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ABSTRACT

More than one-fifth of American school-age children and youth come from language-minority families--homes in which languages other than English are spoken. This volume, the first in a series of three, presents findings of a study that examined exemplary school-reform efforts involving the education of limited-English-proficient (LEP) students. The study focused on language arts in grades 4 through 6 and mathematics and science in grades 6 through 8. Visits to eight exemplary sites showed that: (1) Students do not need to learn English before studying standard curriculum; (2) a comprehensive, schoolwide vision provides an essential foundation for developing outstanding education for LEP students; (3) effective language-development strategies exist and can be adapted to different local conditions; (4) high-quality learning environments for LEP students used strategies that engaged students in meaningful, indepth learning; (5) the sites used a schoolwide approach that restructured school units, time, decision making, and external relations; (6) external partners can help to improve the program; and (7) school districts can play a critical role in supporting LEP programs. A total of 14 tables, 4 figures, 38 sidebars, and a glossary are included. The appendix contains cross-site analysis tables. (Contains 119 references.) (LMI)

SCHOOL REFORM AND STUDENT DIVERSITY

VOLUME I
FINDINGS AND CONCLUSIONS

Institute for Policy Analysis and Research, in collaboration with the National Center for Research on Cultural Diversity and Second Language Learning

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School Reform and Student Diversity

Volume I
Findings and Conclusions

Submitted to:
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A. PREFACE

Children who come from cultural and linguistic minority backgrounds often founder in American schools. Many do not gain a solid grounding in English reading and writing or in mathematics and science by the time they enter high school. As young adults they are therefore inadequately prepared for higher education or for all but the most menial employment. The costs of their wasted potential are unacceptable—both to the young people themselves and to U.S. society as a whole.

Educating language minority students to the high standards we expect of all children is a challenge. While the full dimensions of that challenge are not yet well understood, it is nonetheless clear that little progress will be made unless the educational and organizational practices at many of today's public schools are reformed.

In 1990, the Office of Educational Research and Improvement (OERI) of the US Department of Education issued an RFP to identify and study exemplary school reform efforts involving the education of language minority students. The RFP directed the study to focus on language arts in grades 4 through 6 and math/science in grades 6 through 8. It is neither desirable nor possible to separate the LEP program at these grade levels from the entire experience of students at a school. Therefore, the study analyzes the context of school reform and how that school reform affects the entire curriculum and program of instruction for LEP students.

This document, *Volume I: Findings and Conclusions*, is one of a series of three volumes. This volume briefly reviews the context and methodology of the study, summarizes key features of each of the case studies of eight exemplary schools that serve a high proportion of limited English proficient (LEP) students, presents analyses of case study findings across these sites, and offers policy recommendations. The case study sites are described in detail in Volume II: The Case Studies. The final report, Volume III: Technical Appendix, presents the research design and methodology of the study. The study team also commissioned research papers, which have been edited and published as a book, *Language and Learning: Educating Linguistically Diverse Students* (Beverly McLeod, editor, SUNY Press, 1994).

OERI has funded eleven other companion studies that examine different aspects of school reform. The entire set of reports will thus provide a comprehensive description and analysis of reform from the empirical perspective of outstanding practices in the field.

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E. EXECUTIVE SUMMARY

In 1990, the Office of Educational Research and Improvement (OERI) of the US Department of Education issued a Request for Proposal (RFP) to identify and study exemplary school reform efforts involving the education of limited English proficient (LEP) students. The RFP directed the study to focus on language arts in grades 4 through 6 and mathematics and science in grades 6 through 8 and to examine how school reform affected these areas as well as the entire curriculum and program of instruction for LEP students. This volume reports the study's findings and conclusions.

Background

The linguistic and cultural diversity among students in American schools is greater now than at any time since the early decades of this century. More than one-fifth of school-age children and youth come from language minority families—homes in which languages other than English are spoken. For many of these students, English is not their first language and they enter school with limited English proficiency. During the 1980s, the number of LEP students grew two-and-a-half times faster than regular school enrollment.

Although LEP students represent more than 100 different language backgrounds, Spanish is the native language of 65 to 70 percent of all LEP students, while ten to 15 percent speak one of several Asian languages. Over 40 percent of students with limited English proficiency are immigrants. When they first enter American schools, LEP students vary greatly in age, mastery of English, literacy in their native language, academic preparation, and familiarity with American culture. Some immigrant students have had excellent education in their home country, while the schooling of others has been of poor quality, sporadic, or interrupted by war or other social crises.

Nearly all LEP and other language minority students are members of ethnic and racial minority groups and most are poor. Their neighborhoods are likely to be segregated and beset with multiple problems—inadequate health, social, and cultural services; insufficient employment opportunities; crime, drugs, and gang activity. Their families are likely to suffer the stresses of poverty and to worry about their children's safety in a dangerous environment and about their future with few positive prospects.

Research studies have suggested that language minority students in general take fewer academic courses, lag significantly behind in writing, science, and mathematics, and have much higher dropout rates than white, native-English-speaking students. At the secondary school

level, LEP students are unlikely to be given access to a full academic program taught in their native language or with special language assistance.

Despite these findings, the current education reform movement, which aims to improve the academic achievement of *all* students, may be ignoring the needs of LEP students. There appears to be a large gap between education reform efforts for native-English-speaking students and the kinds of programs generally available to LEP students. Too often, schools undergoing restructuring fail to include LEP students in their attempts to reform the educational program.

Thus, the challenge for schools with LEP students is to integrate the tenets of education reform with knowledge about learning in a second linguistic and cultural environment. LEP students must first of all have *access* to challenging curricula in language arts, mathematics, science, and other academic subjects. Simultaneously, schools must deliver a high quality academic program, which requires teachers and administrators to select appropriate *instructional methods* and redesign the *school structure* to enhance the achievement of LEP students. This study set out to identify schools that had achieved or were moving towards these goals, and to derive from their successful experiences lessons for local practitioners as well as federal and state officials.

Research Method

The study selected eight exemplary sites for intensive examination, after conducting an extensive nationwide search. State officials, experts and interest groups in the field, and local knowledgeable people from the twenty states with the largest populations of LEP students nominated 156 schools. Information was gathered about all nominations, and at almost half of the schools, principals or bilingual coordinators were interviewed extensively by telephone. Fifteen sites were subsequently selected for one day visits, before the final eight schools were chosen for more extended fieldwork by a team of researchers. Locating exemplary mathematics and science programs was much more difficult than finding outstanding language arts programs. Of the 156 nominated sites, approximately two-thirds were language arts sites and the remaining were mathematics and/or science sites.

Though each study site collected data on student performance, these data could not be used to demonstrate that they had significantly higher student achievement scores compared to other similar schools. This is not surprising. Comparable data on student outcomes across schools in the same or different districts are generally not available, particularly because LEP students are often not given the standardized tests (in English) that districts or states require of most students. Nevertheless, the nomination, screening, and field visits all led to the conclusion that the study schools were highly innovative and followed practices that are considered by the research

literature to provide outstanding learning opportunities for LEP—and all—students. At all the study sites, students acquired a mastery of English and were held to high content standards.

This volume, *Volume I, School Reform and Student Diversity: Findings and Conclusions*, discusses specific findings that arise from looking across the eight study sites. This Executive Summary reviews broad lessons and general policy implications based on the cross-site analysis as well as on the in-depth material presented in *Volume II, School Reform and Student Diversity: Case Studies*.

Lessons and Policy Implications

The findings from the exemplary sites summarized below describe *what is possible*, not what is average. Schooling at the exemplary sites was fundamentally unlike most schooling for LEP children. Therefore, the findings — and particularly the accompanying case material described in detail in *Volume II*— should provide practitioners with clues about strategies that they might use to improve the education of their LEP, and perhaps all their, students, and provide policymakers with insight into how they might support these strategies.

Lesson #1. *Schools Can Develop Outstanding Education for LEP Students.*

The exemplary schools demonstrated that LEP students can learn challenging content in language arts, mathematics, and science, *while becoming literate in English*, and, further, that they can realize the high expectations for academic achievement and personal development expected of all other students.

Though the study located a pool of truly exemplary schools, the evidence from the study's nomination and site selection process suggests that most other schools have not effectively met the challenge of educating LEP students. Many schools, even among those nominated as having good programs for LEP students, have not developed a comprehensive approach to the complex set of language acquisition and instructional needs of LEP students. For example, a number of nominated schools only had one outstanding class for LEP students led by an outstanding and trained teacher, but this class tended to be separated and isolated from the rest of school activities.

More fundamentally, most schools tend to treat the education of LEP students as a remedial issue assuming LEP students must learn English *before* they can be expected to learn the standard curriculum designed for "mainstream" students. The exemplary sites show that this assumption is not warranted. They demonstrate that mastering high quality curriculum and

acquiring English are best done *together*, using strategies described in *Volume II* and summarized below.

Policy Implications: Schools with LEP students will have to re-examine their assumptions if they are to produce significant gains in the academic achievement of LEP students. This conclusion, which confirms conclusions from the research literature, has profound implications for policy at the federal, state, and local levels. Recent federal policy, as reflected in *Goals 2000* and *Improving America's Schools Act (IASA)*, shifts the federal role from a regulatory function to one of policy guidance and technical assistance. In this new policy environment, it is particularly important for states and schools to look to the examples of the kind of exemplary schools studied here.

Indeed, *Goals 2000* and *IASA* require states to develop consolidated state plans for school reform. LEP students represent one of the target populations to be served by Title I of *IASA* and must be included in the state plans. The exemplary schools show that such students can learn to high academic content and performance standards and that state plans should embody the new, and more accurate assumption, that acquiring English and mastering high quality curriculum are best done together. The technical assistance afforded in state plans should be directed toward helping teachers and school communities to develop and adapt the types of strategie summarized below.

Lesson #2. *A Comprehensive School-wide Vision Provides an Essential Foundation for Developing Outstanding Education for LEP Students.*

The exemplary schools all developed, often by means of an extended process, a schoolwide vision of what quality schooling should be like for all their students, including their LEP students. Though the specifics of the vision differed across the sites, they held five clear themes in common:

- Teachers, administrators, and parents at all the schools expected that LEP, and all, students could learn to high standards and could learn the language arts, mathematics, and science curriculum necessary to be successful in life.
- School personnel embraced the culture and language of students and welcomed parents and community members into the school in innovative ways.
- A community of learners was created in which teachers were treated as professionals and given the support and time to learn from each other, develop programs, and continually adjust them as circumstances changed.

- School personnel welcomed and, at times, actively sought, external partners or research information from the outside in order to advance their understanding of how to realize their school vision.
- The school community saw the need to change as being schoolwide and comprehensive.

The combination of these five dimensions of a shared vision—high expectations, cultural validation, community of learners, openness to external partners and research, and comprehensiveness—gave the exemplary schools an air of caring, optimism, and confidence, despite the great challenges they faced.

Policy Implications: In *Goals 2000* and *Improving America's School Act*, the federal government has delineated an approach to education reform that calls for comprehensive and systemic school change. Our findings clearly show that this approach is on the right track and can benefit the education of LEP students.

For example, the new Title VII of *IASA* provides "Comprehensive School Grants" and "Systemwide Improvement Grants" to promote systemic change in schools and districts, respectively. The experience of the exemplary schools suggests that this approach could produce the breakthrough in dealing with LEP students that is so necessary. Districts and schools submitting applications for these grants should begin with the notion of developing a schoolwide shared vision of the type summarized above. In particular, these plans should include:

- a comprehensive and schoolwide approach to school improvement that integrates LEP students into a quality education experience. The exemplary schools provide various models of how this can be started (see *Volume II* for details).
- high content and performance standards for LEP children, as well as for all other children, as prescribed in both Acts. Such standards may be a key to correcting the tendency of many schools to marginalize LEP students in decisions about resources and planning and thus effectively leave them out of reform efforts. However, only two of the exemplary sites used performance-based assessments systematically aligned with content standards and the language development goals for LEP students. These sites demonstrated the value of such assessments, but the limited use of assessments at the other sites suggests that the state and local implementation of the Acts should focus on how to provide assistance for schools to incorporate performance assessments. The Title VII grants specifically require accountability tied to student outcomes so that the development of student outcome measurements in native languages that also reflect a quality curriculum should be considered a high priority

- professional development that can help teachers learn instructional strategies and the collaborative skills needed to develop and implement a shared, schoolwide vision. These cases make it clear that improving the knowledge base and practices of staff serving linguistically and culturally diverse students requires a schoolwid commitment to developing a community of learners. (See the policy implications under lesson #3 on pre-service training and professional development.)
- parent involvement and community partnerships. Though the Acts call for such involvement, it is important to note that the exemplary schools went well beyond the standard notions of parent and community involvement and made very deliberate efforts to involve the parents of their LEP students. As part of their vision, they saw parents as part of the community of learners and the schools as a resource to the community. The implementation of these Acts might be strengthened if this broader concept of the role of the school in communities with LEP children could be clearly articulated, using the approaches that these and other exemplary sites have pioneered.

More generally, as schools, districts, and states develop their *Goals 2000* and *IASA* plans, they should make sure that they include specific provisions for assuring high content and performance standards for LEP students in reform; integrating the needs of LEP students and innovative curriculum efforts in mathematics, science, and language arts; and providing professional development geared to a comprehensive understanding of the interrelations among language development strategies, assessment techniques, collaborative skills, and curriculum that is meaningful to LEP students. Perhaps the best way to formulate these plans is by including people who are knowledgeable of LEP student issues in the planning process at the federal, state, and local levels.

Lesson #3. ***Effective Language Development Strategies Exist and Can be Adapted to Different Local Conditions in order to Ensure LEP Students Access to the Core Curriculum While Simultaneously Developing their English Language Skills.***

All schools used students' primary language—either as a means of developing literacy skills, as a tool for delivering content, or both. In many cases, teachers also relied on high quality sheltered English. Sheltered English and primary language-based programs were typically complemented by ESL instruction. In addition, content area instruction—including language arts, mathematics, and science—was integrated into bilingual and sheltered programs for LEP students and used as a means of providing a context for oral and written language production. All the language development programs were constructed to accommodate students with varying

levels of English fluency and, where appropriate, students from different language backgrounds. In all cases where instruction occurred in the students' primary language, and in many cases where instruction was delivered using sheltered English, teachers were fluent in the home language of their students. The transition of students from classes where instruction was delivered in students' primary language (or through sheltered English) to mainstream classes was gradual, carefully planned, and supported with activities such as after-school tutoring to ensure students' success at mastering complex content in English.

Policy Implications: This lesson implies a powerful policy message to practitioners and state officials alike: Teachers of LEP students should have the training and experience in language acquisition to assure that they can create and deliver the educational programs appropriate to the different developmental levels of their LEP students.

The exemplary sites saw language development as a core goal and the foundation for all learning. Much is now known about underlying principles of using primary language for both content instruction and more general language development. The use of sheltered English and content-based ESL in multiple-language situations or during periods of transition to content instruction in English are also better understood.

The federal government and the states should focus on disseminating this empirically grounded information. In addition, pre-service training should be required to include knowledge of language development and the active ways of promoting it in the classroom. Further, credentials for teachers who serve LEP students should also include fluency in a second language. The states should shift toward renewable credentials and require teachers to update their knowledge as new information about language development and second language acquisition is gained.

Given the importance of the use of native language for learning content and meeting high standards, it is critical for states and schools to provide instructional materials in students' native languages that are on a par with those in the English language curriculum.

Lesson # 4. ***High Quality Learning Environments for LEP Students Involved Curricular and Instructional Strategies that Engaged Students in Meaningful, In-depth Learning Across Content Areas Led by Trained and Qualified Staff.***

The exemplary schools aimed to engage students actively in their own learning. Teachers created nurturing learning environments which facilitated students working independently and in heterogeneous, cooperative groups. Instruction often consisted of students engaged in self-

directed, hands-on experiential and project-based learning, including inquiry and active discovery methods. Overall, such curricular and instructional strategies emphasized in-depth learning across subject areas and disciplines. These approaches were effective for LEP students at different levels of development of English oral, reading, and writing skills, provided they were taught by trained and qualified teachers.

Policy Implications: The approaches cited above not only can work in practice, but also offer added value for LEP students. The active and contextualized learning techniques used by these sites allow limited-English-speaking students to become engaged in schooling in ways that the more traditional lecture or question-answer formats do not allow. In such settings, LEP students produce language (in particular, English when students are at an appropriate transition stage) in order to interact with other students. Moreover, the use of cooperative learning groups coupled with experiential learning is natural in some cultures and thus accelerates LEP students' progress. Other instructional strategies such as hands-on science lessons are effective in engaging students in the curriculum.

Pre-service teacher education should provide training in these practices, particularly so that new teachers can learn to create and work with heterogeneous groupings. The country's higher education institutions that provide education for teachers have a special responsibility to seek information about effective practices and make such empirical information part of their curriculum.

However, the skills required for teachers to learn the techniques of engaged learning for LEP students are beyond what most teachers receive in pre-service training. Teacher instructional leaders may be best able to provide staff development for fellow teachers in settings having linguistic and cultural diversity. The policy challenge at local and state levels is to identify such teacher leaders and employ them as part of a deliberate and long-run strategy for the training of other teachers. Districts with high proportions of LEP students might consider this strategy and make due allowances for incorporating it as a central element in their plans for professional development in response to the planning requirements of *Goals 2000* and IASA. In any event, professional development should be seen as a continuing effort that should be largely teacher-driven, should be linked directly to the needs of students. It should contain all the essential components of effective staff development—acquisition of new knowledge and skills; demonstrations of effective strategies; coaching; and training in becoming inquirers and evaluators.

The federal and state governments should disseminate information about the successful uses—and benefits—of in-depth and cross-discipline instruction in which students engage in

self-directed and experiential learning. This dissemination should be done in new ways, perhaps drawing on effective practices in marketing and political campaigns. For example, the federal and state governments might target schools with high LEP populations and provide them with specific information relevant to their LEP student demographic profile about innovative curriculum in math, science, and language arts and about how school reform can support the implementation of more powerful curriculum for LEP students.

Lesson #5. ***A Schoolwide Approach to Restructuring Schools' Units of Teaching, Use of Time, Decision-making, and External Relations Can Enhance the Teaching/Learning Environment and Foster the Academic Achievement of LEP Students.***

The exemplary schools restructured their school organization to implement their shared vision of effective schooling. This restructuring enabled them to create innovative learning environments and implement language development strategies that were effective for LEP students. The exemplary sites:

- organized schooling into smaller units;
- used time to promote more teacher collaboration, maximize student time for in-depth learning activities, and extend the school day and year;
- established broadly inclusive decision-making structures; and
- integrated social and health services into school operations.

Policy Implications. School restructuring enabled the exemplary schools to design and adapt programs that best suited the needs of LEP—and all—students. The implications of this finding are significant because LEP students are often left on the margins of school restructuring efforts. To promote the inclusion of LEP students into school reform efforts, *Goals 2000* and *IASA* plans from schools with significant LEP students should include specific steps to:

- organize their units of schooling to create exemplary language development programs for LEP students, deliver challenging curriculum to LEP students, and do so in a total school reform environment. The exemplary schools used smaller units of schooling, such as "families" and "schools-within schools," to manage the much more personalized and cooperative approaches needed for LEP students.
- use time to promote intensified instruction for LEP students and an expanded educational calendar, as the Title VII legislation suggests. Moreover, the exemplary sites restructured the use of time to enable teacher collaboration, which is essential

especially to maintain equivalent high content and performance standards across classes with native language instruction and those that use only English. School plans therefore should also delineate ways that the class, day, week, and year schedules might be reorganized to allow for meaningful teacher collaboration.

- shift decision-making and develop governance structures that include teachers, staff, parents, and community members. All the exemplary sites had taken steps toward participatory decision-making, though no two sites did it the same way. States, districts, and schools should resist the temptation to think there is one right way to restructure.
- deliver integrated health and social services. Since LEP students often lack access to such services, it is important to build them into the fabric of school plans.
- develop a comprehensive program of educational excellence. In such a program, school organization, flexible time scheduling, high quality curriculum, effective instruction, teacher professional development, and appropriate student assessments all complement and reinforce each other.

Lesson #6. ***External Partners Can Have a Direct Influence on Improving the Educational Program for LEP Students.***

Though some of the exemplary schools did not have major assistance from external organizations or projects, all the exemplary schools drew on outside research and/or resources as they developed curriculum, implemented new instructional strategies, and designed meaningful assessment systems. For those sites that had external partners, these partners helped schools apply knowledge from education research, and they brought new ideas into the schools and reduced isolation by connecting schools with larger, often national, reform efforts. The presence of external partners was instrumental in the development and implementation of all of the exemplary science programs.

Policy Implications. For a relatively small expenditure, direct federal support for such external partners can make a real difference and leverage change in schools with LEP students. For example, federal support for partnership organizations developing science curriculum has had a powerful and direct impact; these and similar efforts should be expanded.

External partners can also provide on-going staff development, assistance with curriculum and instruction, and coaching as teachers implement new ideas and encounter barriers. Effective external partners can also bring teachers into the larger school reform dialogue, thereby enriching school reform and enhancing the professional roles of teachers. The federal government might

consider providing specific guidance for state grants under *IASA* that would encourage the types of external partnerships that work well for schools with LEP students, as detailed in *Volume II*. Similarly, the "Systemwide Improvement Grants" under Title VII might be an appropriate vehicle for districts to work with external partners in ways that enabled schools to receive assistance according to their needs and their stage of reform. The exemplary schools all began with a need to develop a vision and then they slowly implemented that vision. Some schools will need technical assistance for a "visioning" process that helps them relate their LEP student needs to changes in curriculum, instruction, and school organization; whereas other schools will need coaching as they implement new instructional approaches or new ways to share decision-making. The federal government might consider developing a "resource bank" of qualified technical assistance providers for schools and districts with high proportions of LEP students that would facilitate their connection with qualified providers. (Such a "resource bank" has been initiated in the School-to-Work area.)

Lesson #7. ***Districts Can Play a Critical Role in Supporting Quality Education for LEP Students.***

Districts varied in their support for the exemplary schools, and in many of these schools the direct influence of districts was limited. However, those districts that actively supported the development and implementation of high quality programs for LEP students made direct and, in some cases, crucial contributions.

