DESCRIPTIVE STUDY OF SERVICES TO LEP STUDENTS AND LEP STUDENTS WITH DISABILITIES

SPECIAL TOPIC REPORT #3

Issues in Studying Learning Outcomes for LEP Students

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Note

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This report is one of several developed as part of the Descriptive Study. The reports produced are:

- Research Report (Volume I)
- Policy Report (synthesis of findings)
- Methodology (Volume II)
- Case Study Findings (Volume III)
- Special Topics Reports:
  - Special Topic Report #1: Native Languages of LEP Students
  - Special Topic Report #2: Issues in Studying Learning Outcomes for LEP Students
  - Special Topic Report #3: Analysis of Office for Civil Rights (OCR) Data Related to LEP Students
  - Special Topic Report #4: Findings on Special Education LEP Students

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ISSUES IN STUDYING LEARNING OUTCOMES FOR LEP STUDENTS

This report is one of a series of special topics reports produced as part of the Descriptive Study of Services to LEP and Special Education LEP Students (hereafter referred to as the "Descriptive Study"). The Descriptive Study was funded by the U.S. Department of Education, Office of English Language Acquisition to provide descriptions of limited English proficient (LEP) students in U.S. public schools, the instruction they receive, the alignment of that instruction with State content and performance standards, and the numbers and characteristics of instructional staff providing those services. The Descriptive Study also included a major sub-study designed to provide information on LEP students served under the Individuals with Disabilities Education Act (IDEA) (hereafter referred to as "special education LEP (SpEd-LEP) students"). In addition to the special topic reports, Study products include the Research Report (Volume I), Methodology (Volume II), and Case Study Findings (Volume III). A separate Policy Report provides a summary and discussion of the key findings of the Study.

The purpose of this Special Topic Report is to discuss evaluation and research methods relevant to the assessment of educational outcomes for limited English proficient (LEP) students.[1] The paper describes research approaches that are used, discusses factors affecting outcomes, describes major issues affecting such studies, and presents conclusions and recommendations.

A. The Issue: What Instructional Services Are Most Effective for LEP Students? ("What Works?")

The question that is most often directed at researchers studying instructional services for LEP students is: "What is the most effective instructional approach?" This question is of interest to policy-makers, school administrators, parents and others. The fact that there is no simple answer available after many years of research and practice is very difficult to understand for many people.

One of the reasons why the question is difficult to answer is that there is almost certainly no single, simple response. The question lumps together students from different native language groups, students who enter U.S. schools at different times, students with different levels of English language ability at entry, and students with different levels of skills in their native language. While the correct answer to the question may be, "It depends," that answer is not satisfactory because it does not provide any useful guidance. Ideally, research should describe the key subgroups of LEP students, and what instructional services are most effective for each of these subgroups.

The question also does not make specific reference to the resources that are available to districts and schools. The resources for a particular approach (e.g., bilingual teachers,

[1] The term "LEP student" is used to describe a student whose native language is other than English and who has difficulty functioning in an all-English classroom. Districts and schools use a range of terms in describing such students, such as English language learners or English as second language students.

sufficient numbers of students in a particular language group, space for separate classes) may not be available, and thus the question for a particular district may more accurately be: "What is the most effective instructional approach given our available resources?"

B. What Outcomes Are Important?

In order to provide a meaningful answer to the question of "What works," there needs to be consensus on what outcomes are desired. In the case of services for LEP students, overall consensus has not been achieved. Everyone agrees that key goals for LEP students are to learn English, to perform successfully in school, to graduate, and to obtain a good job. However, individuals place differing emphases on: (1) the importance of retaining and/or improving native language oral language and literacy skills; and (2) the importance of quickly transitioning to mainstream educational environments.

These differences in emphases sometimes get reflected in the outcome measures that are chosen for particular research studies. Assessments of native language skills may or may not be used, and studies may or may not include early measures of English language development, early achievement tests in English, or measures of speed of transition into mainstream settings. Each of these measures is by its nature more appropriate for some instructional service types than for others.

The outcome measures that would appear to be most valid are those on which there is consensus. These would include: (1) measures of academic achievement in English after a significant period of schooling; (2) school retention; and (3) graduation from high school with a regular or advanced diploma. The difficulty with these measures is that they require long-term data collection on students who in many cases have exited LEP status quite a few years previously. Few major studies have collected data on these measures.

One of the implications of long-term data collection is that both LEP and former LEP students need to be tracked, and data from LEP and former LEP students need to be combined in analyses. As discussed later in this paper, collecting data on former LEP students can often be problematic.

