater); (d) building size (less than 12 LEP students, between 12 and 25 LEP students, and 25 or more LEP students). The weighting classes were defined

by these factors differentially by state as follows:

- In California and Texas by district cluster size and building size within state.
- In New York by district cluster size within state.
- In remaining SR states (excluding Pennsylvania) by district cluster size and building size across these six states.
- In NSR states by district cluster size and building size across these ten states.

The adjustment was accomplished, within each defined weighting class, using the procedure defined above in Appendix D.B.2., and resulted in a weight subsequently defined as $ASUBWT_{hij}$.

Student sampling was accomplished within grade (1 or 3) and for each grade within two explicit strata defined by language group membership.[10] Original plans called for selecting five students from each grade (or from a single grade if only one was represented); two from the predominant language group, and three from the remainder (with provision for reallocation to the predominant group in the event of null or sparse representation in the "other" group). Due to lack of uniformity in field implementation of the sampling, the expectation of five per grade in grades 1 and 3 (if both represented) was not met. Moreover, data available from the subsampling indicated sampling yield (i.e., number of selected students for whom parental permission had been obtained, including replacements in some instances), rather than initial sample sizes.

Given the available student sampling data, the initial student level weight, $STWT_{hijm}$, for student n in language group stratum ℓ of grade k in school hij was computed as

$$STWT_{hijn} \equiv STWT_{hijn}^{(\ell k)} = ASUBWT_{hij} * ASTUDWT_{hijn}^{(\ell k)} ,$$

where $ASUBWT_{hij}$ has been previously defined. $ASTUDWT_{hijn}^{(\ell k)}$ is the conditional weight for student n within school hij in language group ℓ and grade k, defined

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[10] Language groups consisted of (a) the group comprising the predominant LM-LEP language group in grades 1-5, and (b) all others not of the predominant language group.

as

$$ASTUDWT_{hijn}^{(\ell k)} = N_{hij}(\ell k)/n_{hij}(\ell k),$$

where

$N_{hij}(\ell k)$ = total number of LM-LEP students in language group ℓ of grade k in school hij, and

$n_{hij}(\ell k)$ = number of students yielded in sample from language group ℓ in grade k of school hij.

By using yield rather than actual sample in the computation, adjustment for parent refusals and any subsequent replacement is already reflected in $ASTUDWT_{hij}^{(\ell k)}$. In the occasional case for which sample yield in a grade by language group - stratum was zero and a positive count existed for that stratum, the language strata for that grade were combined.[11]

2. Nonresponse Weight Adjustments

The student sampling yielded 1,762 students in the 187 participating schools; however, data unavailability (as a result of one or another form of refusal or nonresponse) was not the same for the two student-level forms (Forms 5 and 6). Thus, four nonresponse adjusted weights were computed to accomodate analysis of data from these forms, singly or in combination. The number of respondents and nonrespondents for each form or combination of forms are indicated below.

Form	Respondents[12]	Nonrespondents
Form 5	1,667	95
Form 6	1,739	23
Either Form 5 or Form 6	1,755	7
Both Form 5 and Form 6	1,651	111

[11] At none of the participating schools was a single grade yield of zero obtained, given positive LM-LEP count in the grade.

[12] For purposes of this presentation, Form 5 response (singly or in combination) assumes at least one Form 5 for a given sample member. Presence of complete Form 5 data for a student (i.e., one form from each of the student's teachers) should not be assumed.

Subsequent adjustments for such nonresponse were accomplished in two steps: (a) student-level weight adjustment within building, grade and language predominance, and (b) student-level weight adjustment across buildings when within-building adjustment was not possible. The first of these steps was relatively straightforward, using weighting classes defined within building by grade and language groups. Within the defined classes, adjustments were performed using the general procedure defined in Appendix D.B.2.

The first adjustment compensated for all but 41 students with missing Form 5 data. These 41 students were in 9 buildings in which none of the students had Form 5 data for the grade by language predominance weighting class. Most of such cases resulted from school refusal to allow contact with teachers in regard to their completion of Form 5 for selected students. To compensate for these students, the second weight adjustment step used weighting classes defined within grade and language group but across buildings within the weighting class. These weighting classes are defined in Table E.1 and the adjustments were performed according to the general equation referenced above.

Table E.1: Weighting Classes Defined for Final Step in Weight Adjustment of Student Level Sampling Weights

Weighting Class	State Type[a]	State	District Size (Est. Students)[b]	Building Size (Students)	Single District	Grade	Language Predom. Type[c]	Student in Weighting Class	
								With Data	Without Data
1	SR	CA	LFE	12-25	No	1	1	25	2
2	SR	CA	FE	25+	No	1	2	62	1
3	SR	NY	FE	All	Yes	1	1	20	5
4	SR	NY	FE	All	Yes	1	1	2	2
5	SR	NY	FE	All	Yes	1	2	3	3
6	SR	NJ	FE	25+	No	3	1	18	2
7	NSR	CO	FE	12-25	Yes	1	2	3	2
8	NSR	CT	FE	12-25	Yes	1	1	10	5
9	NSR	CT	FE	12-25	Yes	3	1	5	5
10	NSR	MI	FE	All	Yes	1	1	14	5
11	NSR	All others	LFE	12-25	No	1	1	23	3
12	NSR	All others	LFE	12-25	No	1	2	16	2
13	NSR	All others	LFE	12-25	No	3	1	26	2
14	NSR	All others	LFE	12-25	No	3	2	14	2
									41

a/ SR=Self Representing; NSR=Non Self Representing

b/ LFE=less than full-site equivalent (i.e., less than 150 LM-LEPs per grade in elementary grades); FE=full-site equivalent or greater.

c/ 1=predominant language group in building; 2=all other languages.