Policy Implications: Under Title I of *IASA*, districts are required to develop reform plans that include all students. Given the shift of the federal role away from a regulatory posture, districts will necessarily have to play an active role in assuring a full and appropriate education for LEP students. The LEA plan under Title I —which shall be congruent with their goals 2000 plan—can become an important policy instrument to strengthen the district role. Perhaps the single most important message that plan can give is a commitment on the part of the district to assure access to a high quality curriculum for all LEP students. In particular, these plans should address the recruitment, professional development, and deployment of teachers and aides to provide effective instruction for LEP students; provisions for high quality instructional materials in native languages; the setting of high content and performance standards; development of assessments in native languages where appropriate to measure progress and give feedback to students, parents, and teachers; the incorporation of new immigrants into school programs; the meaningful participation of language minority parents and community members in school and district decision-making; the linkage between schools (from pre-school to high school) in the same district so that the educational programs and language support from one level of schooling

to another can be aligned for LEP and former-LEP students; and the alignment of the K-12 system to career pathways to further education and/or work.

F. SUMMARY REVIEW OF LITERATURE

The student population in U.S. schools is now more diverse—both culturally and linguistically—than it has been at any time since the early decades of this century. According to the 1990 U.S. Census,[1] more than one-fifth of school-age children and youth come from language minority families—homes in which languages other than English are spoken. English is not the first language of many of these students and they enter school with limited English proficiency (LEP).

The proportion of language minority students who are not fluent in English is estimated by various sources to be one-fourth,[2] one-third,[3] or as large as one-half to three-fourths of the student body,[4] constituting between one out of twenty and one out of seven of the nation's five- to 17-year-olds. No matter which estimate is most accurate, U.S. Census figures indicate that linguistic diversity among students will persist and increase.[5] Already, during the 1980s, the number of LEP students grew two-and-a-half times faster than regular school enrollment.[6]

About 43 percent of students with limited English proficiency are immigrants (i.e., foreign-born themselves or with mothers who immigrated to the U.S. within the past 10 years). Thus more than half of LEP students come from families who have lived in the U.S. for more than a decade.[7] Although LEP students represent more than 100 different language backgrounds, Spanish is the native language of 65 to 70 percent of all LEP students, while ten percent to 15 percent speak one of several Asian languages.[8] When they first enter American schools, LEP students vary greatly in age, mastery of English, literacy in their native language, academic preparation, and familiarity with American culture. Some immigrant students have had excellent education in their home country, while the schooling of others has been of poor quality, sporadic, or interrupted by war or other social crises.

Although students with limited English proficiency attend schools throughout the United States,[9] they are heavily concentrated in large urban areas in a few states—California, New York, Texas, Florida, Illinois, New Jersey—and in the rural areas of the Southwest.[10]

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[1] *Numbers and Needs*, March 1993; July 1994.
[2] GAO/HEHS, 1994.
[3] Stanford Working Group, 1993.
[4] *Numbers and Needs*, March 1993.
[5] *Numbers and Needs*, December 1991.
[6] Chavez, 1991.
[7] GAO/HEHS, 1994.
[8] Chavez, 1991.
[9] National Forum, 1990.
[10] *Numbers and Needs*, May 1992; McDonnell & Hill, 1993.

Nearly all LEP and other language minority students are members of ethnic and racial minority groups and nearly all are poor. Their neighborhoods are likely to be segregated and beset with multiple problems—inadequate health, social, and cultural services; insufficient employment opportunities; crime, drugs, and gang activity. Their families are likely to suffer the stresses of poverty, to worry about their children's safety in a dangerous environment, and to fear for their future, given their few positive prospects.

LEP and other language minority students also swim against the tide of discrimination. The prejudices of society and some school personnel toward poor people, immigrants, ethnic minorities, and those who do not speak English may limit students' opportunities and discourage them from working hard at academic pursuits. Because most teachers have seen relatively few of these students succeed in school, some may doubt that LEP students are capable of serious academic work.

The academic achievement of LEP students is difficult to ascertain directly, since they are often exempted from testing because of their limited mastery of English. But language minority students in general take fewer academic courses,[11] lag significantly behind grade level in writing, science, and mathematics,[12] and have much higher dropout rates[13] than white, native-English-speaking students. At the secondary school level, LEP students are unlikely to have access to a full academic program taught in their native language or with special language assistance.[14]

Education Reform

Improving the academic achievement of all students, including groups who have not fared well in the past, is a major goal of the current education reform movement. The impetus for education reform can be traced to several other sources as well: concerns about the achievement of even the most advantaged American students relative to that of students from other countries; calls from the business community to better equip students for a changing job market; questions about the quality of the teaching force; criticisms of an overly bureaucratic education system; and recent cognitive research on the actual processes of learning. Reforms have been recommended to address the roles and responsibilities of education professionals, the way in which schools are managed, and how and what teachers are expected to teach and students expected to learn.[15]

Much reform activity has centered around the first two areas, producing changes in the organization and governance structures of schools and in the redesign of work for principals,

[11] CCSSO, 1990.
[12] De La Rosa & Maw, 1990.
[13] CCSSO, 1990; National Center for Education Statistics, 1992; NASBE, 1991.
[14] Minicucci & Olsen, 1992
[15] Murphy, 1991.

teachers, and district personnel. But better teaching and learning are at the heart of education reform, and have begun to transform the classroom. Recommendations for improving school curricula include increasing interdisciplinary connections, emphasizing depth of coverage, using more original source material, enhancing the focus on higher order thinking skills, expanding methods of assessment, and giving teachers more choice.[16] Underlying these changes is the conviction that a common, core curriculum should be provided to all students in lieu of current practice, in which substantially different curricula are offered to different groups of students. "There is an emerging consensus that what need to be varied are not curricula but rather instructional strategies....Thus the focus in schools that are restructuring teaching and learning is on helping all students master similar content using whatever pedagogical approaches seem most appropriate to different individuals and groups."[17]

Recommendations for reforming education in this way reflect a major shift in thinking about the way in which people learn, the purpose of education, the definition of knowledge, and the objectives for students. Embodied in what might be called a new paradigm in education are the notions that all students can learn complex material, that students come to school with already-formed beliefs and construct new understanding from interactions with information and with people, and that students learn from printed, visual, auditory, and interpersonal sources. The implication is that students can be guided into deep and critical thinking if topics are made relevant to their lives and integrated with related topics, if students are allowed some initiative in pursuing knowledge, and if they are encouraged to regard other students as resources for learning.

The Challenge. Recommendations for transforming education for poor students, ethnic minority students, language minority students, and "all" students have been strikingly similar. However, the connection between the inadequacies of traditional practice and the academic difficulties of LEP students has not yet registered in many places. Currently there is a large gap between education reform efforts for native-English-speaking students and the kinds of programs generally available to LEP students. The perception is that language is a barrier to realizing the new vision of education for LEP students. In some cases, schools undergoing restructuring fail to include LEP students in their attempts to reform the educational program.[18]

Recent reports have documented the need to include LEP and other language minority students more centrally in reform efforts.[19] have argued for a systemic approach to reform that

[16] Murphy, 1991.
[17] ibid., p. 53.
[18] Olsen et al., 1994.
[19] Olsen et al., 1994; McDonnell & Hill, 1993.

measures the resources available to poor schools as well as their academic outcomes,[20] and have urged the development of specific curricular and assessment standards appropriate for the LEP population.[21] The challenge is to develop research, policy, and practice guidelines that integrate the tenets of education reform with knowledge about learning in a second language and cultural environment. Reform of education for LEP students means first of all providing them with *access* to challenging curricula in *language arts, mathematics, science*, and other academic subjects. The successful delivery of a high quality academic program depends on selecting appropriate *instructional methods* and redesigning the *school structure* to enhance the achievement of LEP students.

Providing Access

Two basic approaches have been used by schools to provide LEP students access to the regular school curriculum.[22] In *bilingual* programs, both English and the students' native language are used as mediums of instruction; students receive instruction in reading, writing, and other academic subjects in both languages. In *English-medium* programs, such as English as a Second Language (ESL), sheltered English, and structured immersion, instruction in English reading and writing as well as in other academic subjects is delivered in English, though sometimes by a teacher who understands the students' native language. Bilingual and sheltered approaches allow students to learn English and other subjects simultaneously, while the focus of ESL programs is to help students become quickly proficient in English so they can attend regular classes. Bilingual and English-medium programs are not mutually exclusive; in practice, schools may employ both strategies, either for students with different native languages or to address different instructional goals for students with the same native language.

Instruction in their home language has several benefits for students: It gives them access to grade level material in history, math, science, and other subjects in the regular curriculum. It enables them to develop their native language competence so they can continue to communicate with their parents, and so they can build a foundation for adult fluency in two languages. And significantly, it does not retard their acquisition of English.[23] On the contrary, evidence suggests that native language instruction has a positive effect on English competence and on achievement in other subjects;[24] the more academic support students receive in their native language (in addition to high quality instruction in English), the higher their overall achievement as measured

[20] O'Day & Smith, 1993.
[21] Stanford Working Group, 1993.
[22] Rennie, 1993.
[23] Ramirez et al., 1991.
[24] Hakuta, 1990.

in English.[25] Although some schools have students from many language backgrounds, making it difficult to mount a bilingual program, about three-fourths of LEP students are in school situations where a bilingual approach would be feasible.[26]

Bilingual programs vary in the extent to which they facilitate native language development—from oral skills to basic literacy to equal proficiency with English. Early-exit programs—by far the most common—provide initial instruction in the students' home language with rapid transition into English-only classes by the end of the first or second grade of elementary school. Late-exit programs use the students' native language more frequently and for a longer period—40 percent or more of the time throughout the elementary school years, even sometimes for formerly LEP students who have been reclassified as fluent in English. Two-way (or developmental) bilingual programs teach both language and other subjects in two languages; classes are composed of approximately half language-minority students from a single language background and half language-majority (English-speaking) students. Both groups of students develop their native language skills while acquiring proficiency in a second language.[27]

Different English-medium programs also have different emphases. While ESL classes are designed to teach English to LEP students, structured immersion and sheltered English classes are designed to teach them other academic subjects, using simplified English and other techniques to compensate for gaps in English proficiency. A combination of English-medium programs can assist students in learning English while ensuring that they also learn other academic subjects. English-medium programs can be used in classrooms comprised of LEP students from several different language backgrounds.

Second Language Acquisition Research. Recent research into the language learning process has informed the development of the program models described above. Contrary to popular belief, researchers have discovered[28] that young children do not learn a second language effortlessly, that they do not learn faster with more exposure to the new language, that their oral fluency outstrips their academic competence, and that they require many years to reach grade-level academic ability in the new language. Like tourists who can converse with the locals in a foreign land but cannot comprehend a newspaper article or write a letter, many language minority students who *speak* English fluently and *understand* spoken English may still have great difficulty *reading* and *writing* proficiently in English.

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[25] Collier, 1992.
[26] La Fontaine, 1988, cited in CCSSO, 1990.
[27] Rennie, 1993.
[28] Summarized in McLaughlin, 1992.

Students of different ages and with different levels of native language literacy also learn a second language differently and at varying rates of speed. For example immigrant students under age 12 who have had at least two years of education in their native country reach average achievement levels in five to seven years, but young children with no native language schooling and students older than 12 facing academically challenging subject matter in a second language may take as long as ten years to catch up.[29]

Acquiring a second language is not only cognitively challenging, it also has emotional, social, and political implications.[30] Language is a hallmark of personal, ethnic, and cultural identity; learning a second language involves alterations in one's identity.[31] In any society, some groups have higher social status and wield greater political power than other groups. These differences among social groups also adhere to the languages they speak, so that some languages are accorded a higher social status than others. While bilingualism is the socially accepted norm in many countries, the U.S. has traditionally pressured language minority groups to replace their native language over time with English.[32] Even though native-English-speaking students are encouraged to study foreign languages in school, language minority students are seldom supported in maintaining their native language while learning English.[33]

The Challenge. The complexity of tailoring language development programs for LEP students of different ages and academic backgrounds and with a myriad of native languages, often in the same classroom, is compounded by a shortage of qualified bilingual and ESL teachers and by political dissension over the use of non-English languages in school. Another difficulty is that most bilingual programs are predicated on the assumption that students enter in kindergarten and are able to move into English-only classes by the end of elementary school at the latest.[34]

The reality, however, is that in many cases, only children who speak no English at all are given any instruction in their native language.[35] Many LEP students receive no extra language assistance, either in bilingual or in ESL programs. Thus, because the majority of LEP students are unlikely to receive either instruction in their native language or from trained bilingual or ESL teachers, the quality of the education they receive depends on mainstream classroom teachers. Both supporters[36] and opponents[37] of bilingual education in California now recommend that all

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[29] Collier, 1989.
[30] Snow, 1992.
[31] Brown, 1992; Lambert, 1967; Farr, 1986.
[32] Grosjean, 1982.
[33] Gandara, 1994.
[34] Lucas, 1993.
[35] McDonnell & Hill, 1993.
[36] e.g., Olsen et al., 1994.
[37] e.g., Little Hoover Commission, 1993.

teachers become knowledgeable about the processes of second language a quisition so that they can better understand and assist the LEP students in their classes.

Language Arts Curriculum

Traditionally, language development for LEP students has been equated with English language acquisition. Thus discussions about their language arts education have focused simply on whether and for how long to use the students' native language for instruction. Language arts programs for LEP students have been dominated by basic skills approaches to literacy, which have been the normal methods for native-English-speaking students as well.

Recommendations for reforming the language arts curriculum for all students, however, have stressed the use of authentic language and literature rather than basal readers, and the learning of language skills in context rather than discretely. Underlying these recommendations is a concept of literacy that goes far beyond the ability to decode written text and construct grammatical sentences. It is grounded in the notion that literacy involves grappling with and communicating about the human truths found in literature in a way that is meaningful to students' own lives. Nor is developing a sophisticated level of literacy an end in itself; language is viewed rather as a "tool of discovery" for learning not only about literature but about all subjects in the curriculum. Becoming literate means not only learning to read and write but also learning to think. As one scholar in the field puts it, "Reading is crucial to the ability to write and systematic reading and writing instruction in many different modes of discourse is central to children's intellectual development."[38]

The Challenge. Improving language arts education for LEP students in light of these enhanced understandings of literacy therefore involves several challenges. The first is distinguishing two theoretically separate goals—English language acquisition and the development of high level literacy skills and understanding. With regard to the first goal, the state of the art in second language acquisition research and practice is that we know more about how children learn a second language than about how to translate that knowledge into programs available to all LEP students.

In contrast to the basic skills approach that predominates in many programs for LEP students, studies show that effective programs use a developmental approach to language acquisition. An analysis of instructional practices in language and literacy for Latino students[39] found that effective teachers had a tolerant attitude toward language usage. While teachers in the lower elementary grades used mostly Spanish and those in the upper grades used mostly English.

[38] Honig, 1992, pp. 6-7.
[39] Garcia, 1991.

students were allowed to use either language. Students progressed systematically, naturally, and on their own initiative from writing in Spanish in the lower grades to writing in English with grade level competency in the upper grades. Students' transition to English was viewed as a gradual process that occurred over many years, rather than being designated as a separate stage of instruction, requiring different teaching strategies, at the end of elementary school.

We also know more about second language acquisition than about how to accomplish the second goal of guiding students into becoming competent and eager readers and writers with complex literacy skills—the objective of new language arts curricula. The challenge of including LEP students in language arts education reform efforts is to shift gears from focusing primarily on moving LEP students into English to applying knowledge about bilingualism and second language acquisition to developing high quality language arts programs for LEP students. Such programs at the elementary school level would have the dual objective of guiding students into full literacy while they learn English at the same time.

Mathematics and Science Curricula

Efforts to reform science and mathematics curricula, such as guidelines developed by the National Council of Teachers of Mathematics and the American Academy for the Advancement of Science, emphasize the development of *higher order thinking* in all students.[40] Teaching students to think rationally, analytically, critically, and deeply about a subject is seen as a major goal of mathematics and science education. This kind of thinking is "complex, not fully known in advance, often yielding multiple solutions, involving uncertainty, requiring nuanced judgments, and requires considerable mental effort."[41]

Instead of adhering to a hierarchical conception of thinking that stretches from basic skills upward to abstract reasoning, these curricula emphasize the fostering of higher order thinking in all students at all stages of intellectual development, and in the context of important content rather than in the abstract. The implication for mathematics and science curricula is that coverage of a broad range of information is less important than delving into a topic in depth. Mathematics and science curricula emerging from the reform movement de-emphasize memorizing basic facts in favor of understanding principles and processes and being able to explain them. They also advocate "doing" mathematics and science in the manner of professional mathematicians and scientists rather than "studying about" these subjects; hands-on, exploratory, and investigative activities are featured as learning tools.

[40] Anderson et al., 1994.
[41] ibid., p. 2.

A major impetus for reforming mathematics and science education is the recognition that students in the U.S. lag behind those of other industrialized countries. American students score near the bottom in mathematics and science achievement and their performance has slipped relative to that of their counterparts educated in the Sputnik era.[42] Although there has been some improvement in proficiency in recent years, in 1990 less than 20 percent of fourth, eighth, and twelfth graders demonstrated competency in math for their grade level.[43]

If the situation is bad for American students in general, it is worse for poor and minority students, including those with limited English proficiency. As Zucker notes, "Many of the worst features of American mathematics education (e.g., an overemphasis on arithmetic computation through grade eight) are intensified for disadvantaged students. In effect disadvantaged students show the most severe ill effects of a system of mathematics education that is badly flawed for all students."[44]

Disproportionate numbers of ethnic minority students are tracked into "slow" groups in elementary school, in which neither the content nor the pace of instruction match that of the "fast" groups. Thus many minority students enter secondary school with inadequate mathematical knowledge and skills, whereupon they are once again tracked into low-ability classes or non-college preparatory groups. Differences among schools also constitute a kind of tracking on a larger scale. Zucker notes that schools serving poor and minority students (schools attended by the majority of LEP students) provide low quality mathematics curriculum and instruction.[45] Such schools "emphasize more computation and less instruction focusing on applications and concepts," "have less capable teachers and inadequate resources for mathematics education," and "have low expectations of disadvantaged students' ability to learn mathematics."[46]

As with language arts, a disjuncture can be seen between recommendations for reform of mathematics and science curricula and what is generally available to LEP students. Most secondary schools require that students demonstrate proficiency in English before they are given access to grade level mathematics and science courses; students who are not fluent in English may be barred from regular classes or tracked into "remedial" or "compensatory" classes where instruction proceeds at a slower pace. Programs for LEP students are often guided by a less rigorous curriculum; few schools even offer a full academic program—at whatever level of

[42] NASBE, 1991.
[43] Blank & Engler, 1992.
[44] 1990, p. VIII-4.
[45] 1990.
[46] p. VIII-9.

difficulty—to LEP students.[47] Language minority students in general (with the exception of those from some Asian language backgrounds) take fewer advanced courses in mathematics and science[48] than native-English-speaking students.

The kinds of academic opportunities available to students in the intermediate grades have a lifelong effect. Students who do not begin a college preparatory sequence of mathematics, science, and other academic courses in the seventh or eighth grade will not be able to complete college entrance requirements by the end of high school.[49] Those who do not take a full complement of science and mathematics courses will be effectively precluded from pursuing those majors in college and from entering scientific and technical occupations after graduation.[50] In many cases, LEP students cannot even accumulate enough science and math course credits to graduate from high school.[51]

The Challenge. The challenge for mathematics and science educators of LEP students at the secondary school level is to figure out how to offer a full academic program of the type recommended in science and mathematics reform documents to students who are not yet proficient in English, while simultaneously addressing their need to learn advanced-level English. To do this, educators will need to overcome the "English first, then academic content" mentality that pervades secondary school programs for LEP students. They will also need to overcome the legacy of the tracking system and embrace the concept of a common core curriculum for all students.

Such educators are working in uncharted territory in many respects; they have less of a research base to work from and fewer models of effective practice than their colleagues in language arts. Research on mathematics and science instruction for LEP students is slim, and most has focused on whether to use English or the students' native language. Beyond the issue of language of instruction, there has been little attempt to integrate research on language and culture with that on mathematics and science education in general.[52] In addition to the paucity of research, there are few time-tested models of practice to guide program developers.

Practical as well as conceptual considerations contribute to the difficulty of developing reformed science and mathematics curricula for LEP students. The departmental structure of secondary schools necessitates both a greater effort by faculty to collaborate and a school-wide

[47] Minicucci & Olsen, 1992.
[48] *Numbers and Needs*, December, 1991.
[49] McDonnell & Hill, 1993
[50] Oakes, 1990.
[51] Minicucci & Olsen, 1992.
[52] Secada, 1992.

commitment to developing a comprehensive plan that addresses both language acquisition and subject matter education for LEP students.

Instruction

Recommendations for improving teaching and learning for all American students have encompassed not only *what*, but also *how*, teachers teach and students learn. "Traditional" pedagogical approaches, based on a transmission model of knowledge in which students are assumed to acquire the knowledge sent to them by the teacher, have been challenged by recent cognitive research that reveals the active role that learners play in selecting and making sense of information, and which also indicates the importance of the social context in learning. This *social constructivist* approach emphasizes that knowledge is not transmitted from expert to novice; rather it is constructed by the learner through a process of collaborative interaction with other people. A social constructivist philosophy has many implications for the objectives and methods of instruction.

The Goal of Instruction. The goal of teaching in this view is not to impart information. Rather, it is to stimulate students' internal motivation and develop it into a lifelong drive to learn. The immediate objective is to guide students into sustained engagement in serious academic pursuits, in which they learn how to think and how to learn by searching for, analyzing, evaluating, and communicating information to solve real-world problems.[53] In this context, "teaching for understanding"[54] becomes the primary pedagogical goal.

The Roles of Teachers and Students. Rather than regarding teachers as workers and students as their products, implicit in reform efforts is a view of students as workers.[55] The teacher's role is that of coach or facilitator, an experienced and knowledgeable resource for students pursuing knowledge, rather than the only source of that knowledge. The teacher becomes an orchestrator of opportunities designed to help students become independent learners. While teachers are to be given greater authority and responsibility for curriculum, the reforms envision a shift from teacher-centered to learner-centered pedagogy. The focus is on students and their learning rather than on the delivery system.[56]

Student Grouping. Murphy (1991) notes, "Cooperative approaches to learning in which students work together in teams are stressed by almost everyone connected with restructuring teaching and learning."[57] Reform advocates for "at-risk" students also recommend grouping

[53] Anderson et al., 1994
[54] Murphy, 1991.
[55] ibid.
[56] ibid.
[57] ibid., p. 58.

students heterogeneously by ability or age, in contrast to the prevailing practice of homogeneous grouping within classes or ability tracking on a school-wide basis.[58] Underlying these recommendations are the beliefs that, given enriched conditions, all students are capable of challenging academic work, that the collaborative process supports the construction of knowledge, that students benefit cognitively and socially from interacting with others of varying abilities and viewpoints, and that working in teams prepares them for the realities of occupational life.