C. Factors Affecting Outcomes

Research has clearly shown that the type of instructional services is just one of many factors that influence LEP student achievement. Among the school factors that have been identified are: (1) teacher experience; (2) teacher training; (3) levels of expectation by teachers and school staff; and (4) principal leadership. Among the home and family factors are: (1) parental education levels; and (2) parent/family language use; and (3) parental expectations.

All of these factors (and others) affect student outcomes, and research has not clearly indicated the extent to which the type of instructional services impacts outcomes (i.e., how much of the variance is accounted for by type of services). What should be clearly recognized, however, is that selecting an effective instructional service approach is only one small piece of the puzzle for improving LEP student outcomes. Schools also need to focus on the other factors that are important, for example by assigning experienced teachers to LEP classrooms, by providing them training on LEP services, by establishing a culture of

high expectations in the school, and by encouraging parents to have high expectations for their children.

D. Overall Study Approaches

There are three primary research models that have been used to assess outcomes for LEP students: (1) historical studies, which retrospectively examine outcomes for LEP students; (2) longitudinal studies, in which individual students are tracked and tested over a period of time; and (3) cross-sectional studies, in which cohorts of students at different levels (typically, different grades) are compared.

Each of these models has its strengths and weaknesses. Historical studies are relatively inexpensive and are best able to examine data over a long period of time for specific students, but they are limited by the amount and quality of the data that are available. Longitudinal studies can also track individual students over time and have greater control over the nature and quality of the information collected, but they are very expensive and plagued with attrition and dropout issues (because of the high mobility of the LEP population). Cross-sectional studies are relatively easy to perform, but because of high LEP student mobility and the lack of information about prior LEP status, the cohorts are not comparable and comparisons among groups based on service types are very difficult.

The following section discusses the major issues in conducting studies of LEP student outcomes, and relates those issues to the three research models.

E. Major Issues in Research

1. Non-random assignment

One major issue that has limited conclusions about the effectiveness of various types of LEP instructional services is the fact that LEP students are not randomly assigned to service types. Previous research suggests that students are assigned based on: (1) resources available to provide a specific service (bilingual teachers, numbers of students in a specific language group); and (2) the specific backgrounds and abilities of the LEP students (Young et. al., 1986). Districts and schools assign resources where they believe that they are most needed, and the result is that the students with the weakest English language skills receive the most intensive LEP services (i.e., more instruction designed specifically for LEP students and more native language support). Thus, there is a built-in negative correlation between intensity of services and achievement in English. This effect is common in all compensatory education programs.

The built-in negative correlation is accentuated over time as students who are quick to master English language skills leave intensive LEP services (and eventually all LEP services), while those who remain continue to struggle with English language acquisition. This can produce a strange effect in which the amount of LEP services is negatively correlated with outcomes in English, due largely or completely to the selection bias among students.

One solution to this issue involves research with random assignment of students to services. Random assignment eliminates initial selection bias by <u>not</u> placing students in services based

on their backgrounds and skills. However, schools are highly resistant to random assignment, because they believe that it involves major misapplication of resources. It also runs contrary to the principle of providing services relevant to each student's needs (some might even consider it educational malpractice, or to be illegal based on Lau and other court rulings). There are other problems with random assignment studies, however, including the assumption that all other factors are held constant. This is highly unlikely in educational settings. For example, bilingual teachers might have much less teaching experience (a major predictor of outcomes) or fewer instructional resources (books, computer programs, etc.) than do teachers in other classrooms, which would systematically bias the results.

Research studies can attempt to control for such factors through statistical analysis (regression, analysis of covariance, etc.), but such statistical controls are limited by: (1) the number of relevant variables that are measured; (2) the accuracy with which they are measured; and (3) the complex statistical relationships among those control variables. Researchers need to do their best to understand the effects of uncontrolled variables, but they never should assume that an educational study has complete control of non-service variables.

Although random assignment of students or classrooms is theoretically possible in longitudinal and cross-sectional studies, it has very seldom been used, especially for long enough to test long-term outcomes. Therefore, all studies of services to LEP students need to be aware of the effects of non-random assignment, and use statistical controls to the extent possible to generate unbiased results.

2. Student mobility

Research has shown that LEP students are a highly mobile population (Young et. al., 1986). One of the implications of high mobility is that the educational experiences of LEP students are often inconsistent and disjointed. Another implication is that research involving LEP students has difficulty tracking specific students. Thus, longitudinal studies often lose large numbers of participants, and historical studies often rely on very incomplete records.

Student mobility has particularly confusing effects on cross-sectional studies, because LEP populations at different grade levels may have very different characteristics. Because the LEP student population at a particular grade level in a school is composed of a mixture of students new to U.S. schools, students new to the particular school, and students who previously attended the school, comparing grade cohorts is a highly questionable activity. The current Federal approach to assessing achievement of standards uses a version of this method, for example, and the results for LEP students should therefore be interpreted extremely carefully.