Curricular Approach. A common body of knowledge, skills, and understandings for all students—a core curriculum—can be presented to students in a variety of ways. For example, in order to teach the additive and subtractive relationships among integers, a teacher might use a traditional blackboard demonstration of math facts followed by student practice of computation problems from a textbook or worksheet. Another teacher might have students use Cuisenaire rods or count pebbles to reach the same curricular objective. Still another approach might entail a construction project that required students to add and subtract as they measured and cut boards. Another approach might be to integrate math instruction with a South American history lesson by making and using the colored and knotted Incan quipu strings to count, add, and subtract.

Education reform documents have favored active, hands-on approaches to the curriculum that emphasize doing rather than learning about, and that present material in an interdisciplinary and meaningful context that engages students and aids them in applying knowledge to real-world pursuits.[59] For example, the study of nutrition could incorporate mathematics instruction by having students weigh foods, calculate calories, and compare costs.

Varying Pedagogy by Individual and Group. Reform advocates have recognized that instruction may be most effective when it is individualized to take into account the interests, strengths, and learning styles of individual students. In addition to differences among individuals, groups also differ along dimensions—gender, locality, language, culture, etc.—that may impact instructional effectiveness. The hallmark of good teaching has always been the ability to connect with students where they are and motivate them to progress toward the teacher's objectives. Reform documents advocate letting a variety of pedagogical flowers bloom in the pursuit of core curricular goals. Tailoring curricular approaches and instructional strategies to engage the interest of different groups and capitalize on their learning styles may enable a broader range of students to meet common high curricular standards.

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[58] Levin, 1987; Slavin, 1990.
[59] e.g., NCTM, 1991.

As an obvious example, it may be most effective to instruct LEP students using their native language, depending on their proficiency in English. As another example, girls may be more motivated and successful in mathematics and science classes if biographies of female scientists are included along with those of males or if instruction is made more congruent with female styles of interaction. Students may find local history more compelling than the study of remote times and places. Contemporary American students may be more engaged if material is presented in video instead of print form. Developing the most effective means of helping different groups of students reach the same curricular objectives requires that teachers have some understanding of the concept of culture and the potential impact of cultural differences on ways of acting, thinking, and learning.

The Impact of Culture on Schooling. Because the majority of teachers and administrators come from European American backgrounds and are monolingual in English, educating LEP and other language minority students challenges them to cross boundaries of culture as well as language. In addition to differences among individual students, teachers encounter differences among cultures that are relevant to education—for example, the ways in which parents teach children at home, the ways in which parents expect children to behave, and the ways in which children and adults converse and interact. When teachers do not share their students' cultural background, the teaching-learning process may be impeded by misunderstanding and frustration. The challenge of cultural differences is compounded for teacher and students alike in classes comprised of students from several different cultural backgrounds.

In their homes and communities, children from different cultures may have been trained to *learn* and *interact with others* in ways that conflict with or are not present in American classrooms. In "traditional" classrooms, teachers spend the majority of class time explaining, discussing, and quizzing students on assigned textbook readings.[60] The emphasis of such traditional instruction on speed, individual work, competition among students, learning by reading, and the authority of the book and the teacher, contrasts sharply with practices and values of other cultures. For example, in Hispanic and native Hawaiian cultures, collaboration, cooperation, and working with peers are common. In some Native American cultures, humility is stressed, individual competition is avoided, and elders teach by holistic demonstration rather than by analytical discussion.[61] Teachers who use a variety of instructional strategies and arrange students into cooperative work groups give LEP and other language minority students the opportunity to learn and interact in ways that may be more comfortable for them.

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[60] Tharp & Gallimore, 1988.

[61] Tharp, 1994; ERS, 1991.

People from different cultural backgrounds may not only learn and prefer to interact differently but they may also *communicate* differently. Conversational protocol, non-verbal behavior and gestures, and conventions of personal space and politeness differ greatly among cultures and may influence how students perceive and learn. Among the differences that have been found to affect schooling are narrative style (the way in which stories are told), wait time (the length of time between speakers' utterances in a conversation), rhythm (the tempo and vocal inflection of speech), and participation structures (the way in which members of the culture typically converse).[62] When the sociolinguistic patterns of teacher and student do not correspond, students may be unresponsive or may become disruptive. When the patterns of teacher and student match, students feel more comfortable and are able to express their knowledge and interest.[63]

Children from various cultures come to school with different *background knowledge*. Immigrant students in particular may not possess the information about American culture and history that teachers and textbooks assume. Teachers can help bridge knowledge gaps by providing background information directly; they can also make learning more meaningful by drawing upon the cultural traditions most relevant to particular groups of students.

The attitude of school personnel and the society at large toward the cultural backgrounds of students affects their *self-esteem*. Respecting, including, and validating students' cultural heritages in the classroom and the school sends a message of equality that encourages students to feel proud of themselves and capable of meeting rigorous academic standards.[64]

The Challenge. Although it is reasonable to assume and some research indicates that differences between the culture of the classroom and the culture of the students can hamper learning, it is not yet possible and it may not be desirable to prescribe a particular approach for students from a particular cultural background. Individual and socioeconomic differences may be more crucial than cultural and sociolinguistic differences and, rather than refining separate cultural traditions, education should expand the modes of learning and broaden the knowledge base of all students, minority and majority alike.

The pedagogical challenge for educators of LEP students is to apply the knowledge about cultural differences in a non-stereotypical manner as they develop curricular approaches and instructional strategies that will maximize students' opportunity to achieve to high standards. Although it may not be possible to develop optimal instructional approaches for every group or every student, schools can experiment by varying elements such as curricular themes, student

[62] Tharp, 1994.
[63] ibid.
[64] Olsen et al., 1994.

grouping, mode of instruction, and language of instruction. Offering all students a diverse and multifaceted learning environment in which they can all feel involved is perhaps the most feasible and philosophically desirable pedagogical approach.[65]

[65] Tharp, 1994.

School Restructuring

In addition to major changes in curriculum and instruction, education reform involves alterations in the way schools are organized and operated—devolution of authority to the school site; greater authority of teachers over curriculum, budgeting, and professional development; the reorganization of students and teachers to foster individualization and personalization of the educational experience; flexible and creative uses of space, time, grouping of students, and human and material resources to facilitate academic goals; greater involvement of parents in their children's education; involvement of external partners; and the integration of social and health services into the educational program.[66] Some of these changes flow directly from the kinds of changes in curriculum discussed above. For example, enabling students to study a subject in depth and/or across disciplines may necessitate changes in the traditional school time schedule; such a curricular approach may not "fit" into a 50-minute class period or a 20-week semester; faculty will also need collaborative planning time.

Such changes give schools greater flexibility to design programs that best meet the needs of their particular students. They also give schools a heavy responsibility—actually improving the educational experience of all their students. For example, in theory, devolving authority to individual schools allows them to be more responsive to their particular student population. On the other hand, advocates for poor, minority, and LEP students express the fear that reform efforts will further disadvantage these students because their schools do not have human and financial resources equivalent to those of schools in wealthier neighborhoods. In addition, schools with small populations of LEP students or with faculty inexperienced in language acquisition theory and practice may design programs inadequate to meet the needs of these students. Giving teachers—those closest to the students—more discretion in curriculum and instruction will benefit LEP students only to the extent that such teachers are qualified and knowledgeable about teaching students from a different language and cultural background.

O'Day and Smith assert that equal educational opportunity will be provided to all sectors of society only when common standards are developed not only for outcomes (academic performance standards), but also for human and material resources available to schools (resource standards) and for programs as actually implemented (practice standards).[67]

The Challenge. The challenge for schools with LEP students that are in the process of restructuring is to determine which kinds of changes in school organization, faculty roles and responsibilities, and connections with people and agencies outside the school will best support an

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[66] Murphy, 1991.
[67] 1993.

improved teaching and learning environment. The overall challenge for education practitioners and researchers is to integrate what is known about second language acquisition, effective instructional strategies for LEP students, and cultural differences relevant to learning into education reform efforts and the framework for school restructuring. The real challenge is to include these students, fully and as they are, in the new vision of education.

Conclusion

The magnitude of the task should not be underestimated: reforming schools in the manner suggested by education reformers amounts to changing the rules that have been operative for the past century. Improving teaching and learning for all students requires that teachers, students, principals, and parents be able to overturn their conceptions of education and embrace a new vision. It means that those who were successful in the traditional system will not have the same guarantee of success in the new system. It means giving up familiar ideas and routines and living instead with flexibility, uncertainty, and unpredictability. It means that teachers have to be retrained in how to teach and students retrained in how to learn. It means that schools must make hard choices and set priorities themselves. It means accepting and respecting differences among individuals and groups and broadening standards of competence. It means that society must come to value a different way of learning, knowing, and demonstrating knowledge.

G. Study Aims and Study Questions

The goal of the Student Diversity Study was to identify, describe, and analyze exemplary school reform efforts for language minority students in grades 4 through 8 in three curricular areas: language arts, science, and mathematics. The focus on language arts curriculum was directed at grades 4 through 6 and the focus on mathematics and science curriculum was in grades 6 through 8. The study team identified, studied intensively, and wrote case studies of eight exemplary schools that offer state-of-the-art curriculum and instruction in one or more of the three curricular areas in a restructured school. More specifically, this research identified theory-based and practice-proven strategies to effectively teach language arts, mathematics, and science to students from linguistically and culturally diverse backgrounds.

While the limitations of study resources made it impossible to include sites representing a wide range of contexts (such as demography, geographic region, and language mix), schools were selected to reflect a variety of contexts. Exemplary schools selected for the study demonstrated innovative, high quality curricula in a reformed school context, as well as excellent language development programs for LEP students. In addition, case study sites implemented innovative school reform approaches beyond the standard observed in excellent but otherwise traditional school settings.[1]

1. Areas of Inquiry

Three areas were identified for specific inquiry for this study—1. **Design** of effective instructional strategies for culturally and linguistically diverse students, 2. **Implementation** of those strategies under various conditions, and 3. **Impact** of those strategies on students. Each of the three areas of inquiry is described below.

Design

Research into the design of effective instructional strategies required the research team to identify, examine, analyze, evaluate, and describe these practices as they are exhibited in exemplary schools and classrooms. The following Analysis Questions relate to program design; they were addressed by a range of data sources and analytical approaches, including a review of the literature, commissioned papers, site selection, case studies, and cross-site analyses.

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[1]For more information on the site selection process, see Section I: Cross-Site Analysis. For more complete information on the research design and methodology, see *School Reform and Student Diversity Study, Volume III: Technical Appendix.*

Analysis Questions Related to Design

1. Do cooperative and group learning strategies foster the success of LEP and formerly LEP students, especially in mathematics and science?
2. How important are opportunities for instructional discourse to the educational attainment of LEP and formerly LEP students?
3. What characteristics of effective programs are common across exemplary programs in language arts, mathematics, and science?
4. In mathematics, how are higher order thinking skills developed in exemplary programs?
5. In science, how do exemplary programs provide hands-on experiential opportunities for learning science?
6. What are the special issues relating to acquisition of English writing skills for language minority students; what are effective practices in teaching English writing to LEP students?
7. How are the social and cultural contexts (e.g., traditions. norms, values, and aspirations) of linguistically and culturally diverse students drawn upon in exemplary programs?
8. What are the characteristics of successful models that incorporate student culture when there are multiple and diverse cultures represented in a school?
9. How do successful programs structure the articulation of curriculum and instructional strategies between elementary and middle schools and middle schools and high schools?
10. How do successful programs ease the transition from elementary school to intermediate school or from intermediate school to high school for culturally and linguistically diverse students?
11. What are the characteristics of effective transition programs for LEP students in grades 4-6?
12. Do exemplary transition programs serving students who continue to develop their primary language literacy skills in grades 4-6 differ systematically from exemplary transition programs in which students do not continue to develop primary language literacy in grades 4-6?

Implementation

Many reforms and models fail live up to their promise when implemented under the real conditions of American schools. Consequently, the study sought to identify exemplary practices that have demonstrated their effectiveness over time. Field investigations focused on uncovering factors and conditions that helped bring the program into being or had to be overcome to achieve

success. The following Analysis Questions about the implementation of reform were informed by a range of data sources and analytical approaches.

Analysis Questions Related to Implementation

1. What factors helped to initiate, develop, and sustain the reform?
2. What were the incentives for the reform?
3. What barriers were encountered and how were they overcome?
4. How do diverse conditions of demography affect implementation?
5. What is the history of reform efforts in the district?
6. What are the prevailing community attitudes toward educating linguisticaliy and culturally diverse students?
7. How is the school organized, governed, and managed? What is the school context for implementation of reform?
8. How is the reform program staffed? What is the training and preparation of the staff?
9. How do the schools or districts recruit, hire, and retain appropriate staff for the program?
10. What is the impact of differences in the nature of the cultural and linguistic minority population—whether immigrant, migrant, or second generation?
11. How do reform programs differ from previous practice in that school or district?
12. What resources, both human and financial, were required to develop, implement, and sustain the reform program?
13. How was research and research-based information applied in the reform program?
14. What policies and practices at the federal, state, district, and school level helped or hindered reform?

Impact

A major challenge for this research was to collect data about how new instructional approaches affect student learning. The duration of this research project was too short—and the budget was too limited—to conduct a longitudinal study of student outcomes. Moreover, it was not possible to gather data that would have allowed us to compare student outcomes across sites for several reasons. LEP student test scores often are hard to come by in schools and are generally not comparable across sites because LEP students are often not given the standardized

tests that districts or states require of most students. The transiency and mobility of LEP students is another factor that makes comparable data very difficult to obtain. Therefore, the study could not demonstrate quantitatively that the eight case study sites are exemplary in the sense of demonstrated evidence of significantly higher student achievement scores. Nonetheless, relying on local evaluation data, the research team was able to examine some outcome measures. Those data were used in the analysis of an individual case study site but were less helpful in the cross-site analysis. However, data on program outcomes was gathered from interviews and structured focus groups across sites. These data allowed a great deal of cross-site analysis and provided much of the insight for this research. The following Analysis Questions relate to both student and program outcomes; they were addressed by a range of data sources and analytical approaches.

Analysis Questions Related to Impact

1. How do reform programs assess their own progress in improving student learning?
2. Do schools have evidence that student learning outcomes improved?
3. What is the overall assessment of the program, its strengths and weaknesses?
4. How can assessments be used to refine reforms?
5. What are the anticipated and unanticipated benefits derived from and difficulties encountered in the implementation of reform programs?
6. What was the role of research, research-based knowledge, and other information in program assessment?

2. Case Study Research Questions

Five Case Study Research Questions were derived from the three Areas of Inquiry and the corresponding Analysis Questions discussed above.

1. **What is the context for reform?** What factors helped to initiate, develop, and sustain reform? What were the major barriers to reform and how were they overcome? What are unique programmatic and demographic conditions?

2. **What is the design of the reform and how is it implemented?** *Restructuring:* What elements of restructuring are in place? How is the program organized and governed? How is the program staffed? How are students grouped for instruction? *Curriculum:* What type of curriculum is used? How is it integrated across content areas? How is it developed? *Language*

Acquisition Approach: What approaches are used for language instruction? How does the program build on the cultures of the students?

3. **What is the role of research-based information on the reform?** What has been the role of research and research-based information in designing, implementing, and evaluating the reform? the language acquisition program? the curriculum?

4. **What resources are required for the reform?** What were the sources of financial support for the program: federal, state, local, or private? What is the approximate cost of the reform: development, operation, evaluation, and training?

5. **What is the impact of the reform?** What has been the approach to assessing the student learning outcomes from the reform? What are the results of the assessment? What are the strengths and weaknesses of the reform?

For each of these questions, the researchers identified Operational Elements for Data Collection. Data gathered from the schools in response to the Case Study Research Questions and the corresponding Operational Elements for Data Collection are presented in the Cross-Site Analysis Tables in the Appendix to this volume. Tables 1 through 8 display data on the elementary grade case study sites. Data from the middle grade case study schools are presented in Tables 9 through 16. The first Case Study Research Area, The Context for Reform, was divided into two parts: Demographic Conditions (Tables 1 and 9) and Factors Affecting Implementation (Tables 2 and 10). The second Case Study Research Area, Design and Implementation of the Reform, was divided into three parts: School Restructuring (Tables 3 and 11), Curriculum and Instruction (Tables 4 and 12), and LEP Student Program (Tables 5 and 13). Case Study Research Question 3 is addressed in Tables 6 and 14; Question 4 is addressed in Tables 7 and 15; and Question 5 is addressed in Tables 8 and 16.

3. Key Research Questions for Cross-Site Analysis

The study examined eight exemplary sites with high concentrations of limited English proficient (LEP) students in order to identify the features of these sites that make them outstanding. The study focused on the school as a whole system, rather than limiting the research to descriptions of programs for LEP students. This more comprehensive focus is important for two reasons. First, in the standard school context, LEP programs tend to be separated from the main flow of classes. Such separation contributes to the isolation of LEP students, the difficulty of making transition to standard classes, and a tendency for lower expectations and limited curriculum for LEP students.

Second, based on our previous study of exemplary LEP programs, we found that the challenge of language diversity requires more than good teachers or a good instructional approach: most aspects of schools have to be engaged in reform. We searched for and selected schools for case studies exemplary schools that were undergoing *systemic reform*, in which all aspects of schools were open to change. The overarching question for the cross-site analysis was thus:

1. What are the key characteristics of systemic reform evidenced by the exemplary schools whose students include LEP students? This question led the researchers to analyze how the exemplary schools implemented systemwide change. In particular, the researchers looked at how the schools integrated three critical elements—school restructuring, strategies for learning, and approaches to language development and English language acquisition—to create systemic reform. Though the core triad of school restructuring, learning strategies, and language program were interlocked in the exemplary sites, they define three research questions which we examined in turn in the cross-site analysis.

2. How did these sites design their language development programs for LEP students? In particular, the researchers looked across the exemplary sites to identify the range of design options that the exemplary sites used in order to respond to their students' language development needs, their community and school demographic situation, district policies, and their school vision. In addition, researchers examined the choices made at these sites in regard to the use of primary language models, English-based program models, and programs for recently arrived immigrants. Finally, the research team explored the critical issue of how the exemplary sites approached the transition of LEP students to English language instruction.

3. What strategies did these sites employ in order to maximize their students' learning? In particular, the research team focused on the curricular and instructional strategies employed in language arts in grades 4 through 6 and mathematics and science in grades 6 through 8.

4. In what ways did the exemplary sites organize to maximize LEP (and all) students' learning? In response to this question, the research team looked at the variety of ways that the exemplary sites aimed to redesign schooling. The analysis focused on the most mature and well-implemented aspects of restructuring selected from the sites, rather than evaluating the extent to which any one school had accomplished the full range of potential restructuring elements. This approach provided empirical information on what school designs might enhance the development, maintenance and renewal of active learning environments.

In addition to the three core questions, four additional questions guided the cross-site analysis. These questions relate to the outside support structures that impacted the exemplary schools: external partners, districts, states, and the federal government.

5. What role did external partners play in the development of the exemplary schools? The researchers identified which areas of help from an external partner and what types of relationships had the greatest impact on creating systemic reform for diverse schools.

6. What types of district support aided the development and maintenance of the exemplary schools? The study did not try to select exemplary districts. Exemplary schools were chosen without regard to their relationship to their districts. The study team identified district policies and programs that supported the exemplary schools for LEP students.

7. How did state policies and programs support the exemplary schools? The researchers reviewed state policies and programs which impacted how the exemplary sites were able to address the learning needs of their LEP students.

8. What federal policies and programs aided one or more of the study schools? Researchers examined the ways that federal policies and programs supported LEP student learning at the exemplary schools.

H. CASE STUDY SUMMARIES

This section summarizes the case studies of the eight exemplary schools. While each school was outstanding, taken together the sites provided rich material to address the research issues discussed earlier. The full case studies are contained in *Volume II* of this series. The tables in the Appendix to this volume compare detailed characteristics across the sites.

1. Del Norte Heights Elementary School

Del Norte Heights Elementary School exhibited instructional, curricular, programmatic, and organizational features that created an exciting learning environment for all of its students. The school's particularly comprehensive and well-defined program for LEP students took a systematic approach to moving students into English classrooms. The learning environment was supported by a district that advocated a high-quality bilingual program for LEP students, a principal who was an instructional leader, well-trained staff who had a voice in the school's operation, and a close link between the school and its community. Although bilingual education had been in place at Del Norte for 20 years, the program evolved to meet the changing needs of the students and the community. Led by a strong principal with an inclusive management style, the staff collaborated to design and implement approaches intended to improve the educational experience of all of their students.

Innovative Curriculum and Instructional Strategies

Del Norte Heights teachers used several curricular and instructional strategies to support students' mastery of the language arts curriculum and their transition to English. Teachers of transitioning LEP students used Whole Language techniques and a literature-based language arts curriculum to encourage students to make extensive use of language by reading authentic texts, maintaining journals, and writing a school newspaper. The ability to read in both Spanish and English was a schoolwide norm supported by the Accelerated Reading program, which allowed teachers and individual students to set reading goals and challenged students to reach for higher and higher goals as they progressed. Teachers at all grade levels taught writing as a process, relying on the Writers' Workshop approach: writing a first draft, self evaluation, peer review, teacher editing, and the development of a final product.

Del Norte Heights at a Glance

Location—El Paso, TX
Grade Levels—K-6
Number of Students—650
% LEP Students—40%
LEP Student Language Diversity—100% Spanish
LEP Student Program—Spanish Transitional Bilingual
% Eligible for Free or Reduced-Price Lunch—85%

Cooperative learning strateg es were used throughout the school. Students worked in pairs, trios, and larger groups on a variety of learning tasks. Students were deliberately grouped heterogeneously, with a variety of content-area strengths and language skills represented in each group. Teachers used cooperative groups to provide peer support for students who were struggling with the language or with academic concepts.

Teachers at all grade levels had been trained in each of these instructional strategies and implemented them as appropriate at their grade level. The use of such non-traditional approaches appeared to have a positive effect. Del Norte students were sophisticated, reflective readers. They also had a great deal of experience with writing, and were capable of producing mature written work and providing critical feedback on the writing of their peers. Students in the upper grades were proficient cooperative learners who needed little prompting in group activities.

Program for LEP Students

Del Norte's bilingual program for LEP students began in kindergarten with 90 percent of the instruction in Spanish; that percentage was reduced to 60 percent in third grade and to 20 percent in fourth grade. By the end of their fourth-grade year, most LEP students who entered at kindergarten or first grade were ready to be redesignated. At that point, parents chose either an all-English or a bilingual environment for their children. Teachers in classes designated for LEP students held both bilingual and ESL certificates; all were bilingual.

Most LEP students entered at kindergarten, with only a relatively small number of recent immigrants entering after first grade. When students did enter in the later grades, they were assigned to bilingual classes with other LEP students and redesignated fluent English proficient (FEP) students whose parents wanted them to continue to receive some instruction in Spanish. The recent arrivals' transition to English was generally facilitated by the fact that most had had continuous schooling in Mexico and had learned (or were learning) to read in Spanish. Small class sizes that enabled teachers to individualize instruction also made students' transition easier; Texas law mandates a maximum class size of 22 students for all classes in grades kindergarten through four.

School Structure

Del Norte had developed a school organizational structure that supported the curricular and instructional strategies described above and provided an exciting learning environment for all students. Elements of structure important to the learning environment included site-based management, innovative and flexible uses of time, and extensive parent involvement.

School districts throughout Texas were mandated to begin implementing site-based management and Del Norte's principal, staff, and community embraced the concept. Decisions on budget, staffing, and schoolwide priorities were made by committees composed of parents, teachers, and the principal. School staff understood the trade-offs and made hard decisions on administrative expenditures to maximize funding for the academic program.

Staff also made key decisions about how they wanted to structure and allocate school time. They chose to adjust how time was used in four critical ways, all of which supported the total academic program. First, staff opted to schedule joint planning time for all teachers. Common planning time ensured that curriculum was aligned across all classrooms at the same level and that it was linked in a logical sequence as students moved from grade to grade. Staff also chose to devote a significant amount of time to staff development. Staff development sessions at Del Norte targeted specific, identified needs at the school and fortified teachers with approaches and strategies geared toward making the most difference for students in their classrooms. Staff also elected to provide concentrated time for language arts and mathematics four days per week and to devote the fifth day exclusively to social studies and science. Finally, staff decided to sponsor after-school activities, including teacher-provided tutoring and a special reading program.

School staff worked hard to spark and maintain a high level of parent involvement in school life. Parents played key roles in governance, were involved in classrooms, and volunteered to support schoolwide activities. In the case of LEP families, staff made an extra effort to ensure that parents felt as if they were a part of the school community. In this spirit, the school converted a portable classroom into an informal meeting place and classroom for parents, where English and other courses were offered to them by school staff.

Summary

Del Norte Heights Elementary School's teachers and principal shared a vision that included a well-defined transitional bilingual program and the use of consistent teaching strategies throughout the school. Teachers, the principal, district staff, students, and parents believed that bilingualism and biliteracy are important and that LEP students can achieve them. Their vision also included high expectations for all students, involvement of parents, and the coordination of the school program and staff development activities in order to meet those expectations.

2. Hollibrook Elementary School

Hollibrook School devised learning environments that supported LEP students in their efforts to learn language arts and to develop English literacy. The three unique aspects of Hollibrook's approach included keeping students together for a long period of time with the same teacher, instructional strategies that developed independent, motivated learners, and reaching out to the wider community in a way that forged a learning community larger than the school itself. Initiated by a former principal and continued by the subsequent principal, Hollibrook's reforms came about as a result of the school's involvement with the methods and practices called the "Accelerated Schools Project." Faculty and administrators engaged in a reflective inquiry process which enabled them to identify the school's needs and to develop instructional and organizational innovations that responded to those needs. The implementation of reforms at Hollibrook was supported by the Spring Branch Independent School District and the statewide shift toward site-based decision making.

Innovative Curriculum and Instructional Strategies

Hollibrook teachers combined a number of innovative strategies to create a powerful learning environment. Language arts instruction relied heavily on the use of Readers' and Writers' Workshops. These approaches feature multi-step processes which allow students to work independently and at their appropriate level of literacy development. Another strategy which was used in parallel with the Readers' and Writers' Workshops was cooperative learning. Hollibrook teachers had dramatic success using cooperative techniques in their classrooms. Students learned to work together in pairs or small groups to accomplish challenging tasks assigned by the teacher. This experience allowed them to become adept independent, motivated learners; even those as young as eight years of age showed a remarkable ability to concentrate for extended periods of time on reading and writing with limited adult direction. The cooperative approach served to unleash the potential for self-directed learning in Hollibrook students.

Hollibrook at a Glance

Location—Houston, TX
Grade Levels—PreK-5
Number of Students—1000
% LEP Students—67%
LEP Student Language Diversity—100% Spanish
LEP Student Program—Spanish Transitional Bilingual
% Eligible for Free or Reduced-Price Lunch—87%

The ability of Hollibrook students to work independently allowed teachers to work with students individually and in small groups, tailoring activities to the needs of each student. The opportunity to work one-on-one with students was particularly beneficial to LEP students in that teachers had a strong sense of students' language development progress and, therefore, could more effectively support students' transition to English. The strategy of working intensively with individual students to accelerate their learning processes embodied the schoolwide philosophy of enrichment. (See below for a discussion of Hollibrook's involvement with Accelerated Schools.)

Program for LEP Students

Hollibrook's program for LEP students aimed to develop students' literacy in Spanish and then support their to transition to all-English instruction. The number of years in which students received instruction in Spanish varied, but generally students were moved into English by third grade. In many cases, teachers were able to individualize the timing and pace of transition based on their assessment of students' readiness. During and after students' transition to English reading and writing, they were encouraged to maintain their Spanish skills by selecting independent reading books in Spanish and completing occasional writing assignments in Spanish. Development of Spanish fluency was also promoted for native English speakers, creating an environment in which both languages were valued.

School Structure

Hollibrook developed a unique learning environment by placing a group of students with the same teacher over a number of years. The goal of these continuum classes was to introduce greater stability into students' lives. Parents, teachers, and students got to know one another very well and were thus able to build a strong and effective working relationship. Continuum classes at Hollibrook proved to be an especially effective way of grouping students in the transitional bilingual program. These classes offered unique advantages to students learning English as a second language because losses or gaps in learning between grades were effectively eliminated. In addition, the flexible nature of continuum classes allowed teachers to tailor long-term instructional goals for individual students as they moved at their own pace toward transition and literacy—and transition itself could take place gradually over a period of years instead of all at once at an arbitrary point on the educational ladder.

Classes that employed team teaching were able to group and regroup LEP and non-LEP students for different purposes. This strategic grouping was advantageous to LEP students at Hollibrook, because it gave them exposure to English-speaking role models.

The flexible use of time was also a key factor at Hollibrook. Teachers could control the use of time in their own classrooms by scheduling music, physical education, and health in a way that accommodated their key instructional plans for the day, instead of the other way around. This approach not only gave teachers the freedom to structure their lessons in ways that made the most sense for the students, but also offered them the opportunity to schedule joint planning time with other teachers.

Parent involvement was another integral part of the LEP student program. Hollibrook used a number of strategies to reach out to parents: a parent center on campus, bilingual social workers, and keeping students with the same teacher over a period of years. The center was a place for parents to meet, work on projects for teachers, socialize, and learn English through the Parent University; it was equipped with toys for toddlers to play while their parents participated in these and other school activities. In addition, bilingual office staff and social workers were available on campus to work with parents on social, health, and other issues affecting their children. Finally, as a service to the community, school administrators were working with the city and with private businesses to develop a playground area next to the school.

The guiding educational and organizational principle at Hollibrook was a concept known as Accelerated Schools. Accelerated Schools, a philosophy developed by Professor Henry Levin of Stanford University, is based on the premise that all students need enriched, *accelerated* learning, rather than remediation. Hollibrook staff embraced the enrichment goal promoted by Professor Levin and his colleagues. In addition, Accelerated School promotes an "inquiry method" in which faculty members form committees or cadres to examine important questions developed by faculty, administrators, parents, and students. Using the inquiry method learned from Accelerated Schools, the Hollibrook faculty decided to implement ungraded continuum classes, developed the bilingual program, and chose to emphasize language development. Creation of a full-day kindergarten, hiring social workers in place of school counselors, and heavy investment in technology also originated through the inquiry process and were accomplished with Spring Branch Independent School District's support for site-based decision making.

Summary

Hollibrook School had formulated a supportive educational program for its LEP students. The critical building blocks of this program were bilingual continuum classes and the use of powerful instructional and curricular strategies. Another factor that contributed to the success of the program was the school's effort to connect with students' families and with the community at large. Finally, the program was strengthened in vital ways by the concept of Accelerated Schools and district support for site-based decision making and bilingual education.

3. Linda Vista Elementary School

Linda Vista had undergone a process of systemic reform in order to serve the whole student population with an integrated educational program. The reforms were implemented in response to the fragmented structure that previously existed at the school, in which language development programs for LEP students were isolated from regular classroom instruction. The restructured school featured innovative curriculum and instructional strategies and a program for LEP students that was embedded within and supported by the whole school structure. The organizational structure and pedagogical approaches were adapted over time to respond directly to the educational needs of the constantly changing student population. Support for the implementation of innovations came from partnerships and grants that were obtained as a result of the staff's entrepreneurialism.

Innovative Curriculum and Instructional Strategies

The classrooms at Linda Vista were striking because of the variety of activities in which the students were engaged. The high level of student engagement was the result of a number of instructional and curricular strategies: the use of meaningful curriculum; the focus on language development; the organization of students into heterogeneous, cooperative groups; and the effective use of instructional technology.

Teachers at Linda Vista developed curricula that made connections with students' life experiences. The use of oral language, literature, writing that reflects real-life situations, research-based writing, directed and "free" journal writing, and dramatic interpretations of literature reflect pedagogical strategies that were employed at Linda Vista to promote language development in a natural, authentic context. Teachers advanced these strategies by encouraging on-task student interaction and providing opportunities for language development in a natural setting through the use of cooperative learning.

Linda Vista at a Glance

Location—San Diego, CA
Grade Levels—Pre-K-6
Number of Students—950
% LEP Students—66%
LEP Student Language Diversity—50% Spanish, 22% Hmong, 16% Vietnamese, 6% Lao
LEP Student Programs—Spanish Transitional Bilingual, Sheltered English
% Eligible for Free or Reduced-Price Lunch—88%

Working in groups also gave students an opportunity to learn from and teach one another, allowing them to expand on their strengths and overcome their weaknesses. By the time students at Linda Vista reached fourth grade, they had been working in cooperative groups for a number of years. As a result, students were expert cooperative learners and were able to direct their own work, freeing time for teachers to work one-on-one with students who needed extra support.

Teachers at Linda Vista also made remarkable use of computer-based multimedia systems, allowing schools to use technology as a tool ratner than relying on it for instruction. The use of technology excited students about writing and producing oral language. When used in cooperative group settings, multimedia technology allowed students to serve as experts: groups at Linda Vista typically were composed of a complementary mix of students with respect to academic strength, computer skill, and English fluency. Computers at Linda Vista were also used to provide opportunities for hands-on, self-directed, student-centered learning.

Program for LEP Students

Educating LEP students was understood to be an integral part of Linda Vista's mission. The school was restructured to accommodate students' varied levels of previous schooling, support an individual pace in the acquisition of English, and to meet the needs of students from multiple language groups. A major strength of the school's restructuring process was its ability to adapt programs in response to changing community demographics. This is perhaps best illustrated by the school's development of two distinct programs for its LEP students.

For all students, each day began with more than two hours of uninterrupted language arts instruction. LEP students were grouped with students who had similar levels of English proficiency or, in the case of the Spanish-speaking students, with students who spoke the same home language. Non-Spanish-speaking students—grouped according to English language ability —were provided instruction using Sheltered English. Spanish-speaking students received language arts instruction in Spanish until they were ready to make the transition to English. The progression of the Sheltered and Bilingual language arts programs, both of which led to an unsheltered, all-English environment, involved five levels of classes, including classes for newcomer students and designated transition classes.

School Structure

Linda Vista's LEP student programs were totally integrated into the whole-school program through developmental, ungraded "wings" and a daily schedule with varying student grouping strategies. Linda Vista established the developmental, ungraded wings (early childhood, primary, middle, and upper) to accommodate the constant flow of newcomer students and the

widely varying educational backgrounds of students. The wings functioned like four schools-within-the-school, each composed of students within a relatively close age range (typically spanning two to three grade levels), but with mixed levels of English language fluency and educational backgrounds. Linda Vista's early childhood program included an articulated, developmental preschool that offered Sheltered English and Spanish-language classes.

Within the wings, Linda Vista took a unique approach to student grouping. Students were homogeneously grouped by home language *or* English language level for language arts, ESL, and social studies instruction, but heterogeneously grouped during the rest of the day for math, science, art, music, and physical education. The different grouping strategies allowed students to receive appropriate instruction for their stage of English language development *and* to interact with their peer group, practice their English with native speakers, and hear English spoken in natural settings. Linda Vista reduced class size in the lower grades during language arts, social studies, and mathematics instruction by using part-time staff in the morning.

Linda Vista featured many additional elements of restructuring such as teacher collaboration, committee-based governance, creative uses of time, flexible staffing arrangements, staff development, an alternative assessment system, and an articulated preschool that impacted student learning. Of these features, teacher collaboration was among the most striking: teachers actively acknowledged that they were engaged in a collective effort. One pervasive example of this collaboration was the teachers' practice of peer observation. Teachers used their "prep" time to go into other teachers' classes to observe the implementation of a new instructional strategy. In this spirit, all classrooms were open for observation at all times. The process of working as a team, as well as the sharing of students, empowered teachers at Linda Vista to feel a heightened sense of ownership of the whole-school environment.

Necessitated by the complex approach to student grouping, Linda Vista staff used time creatively in their everyday schedule. They were also thoughtful about their yearly and weekly schedules. Linda Vista operated on a single-track, year-round schedule. The year-round schedule diminished the need for review at the beginning of the year and eliminated long summer breaks that impede the progress of English language learners. In the course of its initial restructuring, staff realized the enormous amount of time it took to meet and plan as a group and consequently decided to build weekly meetings into their master schedule for the year. In addition, the flexible daily schedule made it possible for Linda Vista teachers to have two prep periods each week.

Another schoolwide feature that supported Linda Vista's innovative curriculum and instruction was its comprehensive assessment system. Authentic, portfolio-based assessment

recorded students' growth as they progressed toward specified learning outcomes. The benefit of this system is that it is a flexible assessment strategy designed to meet the needs of students at many different levels of English language fluency. Student work was scanned into the computer and records were maintained on disk in "electronic portfolios."

Linda Vista's staff shared a vision and had a "commonality of mind." One way this expressed itself was through their entrepreneurial spirit: as the principal said, "The staff are initiators in terms of seeking grants and driven toward being on the cutting edge." Linda Vista had a number of grants and partnerships, all of which enhanced the core vision developed at the school; they were not add-on or peripheral. Linda Vista's partnership with Apple Classrooms of Tomorrow and the National Alliance for School Restructuring, as well as their Restructuring Demonstration Grant (SB 1274), all enhanced Linda Vista's educational program. These grants frequently supported staff development, as staff had made this a high priority; computer-based instruction, alternative assessment methods, committee processes, team teaching, cooperative learning, language acquisition, and bilingual teaching had all been topics of teacher inservices.

Summary

Linda Vista restructured itself in ways that significantly impacted its program for all students. In particular, LEP students benefited from a schoolwide effort to use effective instructional, curricular, and assessment strategies; to optimize human and fiscal resources; and to respect and validate diverse cultures. They also benefited from placement in one of two distinct language development programs designed to meet the needs of Linda Vista's multilingual student population. A strong staff development program as well as productive external partnerships also supported LEP students as they progressed through their school career at Linda Vista.

4. Inter-American School

Inter-American School was founded almost 20 years ago by a parent and a teacher who envisioned a school that honored multiculturalism and supported bilingualism for English and Spanish-speaking students. Inter-American opened as a bilingual preschool and grew grade by grade, a year at a time, as its community of supporters grew. During the first decade, the school moved from site to site, always part of a larger school. Because Inter-American did not have its own principal during these years, the vision was carried forward by the school's teachers and parents. The Inter-American community struggled for almost 10 years before they finally became an established school with their own building and their own principal.

Inter-American School was an exciting environment—one in which all students learned to be bilingual and biliterate. The school's consistent instructional strategies and its language development program were both supported by a curricular emphasis on the history and culture of its students.. The school's program was implemented by a strong bilingual faculty and staff and employed a structure that actively involved parents in the education of their children.

Innovative Curriculum and Instructional Strategies

The learning environment at Inter-American School represented a departure from that of traditional schools. The school's curriculum made connections across disciplines and was built around themes that reflected the history, culture, and traditions of the students. Teachers throughout the school employed a number of innovative instructional strategies including Whole Language approaches, the Writer's Workshop, and cooperative learning. These strategies allowed students to assume responsibility for their own learning, serve as resources for one another, and get feedback on their work from their peers. In short, pedagogical approaches were designed to encourage students to play an active role in their own learning process.

Inter-American at a Glance

Location—Chicago, IL
Grade Levels—Pre-K-8
Number of Students—650
% LEP Students—36%
LEP Student Language Diversity—100% Spanish
LEP Student Program—Spanish Developmental Bilingual
% Eligible for Free or Reduced-Price Lunch—56%

The Inter-American curriculum was built around broad district goals and tailored to fit the cultural background of its students. The school emphasized study of the Americas and included the study of Africa, especially of ways African history and culture have influenced the Americas. Grade level teachers worked together to develop their curriculum around special themes; for example, the fourth grade teachers planned their curriculum together and used social studies-based themes to formulate eight thematic units per year.

In Inter-American's language arts classes, Whole Language strategies that call for students to use language in a natural context were balanced with more traditional language arts strategies that focus on developing decoding skills and automaticity in reading. Teachers used the Whole Language approach to provide opportunities for students to use language in ways that reflect real-world purposes and functions and are authentically related to their life experiences. Teachers modeled complex language and students were encouraged to keep journals, write, illustrate, and publish their writing.

In addition, teachers at all grade levels made use of Writers' Workshop strategies. As part of the Writers' Workshop, students drafted papers, sought out peer edits from their fellow students and met with their editor to discuss the edits, revised their work, and submitted a draft to the teacher for feedback before finalizing the paper. Students learned that writing is a process and that giving and receiving feedback are important steps in that process. By fourth grade, students were becoming mature writers.

Cooperative learning strategies were also used throughout the school. Students worked in groups of three, four, or more on a variety of projects and activities. They learned to work collaboratively and to look to their fellow students as resources in the learning process. Teachers typically formed heterogeneous groups across gender, dominant language, and content-area strength. Students were able to carry out activities on their own and remain on task.

Teachers at all grade levels had been trained in each of these strategies and implemented them as appropriate at each grade level. Almost all Inter-American students remained from kindergarten through grade eight. Because of the consistency of strategies and the stability of the student population, students in the study's target grades—four through six—exhibited a sophisticated mastery of the Inter-American approach to writing as well as cooperative learning. The students' ability to work independently gave teachers the freedom to work with particular students or with individual groups with the knowledge that the remainder of the class would concentrate on their work.

Program for LEP Students

Inter-American's program for LEP students was the same as that for all students at the school. Because the Developmental Bilingual program at Inter-American promoted bilingualism and biliteracy for both LEP students and their English-only peers, Spanish-dominant and English-dominant students learned together in each of the school's classrooms.

At all grade levels, English-dominant and Spanish-dominant students were assigned to classrooms in roughly equal proportions. Inter-American's language development program began in pre-kindergarten with core subjects taught in Spanish to all students. Spanish-dominant students received ESL instruction and English-dominant students received instruction in Spanish as a second language (SSL). The ratio of Spanish to English instruction remained at 80/20 through third grade, with all core subjects continuing to be taught in Spanish. English instruction increased gradually in the middle grades up to eighth grade, at which point instruction was divided equally between the two languages.

School Structure

Elements of the school's structure contributed to the successful implementation of the instructional program as well as to all students' bilingual development. The bilingual faculty collaborated to ensure that program elements were consistent throughout the school. Staff implemented alternative ways of assessing students' progress and actively encouraged parent involvement in school activities.

Inter-American required all teachers to be bilingual. More than half the teachers were native Spanish speakers; the others had excellent Spanish language skills. The native Spanish-speaking teachers exhibited the cultural diversity of their LEP students and the Spanish-fluent English-dominant teachers served as excellent role models for English-only students. Inter-American recruited new teachers primarily from the ranks of their former student teachers.

Teachers at each grade level coordinated their instructional activities to ensure articulation across grade levels. Within each grade level, they planned their team teaching activities and thematic units. Teachers had time built into their schedule for these collaborative activities as well as for staff development.

Inter-American staff had adopted the portfolio assessment process to assess student work and were using portfolios in conjunction with teacher-designed tests. Many teachers relied almost entirely on the portfolio system. Teachers had participated in a series of staff development activities with experts on alternative assessment and had requested continuing training in this area.

The school had implemented site-based management; instructional and budget decisions were made at the school level by three standing committees. The Local School Council (LSC), a site-level governing body mandated by the state, was made up of eleven members representing school staff, parents, and the community. The LSC set school policies, was responsible for hiring and evaluating the principal, was involved in interviewing teachers, and controlled both the discretionary and categorical budgets. The Professional Personnel Advisory Committee, composed of the whole faculty, determined schoolwide priorities and was responsible for the instructional program. The Parent Advisory Committee, a voluntary parent organization in which all parents were eligible for membership, represented the organized voice of the parents to the school staff and to the LSC. In addition, the PAC coordinated parent volunteers and organized fundraising efforts.

Inter-American parents were involved in all aspects of school life. Parents participated in governance through the LSC and the PAC and volunteered to participate in a variety of school activities. Parents were engaged in the classroom—for example, two or three parents visited one fourth grade class regularly—and sometimes led instruction. Other parents provided support for the non-instructional part of the teachers' work in order to free up teacher time for instructional tasks. The staff put a great deal of effort into making the school an inclusive community.