One approach to dealing with student mobility is to include in analyses only those LEP students who remain in a specific school or district for an extended period of time. This increases the internal validity of such analyses, but decreases external validity (generalizability) of results, because such a large percentage of the population is excluded. However, because it may be extremely difficult to answer the question of what works best for LEP students who move frequently, answering the question about less mobile LEP students may be the best solution.

3. Student dropout

An issue closely related to student mobility is student dropout. Research indicates that LEP students have higher than average dropout rates (Bennici & Strang, 1995). Dropout is a particular issue for middle and high schools, where it systematically eliminates many LEP students from inclusion in studies of academic outcomes.

When students who drop out are eliminated from analyses, it generally creates systematic bias in favor of programs with high dropout rates. Students who drop out are typically poor academic performers, and when they are eliminated from analyses, mean results for the remaining students generally improve. For example, this author has sometimes observed that in cross-sectional studies, mean achievement test scores for 12th graders are higher than those for 9th and 10th graders, likely not because of achievement gains but because of selection bias in those tested. Similarly, when dropouts are eliminated from analyses in longitudinal and historical studies, the results for programs with high dropout are biased in a positive direction.

For these reasons it is important to statistically control for the effect of dropout in comparative analyses. One approach is to statistically impute academic outcome scores for those who drop out, based on when dropout occurred and results for persons with similar services and backgrounds who did not drop out. One can assume at least some learning gains to the point of dropout (parallel to those for other similar students), but likely few gains after that. A more cautious approach would be to assume no learning gains for dropouts subsequent to their last testing results.

It is also very important to recognize that student dropout is itself a key outcome variable. Students who drop out have very poor economic prospects. However, it is often difficult for schools to distinguish dropout from student mobility for individual LEP students. Most students leave school without declaring themselves as dropouts, and some who make such declarations later return to school. Although there are some emerging measures to assess dropout at the aggregate level (e.g., comparing the sizes of the 9th and 12th grade classes serving the same area), they can only be applied at the school or district level. Studies of LEP student outcomes in middle and high schools, however, should make serious attempts to distinguish dropout from mobility.

4. Variability in the definition of LEP status

One of the other difficulties in conducting studies of LEP student outcomes is defining the appropriate group for study. There are no universal or even commonly accepted standards for identifying who is a LEP student. Similarly there are no standards for stating when a student should no longer be defined within this category (Fleischman & Hopstock, 1993). Some districts and schools may only identify students as LEP in their records if the students are receiving some form of special LEP services. (Thus, for example, students whose parents exempt them from LEP services would not be identified as LEP.) However, if common standards are used within a study and across service types, the internal validity of the study is not compromised. The external validity (generalizability), however, will depend upon whether the standards used are similar to those most generally used.

5. Lack of information on former LEP status

There is also wide variability in the extent to which students who were formerly identified as LEP are identified as such in records. The issue of identification of former LEP students is least serious in longitudinal studies, in which students often enter the study when they are identified as LEP and can be tracked afterwards regardless of identification. In historical studies it is an issue when districts and schools do not maintain records of who was formerly identified as LEP. It is a very serious issue in cross-sectional studies if formerly LEP students are not combined with LEP students in analyses. If the most successful English language learners are eliminated from the cohort (due to exit from LEP status), it is highly likely that each older age/grade cohort will have weaker academic performance scores based on selection bias.

Because of the importance of collecting long-term outcome measures (see Section B above), in historical and cross-sectional studies, LEP and former LEP students need to be considered as a group. This will be a challenge when schools do not maintain data on former LEP students, and will be a serious challenge when students move among schools. Information on former LEP status may not be part of the information transferred to the new school, or the new school may not receive any records at all, and thus may be unaware of former LEP status. Historical and cross-sectional studies should make special efforts to identify such students and to include them in analyses.

6. Lack of detailed information on services

In order to make judgments about the effectiveness of instructional service approaches, researchers must reach some consensus on how to categorize service approaches and be able to reliably place students into categories. These goals have been extremely difficult to realize, and problems of definition of services have plagued longitudinal, cross-sectional, and historical studies.

There are no commonly accepted categories for describing services (Fleischman & Hopstock, 1993). A number of labels have common usage (e.g., bilingual classes, ESL classes, sheltered instruction, structured immersion), but research and observation indicate that there is very wide variability in the types of services being offered under each of those labels. There are "bilingual classes" in which there is virtually no native language use, ESL classes that do and do not include content instruction, and structured immersion classes with varying levels of adaptation for LEP students.