Summary

Inter-American School designed a uniquely successful bilingual learning environment. Its strength rests in the ability of the staff to sustain a vision of a school that values and celebrates the culture of all its students, promotes bilingualism and biliteracy for all of its students, and holds high expectations for all students.

5. The Graham and Parks Alternative Public School

Graham and Parks School, a magnet school serving students from throughout the city of Cambridge, was a special place that developed superb programs for teaching science to students learning English. Graham and Parks had been led for nineteen years by the same principal who acted as a tremendous force for the school's educational vision. The district desegregation plan also shaped the school's program: parents of English-speaking students chose the school through a lottery system, while parents of Creole-speaking students chose the school because the district housed its Creole bilingual program there. The bilingual program served Haitian immigrant students from kindergarten through eighth grade. Through an active partnership with a non-profit educational research organization, TERC (Technical Education Research Corporation), teachers at the school provided a stimulating science program to Creole-speaking students.

Most of the Haitian students at the school immigrated to the United States—with or without their immediate families—as a result of the political upheaval in their home country. The majority were very poor. When these children entered Graham and Parks School, some were malnourished; most were unschooled. As a rule, they had no literacy in Creole or English. They had experienced hunger and violence and many were separated from their closest relatives. Working with children who had been traumatized this way was challenging because they were often distracted by their fears and bad memories and seemed to have a sense of hopelessness about the future. On the other hand, and in sharp contrast to the suffering in these children's lives, was their apparent *joie de vivre*. In classrooms, on the school yard, and in the hallways, students exhibited an exuberant and joyful attitude toward life.

Innovative Curriculum and Instructional Strategies

The teachers in the fifth- through eighth-grade bilingual program at Graham and Parks used an innovative approach to teach science to LEP students. The science program had been

Graham and Parks at a Glance

Location—Cambridge, MA
Grade Levels—K-8
Number of Students—365
% LEP Students—25%
LEP Student Language Diversity—100% Haitian Creole
LEP Student Program—Haitian Creole Transitional Bilingual
% Eligible for Free or Reduced-Price Lunch—50%

collaboratively developed by TERC (a non-profit educational research firm located in Cambridge) and Graham and Parks teachers, with grants from the National Science Foundation and the U.S. Department of Education's Office of Bilingual Education and Minority Language Affairs and Office for Educational Research and Improvement. Graham and Parks and several other schools in the Boston area served as living laboratories for the development of TERC's sense-making approach to learning science.

TERC had been working with Graham and Parks for six years in the Haitian Creole bilingual program. TERC studied what and how LEP students learn in an inquiry-based science classroom. In project classes, science was viewed as a way of knowing and thinking. Students were encouraged to determine topics for study and to decide the questions to explore within a given topic. Thus, TERC science lessons centered around questions based on students' observation, which students then sought to answer using the scientific method.

Program for LEP Students

The Haitian Creole bilingual program was organized into multi-grade classes taught by bilingual teachers fluent in Creole and English. The program goals for language development included the acquisition of literacy in both Creole and English; it was taking most Creole students five or six years to become fully literate in English. The classes were grouped in the following ways: pre-kindergarten and kindergarten, first and second grades, third and fourth grades, and fifth through eighth grades.

Teachers in each pre-K/kindergarten through third/fourth bilingual class teamed up with teachers in a monolingual English class to allow flexible mixing and grouping of students. The fifth- through eighth-grade bilingual class did not team with an English-only class. However, when students were ready to make their transition, they were able to join an all-English class for part of the school day. Several transitioning eighth-grade LEP students, for example, went together into mainstream English classes. Newly mainstreamed students received academic support after school in a homework center staffed by Creole speakers.

The fifth- through eighth-grade bilingual program was taught by two teachers in one classroom, one of whom was Haitian-American; he delivered all instruction in Creole. Because English fluency varied among the students in this class, the teachers presented important concepts in both English and Creole and students were allowed to choose either language to ask or answer a question. Their strong desire to learn English, however, prompted them to use English as soon as they were able. Switching between Creole and English seemed natural and did not appear to interfere with students' learning either core content or English.

The combination of small class sizes (23 students with two teachers), the presence of two language role models in each classroom, and developmental, multi-year student grouping created an environment that fostered language development by allowing students and teachers in the bilingual program to feel that they were part of a close-knit learning community.

School Structure

In the same spirit of community, the school used grants to hire external staff to provide special services for students and their families. For example, the Student Support Team—made up of the principal, assistant principal, teachers, a parent liaison, nurse, school psychologist, and interns—met every Monday and took a case-study approach to students who were referred by staff. Counseling was also available at Cambridge Hospital and through a Haitian community counseling program. Graham and Parks was also staffed with a bilingual parent coordinator, a Haitian resource room teacher, and Haitian mediation specialist. All of these factors facilitated students' transition to English and to life in the United States.

Summary

The Graham and Parks bilingual program offered a unique learning opportunity for Creole speakers to engage in scientific discovery. The program's foundation was an excellent bilingual program; it was sustained by school and district support and active collaboration with an outside partner, TERC.

6. Hanshaw Middle School

Hanshaw Middle School created a learning environment designed to enable all students, including those learning English, to reach their full potential. The school offered a full program for LEP students in science, mathematics, social studies, and language arts, as well as specially designed instruction to enable them to acquire literacy in English. Hanshaw opened in 1991, organized around the principles of the middle school model promoted in California's blueprint for middle schools—*Caught in the Middle.* Its goal is to develop a school organization uniquely suited to young adolescents' developmental needs. While planning the new middle school, the principal visited 500 homes to talk with families about their school experiences. He found significant alienation between the community and the schools; this alienation contributed to the high dropout rate of teens. He recruited faculty that understood and were committed to addressing the issues that caused this alienation. Based on the community-centered planning process, the principal and faculty agreed on four principles that would be the foundation of Hanshaw's program: high expectations for all students, support for the Latino and Chicano experience, a meaning-centered curriculum, and a conscious effort to impart life skills as part of the curriculum. These principles were supported by a partnership with Susan Kovalik & Associates from Washington State.

School Structure

Hanshaw was organized into five houses, each named for a campus of the California State University system. The houses were organized by grade level and each contained six to nine teachers, one of whom was designated team leader. One or two teams of two core teachers (one for mathematics/science and one for language arts/social studies) taught each family of students. All students took two 90-minute core courses each day; students also took electives and exploratory courses. Each year students visited their namesake university campus, met college

Hanshaw at a Glance

Location—Modesto, CA
Grade Levels—7-8
Number of Students—860
% LEP Students—29%
LEP Student Language Diversity—79% Spanish, 10% Cambodian, 5% Lao, 3% Hmong
LEP Student Programs—Spanish Transitional Bilingual, Sheltered English
% Eligible for Free or Reduced-Price Lunch—94%

students, heard lectures, and received a T-shirt and diploma. Identification with the college campus was strong among students and provided a positive alternative to gang affiliation.

Classes at Hanshaw explicitly taught life skills and stressed the importance of students taking responsibility for their own learning. A specific life-skills curriculum was taught in the first month of school, when students were oriented to the culture and expectations of Hanshaw; It included such things as integrity, initiative, flexibility, effort, and cooperation; students were rewarded for behavior that exemplified such attributes.

Hanshaw also provided medical, dental, and social services to its students and community through a comprehensive Family Resource Center on campus. The center was staffed with social workers and counselors who were bilingual in Spanish and English. Medical and dental services were coordinated through a California Healthy Start grant.

Hanshaw faculty were recruited by the principal from industry, from other schools in the district, and from schools of education. There was a high degree of collegiality among the diverse faculty, who worked together in teams to plan curriculum and make decisions about the school's budget. Administrators and faculty devoted considerable categorical aid resources to purchase staff development from Susan Kovalik & Associates.

Innovative Curriculum and Instruction Strategies

The cardinal principle that guided Hanshaw teachers' curriculum design decisions was that the lesson or skill must be relevant to the students' lives. Teachers built on students' experiences through thematic units that unified instruction across science, mathematics, language arts, and social studies, incorporating topics from the curriculum frameworks of the state of California. Curriculum themes helped students make connections and achieve a deeper understanding of a concept by studying it from various disciplinary perspectives. The development of these themes required intensive work initially, but they were used year after year, with the lessons learned in one year repeated and extended in subsequent years with new groups of students. In all Hanshaw classrooms, teachers focused on helping students understand the why of an answer and explore multiple ways of getting to an answer rather than one single answer.

Kovalik & Associates worked with Hanshaw faculty in intensive summer and weekend retreats. A Kovalik coach assisted the school on a monthly basis, designing curriculum, providing instructional coaching, and helping the faculty identify problems and solutions. Kovalik had assisted Hanshaw staff since the school opened with development of a meaning-centered curriculum, thematic instruction, and an approach to teaching life skills.

Program for LEP Students

The program for limited English proficient students at Hanshaw included instruction in Spanish in core curricular areas; Sheltered English instruction for more advanced Spanish-speaking LEP students and for students who spoke other primary languages such as Cambodian, Lao, and Hmong; and mainstream instruction for clusters of transitioning LEP students speaking the same primary language. All LEP students participated in two 90-minute core courses (social studies/language arts and mathematics/science) and a daily period of ESL. When students were considered ready to make their transition, they were clustered together in mainstream classes. Many of the mainstream class teachers held the California Language Development Specialist credential and had special training in second language acquisition. After-school tutorial services for LEP students moving into mainstream classes were provided by bilingual Modesto Junior College students.

Summary

Hanshaw Middle School had created a unique learning environment that stressed high expectations for all students and a meaning-centered curriculum, implemented within the context of a well-developed program for LEP students. As a result, students learning English at Hanshaw had access to high-quality thematic instruction in math, science, social studies, and language arts. The curriculum and instructional program were, in large part, the result of a partnership between the staff of the school and an external partner, Susan Kovalik & Associates. A solid foundation of life skills, attention to the broad school community, and a positive school climate underlay Hanshaw's academic programs.

7. Horace Mann Academic Middle School

Horace Mann's curriculum and instructional strategies, program for LEP students, and schoolwide features were thoughtfully developed to embrace the cultural and linguistic diversity of its student population. The development of the instructional program and organizational structure had been underway for ten years, since the school had been shut down for chronic low performance by a court-ordered consent decree. The consent decree led to a "reconstitution" of the school which included hiring a new principal who was able to hand-pick faculty committed to high expectations for all students and willing to be held accountable for student learning. The consent decree also led to a district-wide open enrollment policy aimed at desegregating schools by limiting the enrollment of students from any one ethnic group. A subsequent principal led the school's restructuring effort, the fruits of which are described below.

Innovative Curriculum and Instructional Strategies

Horace Mann teachers developed pedagogical strategies based on the premise that all students learn best if they are actively engaged in work that is meaningful to them. Most of the strategies were implemented across subject areas, but the focus here is on their application to math and science learning.

To provide a learning environment in which active and meaningful learning could take place, Horace Mann teachers developed curriculum in which elements of traditional content areas (mathematics, science, social studies, and language arts) were integrated into thematic units based on topics relevant to the students' lives. Student work often took the form of cooperative projects. For example, in one activity heterogeneous groups of students worked on projects requiring them to apply principles of natural science and mathematics to meaningful social issues. The application of core academic subjects to real-life problems engaged students in learning that

Horace Mann at a Glance

Location—San Francisco, CA
Grade Levels—6-8
Number of Students—650
% LEP Students—24%
LEP Student Language Diversity—63% Spanish, 23% Cantonese, 7% Other Chinese
LEP Student Programs—Spanish Bilingual, Chinese Transitional Bilingual
% Eligible for Free Lunch—15%

was not decontextualized from their experiences; this experience-based curriculum validated the students as individuals, and as members of the community. The use of project-based learning as a pedagogical tool allowed students to do in-depth, sustained work which fostered a deeper understanding of sophisticated concepts, required problem-solving and critical thinking, and contributed to oral and written language development. Projects were also conducive to hands-on, activity-oriented learning and to learning in and from groups. Heterogeneous student groupings, which were typical at Horace Mann, let all students share their unique strengths, interests, and experiences, while learning to work cooperatively with their peers.

The implementation of these innovative pedagogical strategies was reinforced by an assessment system based on the premise that meaningful assessment of student progress and achievement is integral to their education. Teachers used assessment tools that measure students' ability to construct and apply knowledge, not just reproduce it. Faculty were also beginning assess and evaluate their own teaching through a process of review and reflection aimed at identifying what works and what does not in their curriculum and instruction. The result of their effort was twofold: first, it encouraged teachers to act as thoughtful researchers and as part of an active community of learners. Second, it effected a dynamic curriculum that was continually being refined and perfected.

The use of powerful curricular and instructional strategies at Horace Mann was made possible by the design of the program for limited English proficient (LEP) students and the overall school structure, as explained below.

Program for LEP Students

The LEP student program at Horace Mann was intricately connected to the school's organizational structure. All Horace Mann students were placed in one of six "families," two at each grade level, of approximately 100 students and four core teachers each. Students took all of their core classes (language arts, social studies, science, and mathematics) and some of their electives with the family; other electives and PE were offered outside of the family structure. All families were composed of heterogeneous student populations ranging from "gifted" to "resource"; there was no student tracking at Horace Mann. The family structure allowed teachers to develop close relationships with students and it gave the students a sense of belonging to a group. It particularly benefited LEP students because teachers had a deeper understanding of their language development.

Within the family, the students were clustered into "strands" of approximately 25 students with whom they typically took their core-content courses. Spanish-speaking LEP students were served within the family structure via Spanish bilingual strands. Non-Spanish-speaking LEP

students were also clustered in strands; they were taught in English by teachers trained in second language acquisition. While newcomer Spanish-speaking students were placed directly in the Spanish bilingual program, newcomer Chinese LEP students were served in a self-contained class that was outside of the family structure. All programs for LEP students were supported by bilingual and Language Development Specialist-credentialed teachers and aides.

The Spanish bilingual program promoted English language development and Spanish language maintenance for LEP and bilingual students; the goal was biliteracy for all students. Students enrolled in the bilingual program received half of their core course instruction (science and social studies) in Spanish, half in English (language arts and mathematics). The program served newcomers, LEP students, bilingual students whose parents wanted them to maintain Spanish, and English-dominant students who had proficiency in Spanish because they had attended a nearby Spanish-English developmental bilingual elementary school.

The program for Chinese LEP students employed a transitional approach. Only newcomer Chinese LEP students with very little English fluency received primary language instruction, and maintenance of literacy in Cantonese and Mandarin was not supported. Newcomers entered a small, self-contained class in which they received instruction in either Cantonese or Mandarin and English. After one to two years in the self-contained class, students were partially and then fully moved into a family via the strands designated for non-Spanish-speaking LEP students. Teachers in these strands were trained in and experienced with the language acquisition process; their students were English-only, bilingual, and LEP. Primary language support was available from Cantonese-speaking aides.

School Structure

Horace Mann used a block schedule; students had two academic blocks each day and each academic class met every other day. The blocks gave students time to carry out in-depth research and project-based work without interruption. Each family also offered an after-school program for students in need of extra help. The daily schedule provided built-in time every day for teachers to collaborate as they integrated curriculum across subject areas and planned projects and interdisciplinary units. For example, as part of Horace Mann faculty's commitment to mold an environment in which diversity is celebrated, each school year started out with a month-long interdisciplinary unit that focused on developing students' respect for diversity. This time was often also used to discuss issues with individual students.

Site-based management at Horace Mann was the task of faculty committees and community advisory bodies. The faculty Curriculum and Staff Development Committee made decisions about spending grant money and staff development offerings. Horace Mann staff had been

entrepreneurial, seeking out supplemental funds and in-kind support. Two of the most prominent examples of their entrepreneurialism include their state-supported restructuring grant and their involvement with Project 2061—a national effort aimed at reforming science education. Both of these programs led to considerable professional development for Horace Mann faculty. Professional development activities supported by the restructuring grant and Project 2061, among other grants and partnerships, focused on bicultural awareness, writing across the curriculum, math across the curriculum, language acquisition, and alternative assessment.

Summary

Horace Mann developed an LEP student program which was integrally tied to the structure of the school as a whole. Within each schoolwide family, LEP students received the individual attention they needed by being grouped in special bilingual or language development "strands," where they benefited from the expertise of teachers who were uniquely qualified to work with them. They also benefited from the schoolwide block schedule and thematic, interdisciplinary approach to instruction. Finally, the LEP student program was supported by Horace Mann's staunch commitment to value and celebrate diversity in all aspects of school life.

8. Harold Wiggs Middle School

Wiggs Middle School provided an exciting learning environment for all of its students, supported by its organizational structure, which divides the schools into families, and its emphasis on professional development. As the first middle school the El Paso Independent School District, and one of the first in the state, Wiggs had been at the forefront of the statewide movement towards implementing the middle school model since it opened in 1987. Wiggs teachers made use of innovative pedagogical strategies within an intensive Sheltered English program for newcomer LEP students. The impetus for the development of a middle school came from the district and the state, while support for the implementation of many of the pedagogical and organizational innovations came from the School of Education at the nearby University of Texas at El Paso (UTEP). Innovative elements of the school's instruction and organization are discussed below.

Innovative Curriculum and Instructional Strategies

Cooperative learning strategies were prevalent throughout the school both in classes for newcomers and in mainstream classes. Teachers of newcomer LEP students helped their students master cooperative strategies and students quickly became effective cooperative learners. Wiggs staff also designed themes around which the whole school planned activities. Individual families also planned thematic units. Often themes were linked to project-based activities in which students worked in cooperative groups. In collaboration with UTEP, Wiggs staff had implemented an innovative mathematics curriculum and integrated technology into instruction.

Professional development activities at Wiggs were based on a schoolwide needs assessment. Training was conceived as long-term and integral to the school's vision, rather than a series

Wiggs at a Glance

Location—El Paso, TX
Grade Levels—6-8
Number of Students—1000
% LEP Students—28%
LEP Student Language Diversity—100% Spanish
LEP Student Program—Sheltered English
% Eligible for Free or Reduced-Price Lunch—73%

of isolated, individual events. For example, Wiggs established a relationship with UTEP which allowed Wiggs teachers to participate in a Mathematics Institute that has helped restructure the school's mathematics curriculum; teachers who participated in off-site staff development activities returned to share their training with fellow teachers. Much of the in-school training in recent years had focused on implementing the middle-school concept, including effective use of student advisories, developing interdisciplinary units, and alternative assessment measures. Other target areas included multicultural education and language development.

As part of a technology grant to UTEP, twelve Wiggs teachers, designated as clinical technology teachers, received training in innovative instructional uses of computers. The teachers were assigned student teachers trained in instructional uses of technology, and their classrooms were equipped with state-of-the-art technology.

Program for LEP Students

Wiggs, located in El Paso on the Mexican border, accommodated a constant influx of students from Mexico, most of whom arrived at Wiggs literate in Spanish with consistent previous schooling. In order to incorporate the newcomers, the school employed a Language Acquisition for the Middle School Program (LAMP) which consisted of Sheltered English instruction with an intensive ESL component for newcomer LEP students. The program was supplemented by Spanish language arts classes and implemented by teachers who were certified in ESL and their content area. Most of the teachers in the program were fluent in Spanish, the native language of their students. LAMP classes were smaller than regular classes, averaging between 14 and 15 students per class; teachers could therefore provide intensive instruction to LEP students and monitor individual students' progress.

Using the flexibility conferred by site-based governance, the faculty at Wiggs designed a school-within-a-school structure, creating a series of units or "families" at each grade level. The LAMP program for LEP was housed in two families—one for beginning students and the other for intermediate students. Students in the LAMP families spanned the three grade levels at the school. The flexible structure allowed staff to move a student from the beginning LAMP family to the intermediate LAMP family when he or she was ready, as well as to accommodate newcomers arriving throughout the year. Students remained in LAMP classes only as long as it took to prepare them to succeed in the mainstream instructional environment; once students were ready, they were assigned to one of the mainstream families at the school. Staff worked to keep students at grade level while they acquired English.

School Structure

Wiggs staff had envisioned a middle school divided into families that would allow students opportunities for instructional contact with a small number of faculty who could develop instructional activities and teach in ways that were appropriate to the students' stage of development. There were two families at each grade level, as well as two additional LAMP families.

The five teachers from each family met on a daily basis to discuss various topics, including plans for collective activities, problems with and rewards for individual students, and schoolwide activities. Teachers had in-depth knowledge of their students, the students' school progress, and the students' family situations; their knowledge made them alert to signs of problems in any arena. Faculty, parents and students worked together to address students' needs.

Teachers at Wiggs had an individual period each day that they used for conferences or for preparation, while students had seven academic periods, a homeroom period, and an advisory period. The last period of the day was the advisory period for all students in the school. Advisories were smaller than the regular classes—some groups were as small as nine students. Teachers used the time to get to know their students, follow up on changes of behavior in school, and work with them on individual problems with teachers, their fellow students, or issues outside the school.

Wiggs had implemented site-based management, supported by Texas' new accountability system. The school-level governing body, the Campus Improvement Committee, was composed of representatives of the faculty, staff, parents, and the community. It was responsible for preparing a yearly Campus Improvement Plan and making decisions on the school's discretionary budget, school policies and activities, partnerships with the community, and strategies for involving parents and community members as partners in the school.

Wiggs was a state-designated Mentor School. In this capacity, it served as a laboratory for other schools, especially those wanting to implement the middle-school concept. Wiggs' mentor teachers participated in site-level training as well as professional development activities offered by the district and by the UTEP.

Summary

Wiggs Middle School designed a strong program for LEP students by employing innovative pedagogical strategies such as cooperative learning, project-based and thematic instruction, and integrated use of technology. The flexible program for LEP students and the implementation of the middle-school structure with smaller school units supported students' individual social and

academic development. Finally, faculty participation in site-level decision making and ongoing professional development activities significantly contributed to the school's ability to move toward its vision.

I. CROSS-SITE ANALYSIS

In *Volume II* of this series of reports, we present case studies of the eight sites we studied in depth. In our presentation of the cases, we sought to portray outstanding learning environments with sufficient detail to be useful to both practitioners and policymakers. The sample of exemplary schools was not intended to be representative of all schools with LEP students or even of all exemplary schools, but it does illuminate what is possible.

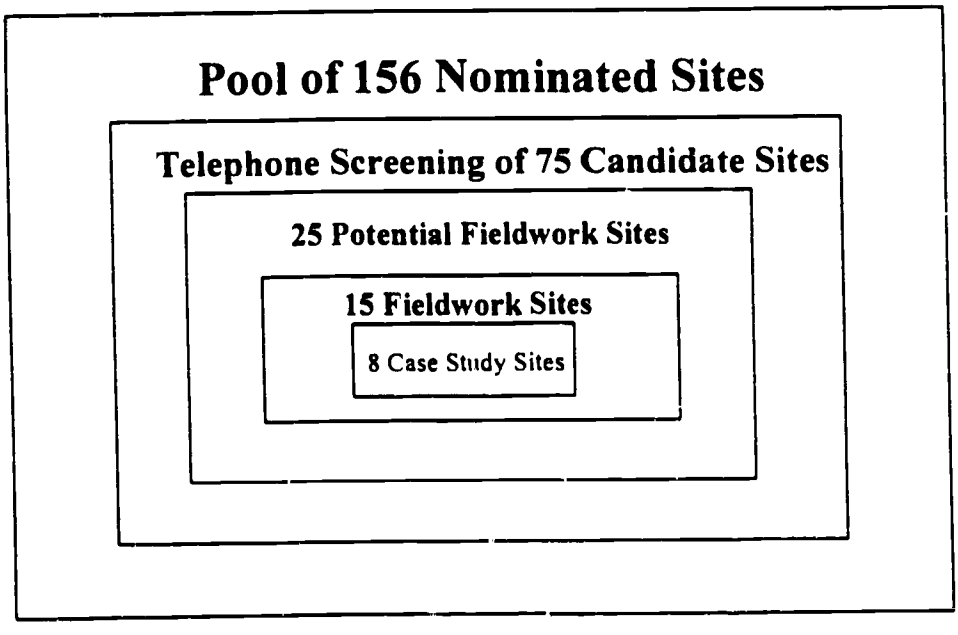
This section of the report analyzes those factors that contribute to the design and implementation of high quality learning environments for LEP students—and for all students at the study schools. We begin by explaining broad lessons we learned during the process of selecting the eight exemplary sites. In Chapter 2, we outline seven lessons drawn from the exemplary sites. Chapter 3 examines the demographic conditions facing the exemplary schools and the ways those conditions influenced the design of each school's language development program. Chapters 4 and 5 isolate key factors in the schools' learning environments and key elements of the schools' culture and structure that support these learning environments. The final four chapters look to factors outside the schools and the ways the schools' learning environments were supported externally: Chapter 6 looks at the role of external agencies or partners, Chapter 7 at the role of the district, Chapter 8 at the state role, and finally Chapter 9 examines federal influences on programs at the exemplary schools.

. Lessons Learned from Site Selection

Site selection involved the nomination and filtering process diagrammed in Figure I-1.1.[1] The schools chosen for intensive field examination were selected after an extensive nationwide search. They are not the only schools with exemplary programs in the country, though they are among a small number of schools that provide outstanding education for LEP students at the grade levels and in the curriculum areas pertinent to this study. To locate candidate schools, nominations were solicited from knowledgeable people at the national, state, and local levels. They were asked to identify exemplary language arts programs in grades 4 through 6 and exemplary science and math programs in grades 6 through 8 for LEP students. One-hundred and fifty-six schools were initially nominated, from the 20 states with the largest populations of LEP students. It was much more difficult to locate exemplary math or science programs than language arts programs. Of the 156 nominated sites, approximately two-thirds were language arts sites and the remaining were math and/or science sites.

Seventy-five of the most promising nominated sites were then screened using extensive telephone interviews to identify schools that exhibited excellence with regard to three major criteria: 1) high quality language arts, mathematics, or science programs for LEP students; 2) significant school

Figure I-1.1
The Sample Design



[1] All citations for Section I are located in endnotes for the section.

restructuring—i.e., with respect to governance, organization of teaching, uses of time; and 3) implementation of a well-designed English language acquisition program. Each school was assessed in terms of these criteria using six indicators of excellence:

- *Innovation*—the school departs from standard instruction, scheduling, organization, and/or curriculum segmentation in order to facilitate program goals.
- *Embedded*—the practices for LEP students are not isolated, but are part of the entire school program and are articulated with the type of practices used in earlier and later grades.
- *High standards*—school staff have embraced and can articulate the philosophy of the program, which includes a vision of quality education for LEP students.
- *Longevity*—the school's use of the identified practices is a serious long-term effort.
- *Qualified staff*—staffing and training of staff are appropriate to the practices being implemented with LEP students.
- *Generalizability*—the school serves students who are fairly typical of LEP students nationally and its situation (e.g., funding) is not so special as to preclude other schools learning from it.

The results of the phone interviews were used to reduce the number of sites that had potential for in-depth study to 25. From that pool, demographic, geographic, and programmatic variables were used to select 15 schools for a one-day preliminary field visit to determine which programs would become the final case study sites. One-day visits by one or two fieldworkers to each of the 15 sites were designed to provide the research team with information that would allow the selection of eight case study sites that best met study criteria. During the preliminary visits, fieldwork staff informally observed classrooms and interviewed people in responsible administrative positions at the district and site level as well as resource and classroom teachers. The issues briefly explored in the preliminary visits included questions about program design (e.g., the purpose of the reform, the program's conceptual framework, curriculum, instructional strategies, materials, grouping strategies, and the role of external partners in the design of the program), implementation (e.g., the forces and factors that influenced reform, program organization, staffing, and school climate), and program impact (e.g., evidence of improvements in student learning and previous program evaluations).

Based on these preliminary visits, eight schools were selected for more intensive field work. Data on student outcomes that are comparable across the sites were not available, in large part because LEP students are often not given the standardized tests (in English) that districts or states require of most students.[2] Therefore, quantitative data are not available to demonstrate that the

eight case study sites present evidence of significantly higher student achievement scores. Nevertheless, the nomination, screening, and field visits all led to the conclusion that these schools were highly innovative and followed practices that are considered by researchers to provide outstanding learning opportunities for LEP—and all—students.[3]

This selection process taught us about implementation problems and challenges that schools must overcome to serve LEP students effectively. Many schools nominated as exemplary did not meet the criteria for inclusion. This was particularly true for sites in math and science. As noted above, it was much easier to locate schools that met the criteria for inclusion as exemplary sites at the elementary level involving language arts than it was to find outstanding math or science programs involving LEP students at the middle grades. In several cases, for example, schools were nominated that indeed had outstanding math or science programs, but the programs did not include LEP students; the schools' LEP students simply did not receive the challenging math or science curriculum that others received. In several other cases, schools with good reputations failed to continue their exemplary efforts when they lost key personnel, most often the principal or a key bilingual resource teacher. Finally, a number of nominated schools only had one outstanding class for LEP students led by an outstanding and trained teacher, but this class was separated and isolated from the rest of the school's activities. For example, in one state, Eisenhower staff development funding was used for training individual teachers. In some schools using these funds, the individual teacher became highly proficient, but the teacher's training was not part of a comprehensive change strategy involving all teachers at the same school who taught LEP students. Therefore, the training did not affect the whole school's approach to the education of LEP students.

In sum, the evidence from the study's nomination and site selection process suggests that many schools have not effectively met the challenge of educating LEP students. Even among those schools nominated as having good programs for LEP students, many had not developed a comprehensive approach to the complex set of language acquisition and curricular/instructional needs of LEP students. Few schools included their program for LEP students in school-wide reform efforts which ensure fundamental prerequisites for success—expecting LEP students to learn challenging curriculum; employing experienced teachers appropriately trained in language development; using resources efficiently, such as time and the assistance of external partners, to expand and intensify their curricular/instructional efforts; and actively engaging parent and community members. This conclusion about the sites not included as exemplary puts special emphasis on discovering those policies, practices, and strategies that distinguished the exemplary sites.

The remainder of this section describes and draws conclusions from the exemplary approaches. Chapter 2 presents overall lessons that provide a context for the more specific descriptive findings detailed in subsequent chapters. Lessons 1 and 2 set the stage by offering high level conclusions. Lessons 3 through 9 present conclusions whose specific findings are respectively detailed in chapters 3 through 9 of this section. Chapters 3 through 5 address school-level findings: approaches to language development, including the programming of LEP students through transition (chapter 3); the characteristics of high quality learning environments for LEP students, including curricular and instructional approaches in language arts at the elementary level and science and mathematics at middle school level (chapter 4); and the culture and schoolwide organizing and restructuring that support high quality learning environments for LEP students (chapter 5). Chapters 6 through 9 cover sources of support from outside the school, including the influence of external partners (chapter 6), districts (chapter 7), and state (chapter 8) and federal policies (chapter 9).

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[1] The methodology for selecting the schools is reported in detail in *Volume III: Technical Appendix, Research Design and Methodology*.

[2] P. Berman et al., *Meeting the Challenge of Language Diversity: An Evaluation of Programs for Pupils with Limited Proficiency in English*, 5 vols. (Berkeley, CA: BW Associates, February 1992).

[3] On the second visits to the final eight sites, research teams of two to four people interviewed teachers, support staff, and administrators at both the school and district level. Researchers also held focus group sessions with students making the transition to English classes and with their parents, and observed classes and staff meetings. The research team included people fluent in Spanish or Haitian Creole who could observe classes and conduct focus groups in these native languages where appropriate. Interpreters were used occasionally for Asian languages to clarify some aspects of the school or classroom situation. Researchers also collected available demographic, financial, and evaluative information. Finally, the research teams interviewed external partners and district and state officials familiar with the school and with state and district policies.

2. Overall Lessons from the Exemplary Sites

This chapter discusses broad lessons derived from a comparative analysis of the eight study sites and set a context and a framework for the chapters which follow. The lessons focus on elements common to the exemplary schools. Because these lessons reflect exemplary practice, they may seem beyond the reach of most schools serving LEP students. However, we believe that they demonstrate real possibilities that are within reach for many other schools. The outstanding practices developed at these schools began as searches for solutions to problems; outcomes of a reflective process oriented toward better meeting the complex challenges of language diversity. No single site had yet realized all of the elements of reform. Indeed, their commitment to examining their progress continually—and to making adjustments over time as they learn and conditions change—may be the cornerstone for long-term success at these schools.

Lesson #1. ***Schools can develop outstanding education for LEP students.***

The exemplary schools demonstrated that LEP students can learn challenging content in language arts, math, and science while becoming literate in English, and, further, that they can realize the high expectations for academic achievement and personal development expected of all other students.

This general conclusion helps to put to rest the unwarranted assumption that schools must wait to provide LEP students with ambitious curriculum until they have mastered English. The exemplary sites instead began with the conviction that mastering high quality curriculum and acquiring English are best done together. To meet this challenge, they developed innovative strategies and approaches that are synthesized into the lessons that follow.

Lesson #2. ***A comprehensive shared vision provides an essential foundation for developing outstanding education for LEP students.***

The exemplary schools all developed, often by means of an extended process, a schoolwide vision of what quality schooling should be like for all their students, including their LEP students. Though the specifics of the vision differed across the sites, they held five clear themes in common.

First, all the schools expected that LEP—and all—students could learn to high standards and could learn the language arts, math, and science curriculum necessary to be successful in life. The attainment of fluency in oral and written English was assumed to be fundamental and

achievable. The individual strengths and needs of each student were respected and conscious efforts were made to help every student realize her or his potential.

Second, these schools embraced the culture and language of students, welcoming parents and community members into the school in innovative ways. This cultural validation broke down alienation and helped the schools create a climate of respect and acceptance.

Third, they worked on developing a community of learners in which teachers were treated as professionals, encouraged to learn from each other, and given the time to develop programs. It was understood that teachers of LEP students should be fluent in the native language of their students and/or trained in language acquisition theory and practice, and that continuing professional development was essential to improving the educational programs. The community of learners extended beyond teachers and students, often involving parents and the community. And the community itself became a source of meaningful learning experiences.

Fourth, the exemplary sites were open to outside help. They welcomed and at times actively sought external partners or research information from the outside in order to advance their understanding of how to realize their school vision.

Fifth, they saw the need for schoolwide and comprehensive change; the *system* of schooling needed to be re-examined if ambitious goals for their students were to be realized. The structure and content of the curriculum, the instructional paradigm and learning environments, language development strategies, the organization of schooling and the use of time, and school decision-making were seen to be interconnected. Though all elements were not necessarily addressed at once in all schools, staff at the exemplary sites believed systemic change was necessary.

The combination of these five dimensions of a shared vision—high expectations, cultural validation, community of learners, openness to external partners and research, and comprehensiveness—gave the exemplary schools a climate of caring, optimism, and confidence, despite the great challenges they faced.

Because the case studies focused on innovative attributes of exemplary sites, their innovations may appear beyond the reach of most schools serving LEP students. On the contrary, we believe they demonstrate what can be done. All the exemplary sites followed a self-reflective process of becoming better at meeting the complex challenges of language diversity. No single exemplary site had yet realized all the elements of reform to the outstanding levels for which they all strove. Their commitment to examining their progress continually—and making adjustments over time as they learned and conditions changed—may be the cornerstone for long-term success at these schools.

Lesson #3. ***Effective language development strategies exist and can be adapted to different local conditions in order to ensure LEP students access to the core curriculum while simultaneously developing their English language skills.***

All the exemplary schools adopted two goals: that LEP students would achieve English language fluency, and also master the core curriculum content provided for all students. Some schools added a third goal of developing and maintaining fluency in the students' native language. Whether or not they also sought maintenance in the native language, the exemplary schools varied in their approach to English language acquisition. The demographics of the LEP students at their school, the desires of the community, the vision for the school, the availability of qualified staff, and district and state policies influenced the particulars of their approach. However, some important similarities emerged.

All schools used students' primary language—either as a means of developing literacy skills, as a tool for delivering content, or both. In many cases, teachers also relied on high quality sheltered English instruction. Sheltered English and primary language-based programs were typically complemented by ESL instruction. In addition, content area instruction—including language arts, mathematics, and science—was integrated into bilingual and sheltered programs for LEP students and used as a means of providing a context for oral and written language production in English.

All the language development programs were flexibly constructed to accommodate students with varying levels of fluency and, where appropriate, students from different language backgrounds. Rather than using a single model for all the LEP students, teachers adjusted curriculum, instruction, and the use of primary language to meet the varying needs of students. Such flexibility is necessary because of the diversity of students, and the key to flexibility was having qualified and trained staff. In most classrooms with LEP students, teachers were trained in language acquisition. In all cases where instruction occurred in the students' primary language, and in many cases where instruction was delivered using sheltered English, teachers were fluent in the home language of their students. To promote interaction between LEP and English-only students, teachers team taught and employed a wide range of grouping strategies.

Finally, transition from classes where instruction was delivered in students' primary language or through sheltered English to mainstream classes was gradual, carefully planned, and supported with activities such as after-school tutoring to ensure students' success at mastering complex content in English.

Lesson # 4. ***High quality learning environments for LEP students involved curricular and instructional strategies that engaged students in meaningful, in-depth learning across content areas led by trained and qualified staff.***

Each exemplary site had to develop its own mix of curricular and instructional strategies for meeting the challenge of language diversity in its own setting. However, across the exemplary sites, the strategies tended to be based on similar pedagogic principles and approaches to creating highly effective learning environments.

These innovative principles aimed to engage students actively in their own learning. Teachers created nurturing learning environments that facilitated students working independently and in heterogeneous, cooperative groups. Instruction often consisted of students engaged in self-directed, hands-on experiential learning, including inquiry and active discovery methods. These features, as implemented in the exemplary sites, are living examples of the new reform approaches to teaching language arts, science and math—and they worked for the education of LEP students.

The goal was to deliver a rich and varied curriculum to LEP students that paralleled the curriculum delivered to other students at the same grade level, that made connections across content areas and built in real-life applications relevant to the students' experiences. Middle schools linked science and mathematics curricula, as well as social studies and language arts, allowing students to explore more complex relationships between the traditional disciplines. Similarly, the elementary schools created opportunities for students to use their language arts skills across the curriculum. Language arts curriculum was often based on literature-based approaches in which LEP students read, wrote and spoke about topics relevant to their culture and experience. In science, the schools created curricula that drew on the students' environment to maximize possibilities for hands-on exploration. Mathematics was often taught within the framework of thematic units or project-based activities to build students' conceptual understanding and computational skills in an applied context that related to real-life situations. Finally, by focusing on concepts over an extended period of time, teachers emphasized depth of understanding over breadth of knowledge.

Overall, such curricular and instructional strategies were effective for LEP students at different levels of development of English oral, reading, and writing skills, provided they were taught by trained and qualified teachers.

Lesson #5. ***A systemic approach to school restructuring focusing on organizing schooling into smaller units, using time to promote more concentrated learning opportunities and more teacher collaboration, establishing broadly inclusive decisionmaking, and integrating social and health services into school operations—can enhance the teaching/learning environment and foster the academic achievement of LEP students.***

Each exemplary school restructured its school organization to create an appropriate framework for its shared vision of effective schooling. Such restructuring enabled them to create the language development strategies and innovative learning environments that were effective for LEP students. More generally, they increased the effectiveness of their human, educational, community, and financial resources.

Both the elementary and middle schools reconfigured their schools into smaller school organizations such as "families" that heightened the connections among students, between teachers and students, and among teachers. Smaller organizational units also made it easier for newcomer LEP students to be brought into the flow of instruction. In some cases, the schools had a small group of students stay with the same teacher over four or five years. This continuity enabled LEP students to become skilled at cooperative learning, become highly responsible in their learning tasks, and build self-esteem. It also enabled teachers to build their understanding of each student, and developed their capacity to apply new instructional approaches.

The use of time was also reconfigured at the exemplary schools, sometimes in inventive ways. Adjusting lesson plans and curriculum protected students' time for learning and allowed LEP students to engage in self-directed learning activities within cooperative groups, with opportunities for hearing and producing language. Some exemplary schools allocated blocks of class time appropriate to the pedagogic requirements of different subject matters or themes. (Science projects, for example, could occupy a double period in middle schools.) Several schools structured or extended the school day and year to accommodate teacher planning, collaboration, and professional development, and to provide extra support for LEP students' transition to English as well as for the incorporation of newcomers into the LEP program. In short, such creative uses of time enabled the schools to tailor the educational program to the students' strengths and needs.

In addition, the exemplary schools developed governance structures, often involving teachers, parents, and community members, that supported consensus building through broad-based decisionmaking. Such shared decision-making had the direct pedagogical benefit of empowering teachers to become involved in curriculum planning and development, to set a schedule that facilitated high quality curriculum, to seek professional development that enhanced

their teaching of LEP students, and to allocate resources for the benefit of LEP students. It further helped to provide a context for a deep level of parent and community involvement.

Finally, several sites integrated health and social services as school-based services. In doing so, they addressed the needs of their LEP students—many of whom were from poor families and often had difficult experiences as immigrants—and provided a service to the community.

Lesson #6. ***External partners can improve the educational program for LEP students.***

Though some of the exemplary schools did not use major assistance from external organizations or projects, all the exemplary schools drew on outside resources as they developed curriculum and implemented new instructional strategies. In cases where schools had external partners, they helped schools apply knowledge from educational research; they brought new ideas into the schools and reduced isolation by connecting schools with larger—often national—reform efforts.

The role of external partners was especially critical as schools reconceptualized their programs and undertook the challenge of extensive reforms in science and mathematics instruction, as well as in the integrated use of technology. In addition, schools collaborated with external partners to work through complex issues surrounding organizational change, such as the development of a system for site-level decisionmaking. Finally, school staff worked with external partners to organize and provide for integrated health and social services.

Lesson #7. ***Districts can play a critical role in supporting quality education for LEP students.***

Districts varied in their support for the exemplary schools, and in many these schools the direct influence of districts was limited. However, those districts that actively supported the development and implementation of high quality programs for LEP students made a direct and, in some cases, a crucial contribution. They did so through a series of strategies.

First, district personnel believed that LEP students could learn to high standards.

Second, districts recruited and offered stipends to bilingual teachers, provided staff development in bilingual teaching and second-language acquisition, and made provisions to allow for reduced class sizes for LEP students.

Third, districts supported the implementation of more powerful curriculum and instruction by providing staff development in response to the needs and interests of the teachers.

Finally, districts supported school restructuring by shifting some decisionmaking responsibilities to the site level and participating in, or establishing, networks of schools undergoing restructuring, particularly schools implementing the middle-school model.