There is also great difficulty in assigning individual LEP students to a particular category. Schools usually have a class-centered view of instruction. Though they know that there is an ESL class, a bilingual science class, etc., schools may not have a coherent view of all of the instruction received by a particular student (this is particularly an issue in middle and high schools). This class-centered view also does not reflect the variation in instruction that occurs within classrooms. Within a classroom, a Spanish language student may be receiving instruction in two languages, while a Vietnamese student may be receiving instruction only in English.

The issue is further complicated when instruction varies within and across school years. Many schools have clearly defined sequences of instruction across years, but in many cases the type of service received by a LEP student in a particular year is highly dependent on the availability of resources to provide the service and the needs of other students in the school.

In the near future, it seems unlikely that educators will reach consensus on service categories or change their class-centered view of instruction. It is the responsibility of researchers, therefore, to do their best to describe the instructional service types being assessed. Rather than relying on inconsistently applied labels, researchers at minimum should attempt to document: (1) the extent to which the native language is used in instruction; (2) the amount and type of English instruction (ESL versus regular); and (3) the extent to which instruction in content areas (e.g., math, science, social studies) is specifically designed or adapted for LEP students. With these three pieces of information, most persons in the field can apply the data to their specific situations and definitions.

7. Collecting long-term outcome measures

As indicated above, the outcome measures on which most people can agree require long-term data collection (continuing at least 4-5 years after students enter study schools). Collecting long-term measures impose different challenges for different types of studies.

Most longitudinal studies do not have the time and resources to track students over such an extended period. Problems with study attrition also complicate longitudinal studies, usually when students move out of study schools.

Cross-sectional studies solve the problem of long-term data collection by comparing different cohorts of LEP students at the same point in time. However, cohorts of LEP students are very difficult to compare because they contain different proportions of students new to U.S. schools, students new to the particular school, and students who previously attended the school. Cross-sectional studies at the elementary level can exclude students new to U.S. schools from all cohorts except kindergarten, but there will still be wide variability within cohorts in instruction received due to student mobility.

Historical studies appear to hold the most promise in terms of long-term data collection. Assuming there are adequate records concerning LEP and former LEP status and the types of services received (a major assumption), historical studies can examine the relationship between services and long-term outcomes. However, answers can only be provided for the less mobile LEP students, as these will be the only students with long-term data available from a specific database system.

F. Conclusions

1. There is almost certainly no simple answer to the question of what instructional approach is most effective with LEP students. It is likely that the answer varies for different categories of LEP students, though neither the categories nor the most effective methods have been clearly identified to date.

2. Given the difficulties in conducting research on the LEP student population, the lack of clear answers on effective approaches is not surprising. The lack of clear answers points to the need for a comprehensive and coherent research plan to address the issue.

3. Although studies of short-term outcomes of LEP programs (1-3 years) may be useful for selected purposes, the greatest need is for studies that look at outcomes over the longer term (at least 4-5 years). The use of long-term outcome measures is particularly important given the design of some LEP programs.

4. There are advantages and disadvantages to each of the major study approaches for examining LEP student outcomes (longitudinal, cross-sectional, and historical). Of the three, historical studies have been least used. Historical studies offer a relatively cost-effective approach and should become more practical as school districts improve their computerized database systems.

G. Recommendations

1. ED should sponsor a research program to address the issue of effective instructional approaches for LEP students. The program should include a number of small to moderate size studies and a range of research methodologies. Each study should compare specific instructional programs for specific subpopulations of LEP students, choosing outcome measures that are appropriate to those programs. ED should particularly emphasize research projects that include longer-term measures of outcomes. Historical studies should be encouraged.

2. All proposals for research studies should describe in detail the definition of LEP students being applied, the specific instructional approaches being studied, and how students were or will be assigned to those approaches. Where service approaches change over time for a student, the sequences of services should be described. All proposals for research projects also should be required to address how they will deal with various confounding factors (student mobility and dropout, differences in school and teacher characteristics, etc.).

3. ED should work with States and local school districts to develop a typology for describing services for LEP students that can be used in reporting. Such a typology should be student-centered, should reflect all instruction received by a LEP student, and should reflect: (1) the extent of instruction specially designed for LEP students; and (2) the extent of native language use.

4. ED should strongly encourage and should assist States and local school districts to develop student-level databases that include yearly information on: (1) LEP and former LEP status; (2) types of LEP services received (see #3 above); (3) English language achievement; and (4) achievement relating to State academic standards. Such databases, if developed and maintained, would provide researchers with an excellent resource for answering questions related to LEP student outcomes.

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