3. Approaches to Language Development

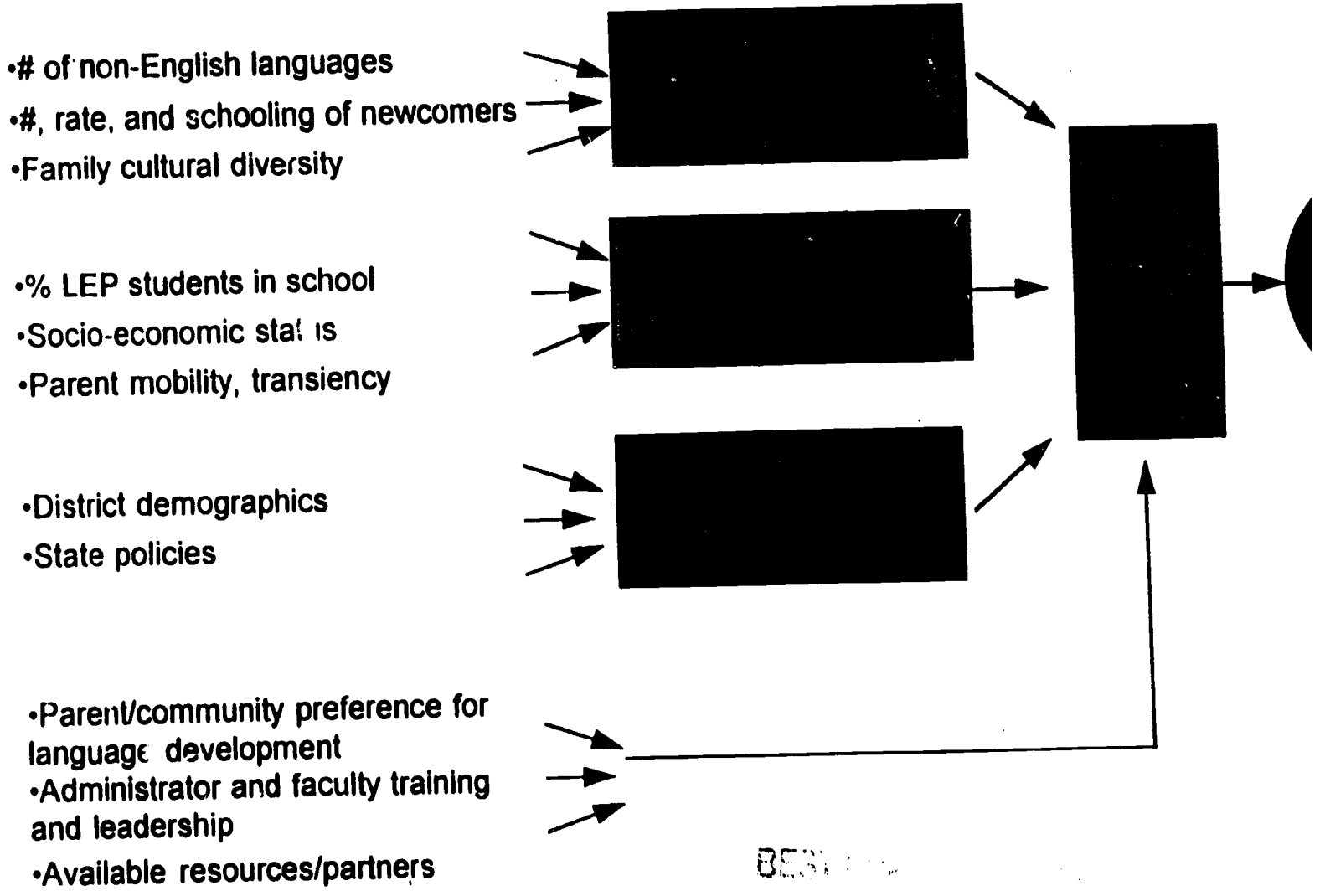
This chapter reviews specific findings about the approach taken to language development and second language acquisition for LEP students at the exemplary sites. As discussed in the previous chapter, the language development approaches were integral to the development of effective learning environments and the restructuring of the school's operation and organization. This chapter is organized in two parts, with findings detailed within each part. The first part describes the forces that shaped the schools' approach to language development. The second part describes the LEP student program elements as they were adapted by exemplary schools.

A. Findings about Forces that Shaped the Approach to Language Development

Each exemplary school had a shared vision of its approach to language development for LEP students. The design choices made to implement each vision varied from school to school. All of the case study schools enrolled significant numbers of LEP students and created language development programs to meet their needs. Each school made program design choices in response to forces largely outside the control of the school staff. Those forces can be organized into four distinct categories: student language development needs, community demographics and preferences, district policy, and school capacity. Each factor influenced critical choices schools made in program design—how they would use the student's primary language in instruction; how they designed special strategies to accommodate newcomers; and how they designed their program to transition students into the school's mainstream environment. This part of the chapter examines these influential forces. Figure I-3.1 displays these factors and illustrates how they impacted program design.

Each school's vision included its goals for LEP students and the nature of the program the staff wanted to create. Educating LEP students was viewed as an integral part of the school's overall goals and plan for school reform. The three exemplary middle schools, for example, built strands for LEP students with qualified staff into their house and family structures. Teachers developing new approaches to curriculum did so in both the primary language of the LEP students and in English. Staff of LEP student programs were included in schoolwide training and development activities, and participated in site decision making about the use of school resources, including time and money. The importance of the inclusiveness of the vision of exemplary schools cannot be overemphasized, for it drove many subsequent decisions about school organization, staffing, uses of time, instructional approaches and curriculum.

Figure I-3.1
Factors Affecting Language Development Program Design



Finding #3.1 LEP Students' Needs Influence Program Design. *The vision and LEP student program design were influenced by the language development needs of LEP students at the school.*

Exemplary schools assessed the language development needs of their students and designed their programs accordingly. Important considerations included the number of non-English primary languages spoken by the students, the pattern of immigration of recent arrivals by grade level, and the concentration of LEP students in the school.

Most of the exemplary schools were neighborhood schools whose students lived in the surrounding area. Three of the exemplary schools were magnet schools enrolling students from all over the district. One school, Horace Mann, was an academic magnet which, like the neighborhood schools, had little control over the language needs of the students who applied and were accepted.

Two schools, however, were language magnets whose language programs attracted LEP students with the same primary language. At Inter-American School, the developmental bilingual program determined the make-up of the students. The program's target language was Spanish; English-speaking students enrolled to learn Spanish and Spanish-speaking students to learn English. The school drew students from a much larger area than the surrounding neighborhood. Similarly, the Cambridge district established a Haitian Creole language program at Graham and Parks School that attracted Haitian students from throughout the district.

The number of non-English languages represented in the student population has a profound impact on the type of language development program a school can design. Schools enrolling LEP students who speak the same language have a wider range of programmatic options than do those schools enrolling LEP students from multiple language groups.[1] Schools with a concentration of LEP students with the same primary language typically developed bilingual programs that relied on the primary language for instruction. These schools included: Del Norte Heights Elementary, Hollibrook Elementary, Linda Vista Elementary, Inter-American, Graham and Parks, and Hanshaw Middle. Horace Mann Middle School had significant numbers of Spanish speakers and Cantonese speakers and developed programs tailored to the needs of the two groups. Both programs utilized the student's primary language. Wiggs Middle School had a large concentration of Spanish speakers but chose to offer sheltered English programs, often taught by bilingual teachers who could clarify content in Spanish as needed.

Two case study schools enrolled significant number of students speaking more than one non-English primary language (Linda Vista Elementary and Hanshaw Middle School). Both of these California schools had speakers of various South East Asian languages represented in their

student population. Developing a high quality program for a student population with multiple primary languages is a complex challenge. Both schools offered Sheltered English instruction to their South East Asian LEP students. Linda Vista Elementary School provided primary language support from aides fluent in Hmong, Lao, and Vietnamese, as well as from a Vietnamese bilingual teacher. See Box I-3.1 for an illustration of how Linda Vista adapted its program in response to changing school demographics.

Exemplary schools must also consider newcomer LEP students, those students who immigrated to the United States after the early elementary grades. Significant numbers of newcomers impacted the programs at several schools. Newcomers often arrive with varying levels of literacy and previous schooling. Some have gaps in their education which compound their need for language development and support as they adjust to a new cultural environment. Some students arrive with more serious issues resulting from exposure to war, extreme poverty, and political upheaval.[2] Linda Vista Elementary School, Hanshaw Middle School, Wiggs Middle School, and Graham and Parks School experienced a continuous inflow of new immigrants with varying levels of previous schooling and literacy in their primary language. Hollibrook, Del Norte, and Horace Mann schools received new immigrant students at a slower, but nonetheless steady, pace at all grade levels.

Box I-3.1

Linda Vista Responds to the Changes in the Language Development Needs of their Students

Linda Vista's ability to adapt their program for LEP students in response to shifts in community demographics represents a major strength of their restructuring process. When Linda Vista began its restructuring process, the Spanish-speaking LEP population was decreasing and the number of LEP students speaking different (primarily Southeast Asian) languages was on the rise. (Historically, Spanish was the dominant language of LEP students.) In response to this change in their student population, the Linda Vista staff implemented a Sheltered English program (with a native language component in Spanish, Hmong, Vietnamese, and Lao) for all LEP students. The selection of the Sheltered English model was the direct result of the dramatic shift in the languages spoken by LEP students and the declining Spanish-speaking LEP population. A few years into the restructuring, the Spanish-speaking population began to grow again and the influx of Asian immigrants began to level off. Because they once again had a critical mass of Spanish-speaking students, as well as access to Spanish-speaking bilingual teachers, the staff reinstated bilingual instruction for the Spanish-speaking LEP students while continuing to use Sheltered English instructional strategies with non-Spanish-speaking LEP students.

Finding #3.2 *The design of LEP student programs was shaped by school characteristics and community preferences.*

Exemplary schools considered a range of student demographic conditions in the design of their programs for LEP students. Salient demographic conditions included the percentage of LEP students enrolled at the school, their socioeconomic status, and the mobility or transiency of their families. Tables I-3.1 and I-3.2 provide an overview of demographic conditions at each of the schools. (The Appendix to this volume presents tables that compare other characteristics of the exemplary schools across the sites).

The size of the LEP population influenced the nature of language development program. The percentage of LEP students at the exemplary schools ranged from 17 percent to 67 percent. The aim of the exemplary schools was to create a language development program that was an integral part of the schoolwide program.

Student socioeconomic status also impacted language development program design. Many of the students at the exemplary schools were from economically disadvantaged families. At least 50 percent, and as high as 94 percent, of the students at each school were eligible for free or reduced price lunch. Schools educating children of poverty are faced with a set of unique challenges. Poor children may be undernourished, lack access to health care, and live in neighborhoods plagued by drugs and gangs. They are likely to have parents without much formal education and are unlikely to have access to community resources such as preschools, libraries, and museums.[3] The exemplary schools recognized that their students' educational needs had to be addressed within this larger context, so they created program elements that addressed these needs.

Another influential issue related to poverty was the mobility and transiency of LEP students. Families new to the country often lived in substandard housing as they worked to establish an economic foothold. As the families gain greater economic independence, they move on to better neighborhoods. This transiency can be disruptive both for the students and for the school program.

Parental preference played an important role in the development of programs for LEP students. In some communities served by the exemplary schools, parents of LEP students were concerned that students maintain their home language, while in other cases parents were anxious that students move into the school's mainstream as soon as possible. The exemplary schools sought out the preferences of the parents of their LEP students and worked with parents in the design of their programs.

Table I-3.1
Demographic Conditions at the Elementary Grade Case Study Sites, 1993-94

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-
Community Context	Border community, port of entry.	Low-income neighborhood in high-income district.	Port of entry, low income.	Inner-city ma drawing from neighborhoo
Grade Span	K-6	preK-5	pre K-6	
Total Enrollment	650	1000	950	
Ethnicities (%)	Hispanic (91.8%) African American (4.5%) White (3.7%)	Hispanic (85%) White (12%)	Southeast Asian (44%) Hispanic (38%) White (7%) African American (5%)	Hispanic (69 White (17%) African Am
% LEP	40%	67%	66%	
Languages (% of LEP Students)	Spanish (100%)	Spanish (100%)	Spanish (50%) Hmong (22%) Vietnamese (16%) Lao (6%)	Spa
% Eligible for Free or Reduced-Price Lunch	85%	87% (Economically Disadvantaged)	88%	
Background of LEP Students	An estimated 6% of the LEP students were recent immigrants; the majority of the remaining students were born in the U.S. Most late arrivals were literate in Spanish.	Most families were first generation immigrants; the children were born here to Mexican parents.	Some entering LEP students were born in the US, but most were recent immigrants: either political or economic refugees.	Some ente were born were recen Approximu Mexico, 2 Rico; 5% 27% perce Latin Am
Actual Attendance	96.7%	97.2% (1992-93)	95.8%	9
Transiency/Mobility	Very stable	Medium to high mobility (30%)	Medium to high mobility	Stable (1

Table I-3.2
Demographic Conditions at the Middle Grade Case Study Sites, 1993-94

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Community Context	Magnet school in urban, but not impoverished setting	Low-income, agricultural and service oriented economy, high unemployment, gangs	Inner-city magnet school—mostly low income with growing middle class population	Port o mostly
Grade Span	K-8	7-8	6-8	
Total Enrollment	365	860	650 .	
Ethnicities (%)	White (46%) Black (45%) Hispanic (5%) Asian (4%)	Hispanic (56%) White (26%) Asian (11%) African American (5%)	Hispanic (38%) White (20%) Chinese (14%) African American (9%) Filipino (6%)	Hispa White
% LEP	17%	29%	24%	
Languages (% of LEP Students)	Haitian Creole (100%)	Spanish (79%) Cambodian (10%) Lao (5%) Hmong (3%)	Spanish (63%) Cantonese (23%) Other Chinese (7%)	Span
% Eligible for Free or Reduced-Fee Lunch	35%	94%	15% (Free Lunch only)	(Ec
Background of LEP Students	Political refugees from Haiti	Mostly immigrants, some born in US; many children of migrant workers	Mostly immigrants from Mexico, Central America, and China; some born in US	Imm may
Attendance	96.0%	93.4%	95.6%	
Transiency/Mobility	Stable, except for new Haitian immigrants	High mobility	Very stable, trickle of new immigrants enter during the year	Med imm year

Finding #3.3 Impact of District and State. *LEP student program design was influenced by district demographics and state policies.*

Districts housing exemplary schools also played a part in the design of language development programs. Influential factors included district demographics and the impact of state policies on districts.

Demographic conditions influenced the types of support offered by the district. Districts differed in size and geographic influences—some were near the Mexican border and had large concentrations of Spanish-speaking students, while others were in areas with concentrations of immigrants from other countries. Two of the districts with exemplary schools were operating under court-ordered desegregation plans that involved parental choice of schools and curriculum-based magnet programs. (See chapter 7, The District Role in Support of Reform, for a discussion of the ways in which districts supported the exemplary schools.)

State policies expressed through the district also influenced the ways the exemplary schools designed programs for LEP students. Policies in some states supported preschool programs that targeted language minority students and supported smaller class size in classrooms with LEP students. State policies established certification requirements for teachers who taught LEP students. States also established processes for designating students as limited English proficient and redesignating them as fluent in English. Each of these state policies influenced district relations with the exemplary schools and, in turn, the ways the exemplary schools designed their programs. (For more information on the impact of state policies on the exemplary schools, see chapter 8.)

Finding #3.4 Impact of Faculty. *The exemplary schools' approach to language development was shaped by school capacity, especially availability of qualified primary language fluent faculty and teachers trained in second language learning.*

While most of the forces described above are outside the control of the school staff, such as the number of LEP students and the pace of immigration, one important factor is somewhat under their control. That factor is the availability of qualified teachers who speak the language of the LEP students and are trained in second language acquisition.

The availability of faculty trained to provide native language instruction, to support the language development needs of LEP students, and to create an environment that supported the culture of their students significantly influenced the design of the language development program. Qualified faculty are a necessary condition for offering a high quality language development program. The case study schools and their districts invested a great deal of effort to

ensure that appropriate staff were available to provide instruction. Due to its importance to program implementation, appropriately qualified faculty was a criteria for selection of exemplary sites for the study.

The exemplary schools created their vision and sought ways to build capacity with resources from the district, the state, the federal government, and outside partners. Several of the schools were exceptionally entrepreneurial in seeking support from outside source .. The exemplary schools sought ways to support their vision rather than adjusting it to the level of available resources.

B. Findings about the Design of LEP Student Programs

Exemplary schools created flexible program paths through adaptation of key elements from model LEP student programs. They adapted these models to fit their own conditions and the needs of their students. Most created more than one flexible program path, in order to customize instruction to each student's language development needs and level of previous schooling, as well as to satisfy preferences of parents. Programs contained the following elements: development and maintenance of literacy in the primary language; use of primary language and English to teach core academic content; integration of monolingual English-speaking students with LEP students; support for transition to English or mainstream instruction; strategies for newcomers; and cultural validation.

Each of the exemplary schools exhibited an unique approach to the design of their language development programs. Schools developed LEP programs in response to their own demographic context, the preferences of parents of LEP students, district and state policies for LEP student programs, and the school's vision for their educational program. Five study sites relied on primary language-based LEP student programs, one used an English-based program with support in the primary language, and two schools employed *both* sheltered English instruction and primary language instruction with LEP students.

Finding #3.5 Adaptation of LEP Student Program Models. *Exemplary schools adapted LEP student program models in response to their own conditions and student needs. They addressed how the students' primary language would be used for instruction, both to further language development and to convey academic subject matter.*

The case study schools addressed a number of options for program design, including how the program would use the native language of the LEP students and English in instruction. The decision regarding the language of instruction is fundamental to the design of the language

development program. The exemplary schools made choices based on the forces outlined in the first part of this chapter and, as a result of those choices, each school's language development program was distinctive.

Table I-3.3 illustrates the basic program model with respect to the use of students' primary language and English. The program models that schools adapted to their own needs were:

- **Primary Language-based Models.** Programs that relied on students' primary language for instruction varied in their design and intent. Schools that used the primary language of their students did so for two reasons: first, to deliver comprehensible instruction to their LEP students and second, to support students' ability to develop (or maintain) literacy in their first language. Two strategies employing the primary language were implemented at the exemplary schools—bilingual and two-way bilingual programs.
- **English-based Models.** The second major category of programs for LEP students were those which use sheltered instructional techniques in English to teach LEP students. Two of the three sites using sheltered English instruction (Linda Vista and Wiggs) supplemented that instruction with primary language instruction.

Table I-3.3
Basic LEP Student Program Design by Site

School	Bilingual	Two-Way Bilingual	Sheltered English
Del Norte Elementary	X		
Hollibrook Elementary	X		
Linda Vista Elementary	X (Spanish-only)		X
Graham and Parks	X		
Inter-American		X	
Hanshaw Middle	X (Spanish-only)		X
Horace Mann Middle	X		
Wiggs Middle			X

Primary Language-based Models: Bilingual. Bilingual programs rely on the primary language to teach academic content while students are learning English. They develop the student's primary language skills, but vary in the emphasis placed on teaching students to read and write in their primary language. The six exemplary schools showed some variation in their emphasis on primary language literacy. Graham and Parks and Hollibrook provided instruction in the students' primary language to develop oral language skills and to teach academic content. Students learned to read in English and there was no explicit goal of developing primary language literacy. In contrast, two study elementary schools (Del Norte and Linda Vista) designed bilingual programs that instructed in the primary language in the early grades and transitioned to all-English instruction by fourth or fifth grade. Linda Vista offered a bilingual program to Spanish-speaking LEP students and sheltered English with native language support to students who spoke other languages. Hanshaw and Horace Mann Middle Schools offered bilingual programs for Spanish-speaking LEP students that provided Spanish instruction in several content areas. Horace Mann also provided primary language instruction for Chinese newcomer students. Boxes I-3.2 and I-3.3 provide details on the implementation of bilingual programs at the exemplary schools.

Box I-3.2

Exemplary Schools Adapt Bilingual Program Models in Response to Local Goals and Conditions

Del Norte Elementary School and Linda Vista Elementary School. Some bilingual programs are designed to develop and maintain literacy in the LEP students' primary language as well as provide a solid transition to English. As English skills are introduced in the middle to end of elementary school, literacy in the primary language is maintained by explicit instruction in reading and writing in the primary language. These programs generally prepare students for all-English instruction by fifth or sixth grade. Del Norte and Linda Vista classes typified this approach. Students learned to read first in Spanish and were transitioned to English reading at about the third grade. Spanish literacy was supported through fifth grade in bilingual classrooms where, although instruction was largely in English, the students' primary language was also used for instruction.

Hollibrook Elementary School. The Spanish bilingual programs at Hollibrook utilized students' primary language, but varied the pace of transition to English and the emphasis on developing primary language literacy. Typically, students' transition to all-English instruction was accomplished by third or fourth grade.

Graham and Parks School. In Graham and Parks' kindergarten through 8th grade bilingual program, Creole was used for instruction but the attainment of Creole literacy was not the primary thrust of the program. Students exited Creole bilingual programs at Graham and Parks at various grade levels, depending on when they entered the school and their level of previous schooling. Creole-speaking students who entered in kindergarten exited by fourth grade, whereas Creole-speaking students who entered at third grade typically exited in seventh or eighth grade. Students who entered Graham and Parks with high levels of literacy in French or Creole, however, generally exited to mainstream classes within two years of entry.

Primary language instruction for LEP students in grades 4 through 8 offers powerful advantages. Primary language-based programs provide full access to core content instruction in mathematics, science, social studies, and language arts for LEP students. In study schools using the primary language, students were provided instruction at grade level without the barriers posed by limited English fluency.[4] Qualified bilingual instructors used appropriate mathematical and scientific vocabulary in the primary languages in mathematics and science classes. In schools where study observers were able to observe mathematics and science lessons taught by the same teacher in both the primary language and using sheltered techniques, the level of discourse, richness of language, and cognitive development of students was more advanced in primary language classes.

By providing primary language instruction in important school subjects, teachers and other school staff conveyed respect for the primary language to students and their families. Bilingual teachers served as critical language resources for communicating effectively to parents in their primary language. Teachers who shared an ethnicity and culture with their students were valuable to students learning English and provided a critical link between home and school.

Box I-3.3

The Exemplary Middle Schools Varied in Their Use of Students' Primary Language

Transition Approaches. At the middle school level, some language development programs used the primary language but did not have as a significant goal development of primary language literacy. Hanshaw Middle School offered primary language instruction to Spanish-speaking LEP students for core instruction in science, math, social studies, and language arts. Spanish was the language of instruction and Spanish books were available for reference, but the main purpose of the program was not promotion of Spanish literacy. Rather, the focus was on comprehension of academic content and preparation for transition to English. Similarly, Horace Mann's program for Cantonese-speaking newcomer students used the students' native language for instruction while preparing students to transition into an all-English environment.

Maintenance Approaches. Some middle schools designed programs that used the primary language and sought to maintain primary language literacy. Horace Mann provided Spanish bilingual classes in science and social studies to students in the bilingual strands (some students were native Spanish speakers and some native English speakers who had been enrolled at a two-way bilingual elementary school). Math and language arts were taught in English. The goal of the program was to provide LEP students with access to challenging curriculum *and* to maintain Spanish literacy. Wiggs provided Spanish language arts instruction to beginning and intermediate LEP students enrolled in sheltered English classes in an effort to help them maintain their Spanish literacy.

Finally, primary language instruction such as that seen at Horace Mann in science and social studies can be used to maintain literacy in the primary language, even when the student is capable of learning in English. This approach developed a more biliterate individual. Wiggs also maintained the primary language of students by offering them a period of instruction in Spanish language arts. Nearly all LEP students entered Wiggs literate in Spanish.

Primary Language-based Models: Two-Way Bilingual. Two-way programs serve both LEP and native English-speaking students in the same program setting with a goal of developing bilingual, biliterate students. Primary language literacy is a goal for LEP students. Native English-speaking students learn the target language, while their LEP classmates learn English. As a result, all students develop literacy in two languages. These programs are sometimes called dual language programs, developmental bilingual, or double immersion, and are found primarily in elementary school settings. Box I-3.4 describes Inter-American's developmental bilingual program.

Box I-3.4

One Exemplary School Offered a Two-Way Bilingual Program

Inter-American's language development program provided an excellent example of a two-way bilingual program. At all grade levels, English-dominant and Spanish-dominant students were mixed in the same classroom in roughly equal proportions. The program was based on the philosophy that bilingualism and biliteracy are assets and that with exposure and motivation, children can learn another language. Inter-American's program began in pre-kindergarten with core subjects taught in Spanish. In the early grades, about 80 percent of instruction was in Spanish. Spanish-dominant students received ESL instruction and English-dominant students received instruction in Spanish as a second language. The 80/20 ratio of Spanish to English instruction remained through third grade, with instruction of all core subjects in Spanish. English instruction increased in the middle grades through eighth grade, with instruction divided equally between the two languages.

English-based Models: Sheltered English. High quality sheltered English programs provide access to core content for LEP students while developing their English skills. This approach can be successfully implemented when advanced LEP students have sufficient English oral fluency, reading, and writing skills to benefit from sheltered instruction and when they are literate in their primary language. Sheltered instruction is also used when there are insufficient numbers of students speaking a single language to allow primary language instruction.

Sheltered instruction relies on a variety of gestures, props, and instructional techniques to convey meaning in the classroom. Teachers overcome language barriers by previewing lessons, identifying critical vocabulary words needed for the lesson, using key words and phases consistently, and providing frequent examples. They also use body language, called total physical response, and clearly enunciated oral English. Teachers provide context for learning through field trips, materials brought into the class, and thematic projects which unify content across subject matter. Box I-3.5 illustrates the exemplary schools' approaches to Sheltered English instruction.

Box I-3.5

Exemplary Schools 'Sheltered' Instruction to Provide Students with Access to Content While Promoting English Language Development

Hanshaw Middle School. Hanshaw used sheltered instruction to teach mathematics, science, social studies, and language arts to advanced Spanish-speaking LEP students and to mixed groups of students speaking South East Asian languages. Sheltered core classes in mathematics/science and language arts/social studies were taught by teachers trained in second language acquisition; some of the teachers were also fluent in Spanish.

Wiggs Middle School. Wiggs used sheltered instructional strategies to teach newcomer Spanish-speaking LEP students in a school-within-a-school. Wiggs' sheltered program had three levels. In beginning LAMP, all content classes were taught by specially-trained teachers who used sheltered instruction techniques and clarified content in Spanish. The beginning program also featured Spanish language arts. Intermediate LAMP included sheltered classes, mainstream classes, and Spanish language arts. Advanced transitional students enrolled in mainstream classes and received ESL support from the LAMP program.

Linda Vista Elementary School. Linda Vista had ungraded sheltered English classes for students speaking languages other than Spanish. Students were grouped in the classes according to their English language fluency: Entry, Sheltered A, Sheltered B, Transition A, and Transition B classes were available for early childhood (pre-K-K), primary (1-2), middle (3-4), and upper (5-6) elementary grades.

While instruction in sheltered classes is conducted in English, it is highly desirable that the teacher speak the primary language of students so that they can clarify meaning for students when necessary. At Hanshaw and Wiggs bilingual instructors taught sheltered classes for Spanish-speaking LEP students. While desirable teacher fluency in the primary language of students is not always possible in multilingual settings. For example, in the Linda Vista and Hanshaw sheltered classes in which multiple languages were spoken, teachers did not speak the languages of the students. Study sites demonstrated that delivery of high quality instruction to LEP students in an English-based program is entirely possible if trained teachers are available and they fully participate in the school restructuring and other innovations that support exemplary learning environments.

Finding #3.6 Challenging Content for LEP Students. *All the exemplary schools taught challenging content area subjects in primary language with teachers fluent in the primary language and trained in second language acquisition; or in sheltered instruction with teachers trained in second language acquisition and often fluent in the students' primary language.*

The high quality LEP programs developed at exemplary schools served as a foundation for challenging instruction in core curriculum areas such as language arts, science and math. Access to challenging content for LEP students was an element of the program at each of the exemplary schools. Language barriers did not interfere with students' access to core content in these areas. Schools either used the native language of LEP students or Sheltered English to provide curriculum access while students mastered English. The exemplary schools maintained the same high expectations for LEP students that they held for all students, and ensured access to high quality curricula that enables content mastery. In many cases, expectations were supplemented by the notion that LEP students would become bilingual and biliterate.

The exemplary schools also incorporated the cultural background and life experiences of their student population into the curriculum in meaningful ways. At Inter-American School, the school's curriculum was built around a study of the Americas and the influences on the people and the cultures of the Americas. The focus on the Americas allowed the school to include in the integrated curriculum an emphasis on the culture and traditions of all of their students.

Although LEP student access to core content in the target subject areas was a selection criterion for the schools examined in the study, it is important to emphasize that the high quality program for LEP students, staffed by qualified faculty, is inextricably linked to the school's ability to deliver challenging core content instruction to LEP students.

Finding #3.7 Contact with Native English-Speaking Students. *Exemplary schools provided opportunities for contact between monolingual English speakers and LEP students during instruction in core content, in electives, or in alternative activities such as projects.*

Exemplary programs promote interaction between LEP students and native English-speaking students in order to provide a natural environment for English language development as well as to create a positive school climate. The eight study schools used a variety of techniques to mix LEP and native English students.

Study schools designed their programs to mix LEP and native English-speaking students during the school day. In some cases, LEP students and native English-speaking students were together for their core academic instruction. In other cases, students were integrated during elective classes such as music and art as well as during physical education. The exemplary schools also designed schoolwide activities, such as projects or fairs, in which all students participated together.

In three cases, at Inter-American, in team taught classes at Hollibrook, and in Horace Mann's Spanish bilingual program, classes were composed of a balance of Spanish-dominant and English-dominant students. In Inter-American's Developmental Bilingual program, LEP and English-dominant students were together for all of their instruction except ESL and Spanish as a second language (SSL). At Hollibrook, teamed teachers grouped and regrouped the students to address their varying language development needs and to maximize opportunities for natural language development by promoting interaction between LEP and English-only students. In both cases, students served as language role models for each other throughout the school day. Like Inter-American, the Spanish bilingual program at Horace Mann served the dual purpose of fostering Spanish language development for English-dominant students and making challenging content accessible to Spanish-speaking LEP students. The Spanish bilingual classes mixed LEP students with English-dominant students who had attended a two-way bilingual elementary school as well as with native Spanish-speaking students who were fluent in English.

Employing a different approach, Linda Vista also integrated its diverse student population. In the mornings, students were placed according to their primary language and English-fluency level for language arts and social studies instruction. For the remainder of the day, LEP students were integrated with English-only students for mathematics, science, and electives.

A tolerant climate which enhanced the quality of the interactions between LEP and English-only students existed at all of the exemplary schools. If LEP students spoke slower or paused over a word, their monolingual English-speaking peers did not interrupt or give them the answer.

The emphasis at the exemplary schools on respecting diversity and cooperation with others helped to create this climate.

Finding #3.8 Transition Strategies. *The exemplary schools implemented explicit approaches to the transition of LEP students to English. The characteristics of effective transition strategies included:*

- *primary language development as a foundation for English language development;*
- *qualified faculty who understood transition issues;*
- *in-class grouping strategies, particularly cooperative learning strategies to foster oral and written language production; and*
- *instructional support such as after-school tutorials to assist students transitioning to mainstream classes.*

Transition to English literacy was a major goal of all the LEP programs examined in the study. The structure of transition depended on the language development program design and the grade structure of the school. Bilingual programs first introduced primary language skills, then supported students' transition to English language reading and writing. Some bilingual programs sought to develop and maintain students' literacy in the primary language while others did not. Similar to bilingual programs, gradual transition to English literacy was accomplished in two-way bilingual programs like the program at Inter-American; by eighth grade, both English-only and LEP students were bilingual and biliterate. In sheltered English programs (i.e., Linda Vista), transition to English literacy occurred throughout the program without a long phase-in period while the primary language was developed. (See Box I-3.6 for insight on student views on transitioning to English.)

While program design is important, teacher discretion is equally important in high quality LEP programs. Qualified teachers demonstrate flexibility with the children they are teaching, customizing the transition to English to meet individual needs. Teachers at the exemplary schools did not rigidly adhere to a particular transition model. All of the schools, whether elementary or secondary, that relied on primary language instruction had qualified bilingual teachers who applied their own expertise to the learning needs of children in the classroom.

Despite the distinctions in LEP program design (whether bilingual, two-way bilingual or sheltered), all the study schools shared common features in their approach to transition to English. We discuss the major elements in turn, although these elements were interrelated in practice.

Foundation in the Primary Language. Teachers reported that a solid foundation of primary language literacy was integral to students' ability to make a smooth transition to English. All of the schools encouraged and supported primary language fluency and literacy to some extent. Teachers reported that students who were literate in their primary language learned to read and write in English with less difficulty and frustration.[5] Some of the programs concentrated on developing primary language literacy skills before attempting transition; others supported primary language literacy while simultaneously teaching English literacy.

Qualified Faculty. All sites relied on trained bilingual or sheltered English teachers to teach LEP students transitioning to all-English instruction. In most sheltered classes, teachers were fluent in the students' native language and could provide clarification. Teachers trained and certified (i.e., California's Language Development Specialist) in second language acquisition taught mainstream content classes at the middle schools. Teachers at the middle grades saw an urgent need to transition students to all-English instruction before they left middle school, because most high

Box I-3.6

Student Views on Transition

In each school, researchers asked transitioning LEP students what helped them learn English. Their responses were very similar. Students viewed the bilingual program teachers as their primary resource in learning English, followed by fellow students, and older siblings. Students valued after-school tutorial and summer programs, particularly when after-school programs provided primary language support in core subject areas. Students also valued access to libraries and computers. At Graham and Parks, Haitian Creole LEP students who were about to transition to all-English instruction identified the following strategies that helped them to learn English:

- They tried to read the most advanced book they could, underline parts they don't understand, and ask the teacher for assistance;
- They watched TV and listened to the radio;
- They stayed after school to get help with homework;
- They got help from friends and older siblings.

At Hanshaw, transitioning students reported that Hanshaw teachers helped them learn English, particularly those who were patient and answered questions, bilingual teachers, and teachers with a sense of humor. Fellow students also helped them learn. Students valued:

- Group discussions of reading material;
- Practice in speaking English in front of the class;
- Friends who spoke English.

An eighth grade student about to transition to all-English instruction at the high school level expressed her view of what helped her at Hanshaw Middle School:

> "We are always taught to give our personal best, to keep trying. If you're struggling, teachers will help you get the steps to solving the problem. They don't just give you the answer. If you practice you will get better at it."

school courses were taught in English, especially those that prepared students for college or for high quality school-to-work transitions. Teachers did not hesitate to push students to exercise their vocabulary and ability to express complex academic material in English when able. For example, in a science lesson at Graham and Parks, an 8th grade Creole bilingual student who was transitioning to mainstream instruction reported a science conclusion in Creole to his classmates. The teacher asked him to repeat the thought in English, later reporting that he asked the student to do so "because he can do it."

In-Class Grouping Strategies. Teachers at all the study sites relied heavily on cooperative learning as an important tool in support of student transition. In building groups for cooperative learning, teachers often placed more advanced LEP students in groups with those less advanced to provide both a language role model and support for language development. Students who might be shy about speaking English in front of an entire class were less inhibited in a small group of their peers. A second common grouping strategy involved clustering LEP students speaking the same primary language together in mainstream classes. This enabled students to confer with one another during cooperative learning tasks to clarify meaning and fully participate in the class. Teachers had expertise both in second language acquisition and effective cooperative learning approaches. Teachers were able to facilitate students working together and staying focused on learning assignments. At Hanshaw, for example, this approach enabled advanced LEP students to obtain full access to mainstream science classes at grade level. LEP students were given extra time within the class to complete lab assignments and make journal entries.

Instructional Support for Transitioning Students. All the schools provided some form of extra support, such as after-school tutorials, for transitioning LEP students who were in mainstream classes for part of the school day. These schools viewed educational development as continuous and provided ways for students to extend, support, and enhance their learning. All the exemplary schools provided some type of after-school program. Some schools also had summer programs that targeted LEP students.

Finding #3.9 Approaches to Newcomers. *The exemplary schools anticipated the arrival of newcomers and included in the design of their programs for LEP students strategies to meet the needs of new immigrants.*

Newcomers are newly arrived LEP students who immigrated to this country after the early elementary grades. While exemplary schools varied in the extent to which newcomers impacted their school, all sites developed proactive approaches to accommodate new LEP students. Depending on the design of the program for LEP students, the exemplary schools either

incorporated newcomers into ongoing programs for LEP students or designed special program components to serve newcomers.

Programs that promote the maintenance of students' primary languages tend to be designed in a way that permits the incorporation of newcomers. That is, because primary language instruction is offered at all grade levels, newcomer students can join existing classes. At the exemplary schools, these programs were supplemented by intensive ESL classes. Exemplary programs that did not include primary language instruction throughout the grades designed special classes receive newcomer students. Some of these special programs are described in Box I-3.7 below. All the special newcomer programs feature small class sizes, allowing teachers to individualize instruction for the newly arrived students.

Another issue confronting some of the study sites was the presence of students with little or no previous schooling. To teach adolescent Haitian immigrants with no prior exposure to literacy, a Haitian-born Creole bilingual teacher at Graham and Parks used Paulo Freire's method of teaching literacy, drawing from students' own experiences and Haitian culture to generate stories. Students created stories orally, wrote the stories, and then read them. He asked students working in a small group to talk about universal human experiences. He asked them, "what do you fear?" He wrote their words on the blackboard. In the next step, they used the 16 vocabulary words they had generated to create a folk tale. Then he wrote it on the board. Through this process, the students began to develop literacy.

Box I-3.7

Exemplary Schools Design Programs to Accommodate Newcomer Students

Wiggs Middle School. In response to continuous immigration, Wiggs placed students into a school-within-a-school that was designed to assist recent immigrants who had been each in the US for up to three years. Within the LAMP school-within-a-school three options were available for students, depending on their English fluency: beginning, intermediate, and advanced. Students were placed at grade level according to their age and non-literate newcomers received an individualized instructional program tailored to the strengths and needs of the student.

Linda Vista Elementary School. Heavy immigration into Linda Vista's neighborhood led to the establishment of an ungraded 'Entry' class in which non-Spanish-speaking newcomers were prepared for entry into the first level of sheltered classes. (Spanish-speaking newcomers were placed directly into bilingual classes.) The Entry class typically has about 12 to 15 students who remain in the class until they meet the language arts standards required for articulation to the next level. Students in the Entry class are integrated with all other students for afternoon activities, including science and electives.

Graham and Parks School. Designed to meet the needs of Haitian newcomers, the Graham and Parks Creole Bilingual Program took in new students based on their age. Students between 9 and 13 years of age were placed into the 5-8 grade Creole bilingual class, which had 25 students and two bilingual teachers.

Finding #3.10 Creating An Atmosphere of Respect and Cultural Validation. *All the exemplary sites worked to validate the cultural and linguistic diversity of the LEP students.*

At the exemplary schools, teachers stressed the importance of communicating their respect for LEP students as individuals and for their culture and language as an important foundation for learning. Teachers honored the students' previous experiences by drawing on them in the classroom. Teachers modeled respectful behavior for students. Susan Kovalik & Associates, the external partner at Hanshaw Middle School, trained teachers to create a "threat-free environment" to reduce anxiety about learning. Because transition to English literacy is an awesome challenge for young people, respect and freedom from threat and anxiety were very important attributes for successful LEP programs.

The exemplary schools embraced the history and cultural tradition of their students as a resource enriching the school environment. They designed their language development programs in ways that incorporated student culture. The school staff included native speakers of the students' primary languages who taught some or all of the academic curriculum in native language. This validation of native language also conveyed status to LEP student culture. School support staff, including clerical staff, counselors, social workers, community/parent liaisons, nurses, etc. also spoke the primary language of the students and were able to communicate effectively with parents in their native language.

Exemplary schools drew from the students' culture, history, and traditions as a source of study. In response to research in the field,[6] and in accordance with their own visions, schools responded to cultural diversity by designing instructional strategies that could accommodate multiple ways of learning. In the exemplary schools, students learned about their own culture, the traditions and history of the United States, and about the other cultures and traditions represented at the school.[7] Examples of the efforts of exemplary schools to draw upon students' experiences and cultural backgrounds are presented in Box I-3.8 on the next page.

Box I-3.8

Exemplary Schools Build on Student Experiences, Make Connections Across Content Areas, and Promote Respect for Cultural Diversity

Teachers at Graham and Parks developed writing assignments that allowed students to make connections to their own experiences. Students read a book about the Pilgrims and the Mayflower, went on a field trip to the Plymouth Plantation, and were asked to write an essay comparing the experiences of the Mayflower Pilgrims to their own experiences immigrating from Haiti. The students saw new meaning in the immigration experience of people who looked much different and lived long ago, but experienced some of the same privations and fears. One student drew a map of the harbor of Port Au Prince, Haiti and the Plymouth Harbor, comparing their shape and configuration.

Teachers at Horace Mann worked to develop a learning environment that valued multiculturalism and multilingualism. The curriculum engaged students in a learning process relative to the context of student lives. School began each year with an interdisciplinary, thematic unit called Awareness Month. The schoolwide curriculum for the month focused on developing student appreciation and respect for diversity. Each grade level had a theme related to Awareness Month. For sixth graders, the theme was "Building Communities;" for seventh graders, it was "Celebrating Diversity;" and for eighth graders, the theme was "Social Responsibility." Families at each grade level implemented the grade level theme in a variety of ways, culminating in a closing performance for the family and/or for the entire school. Artwork and projects developed and completed during Awareness Month were displayed in the hallways of the school.

Chapter I-3 Endnotes

[1] Berman, et al., 1992.
[2] Olsen, 1988, Olsen and Dowell, 1990.
[3] McLeod, 1994.
[4] In an exploratory study of a small number of California middle and high schools, Minicucci and Olsen (1992) found that LEP students were not offered a full academic program in math, science, and social studies in many secondary schools.
[5] For a discussion of this issue, see Cummins, J., "Linguistic Interdependence and the Educational Development of Bilingual Children," *Review of Educational Research*, 1979, vol. 49, pp. 222-251.
[6] Tharp, 1994, Tharp and Gallimore, 1988.
[7] Sleeter, 1994, Cazden, 1988.

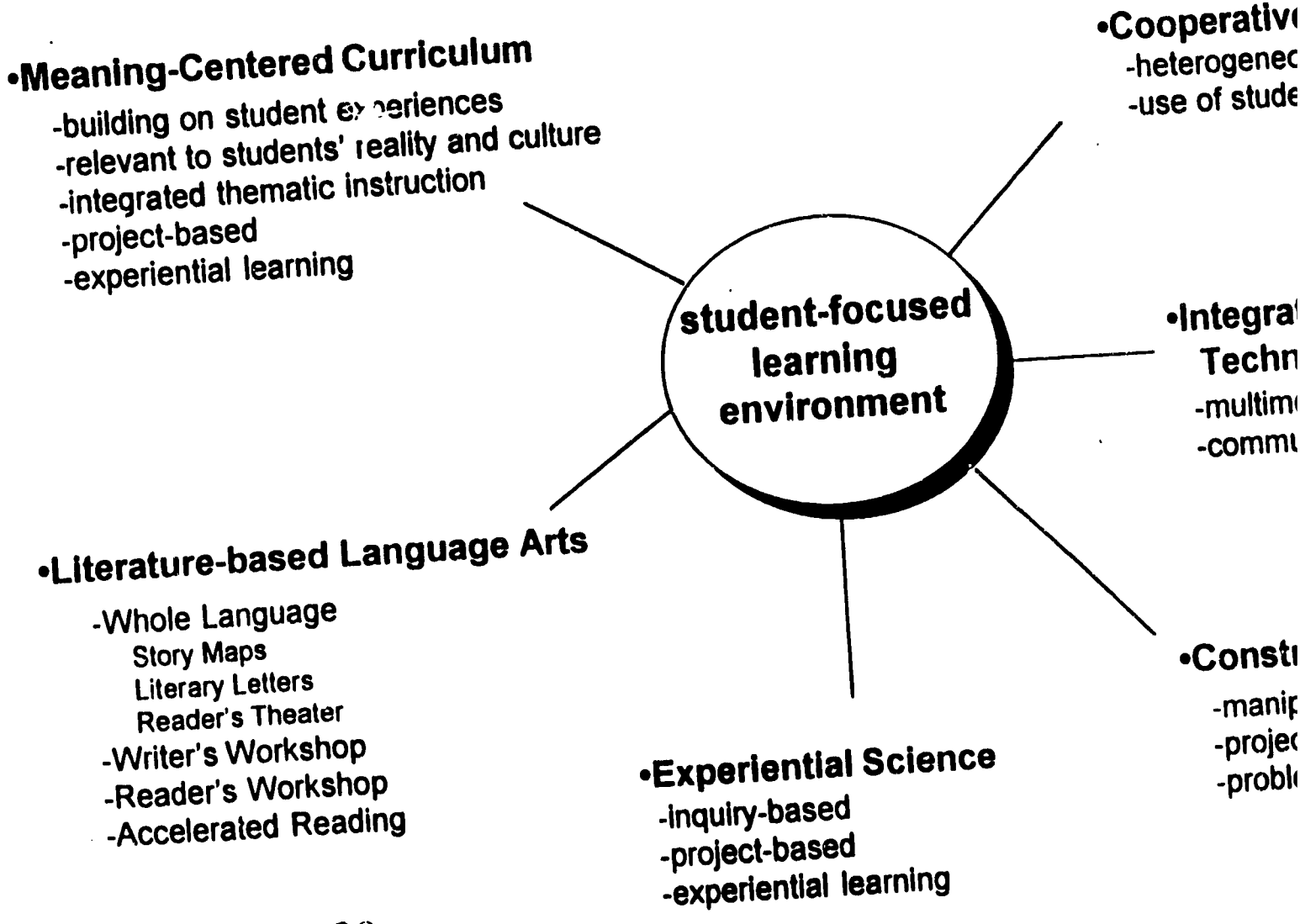
4. High Quality Learning Environments

This study focused on exemplary language arts programs in grades 4 through 6 and exemplary science and mathematics programs in grades 6 through 8 for language minority students in restructured schools. Table I-4.1 shows the curricular areas we examined at the exemplary schools. Their approaches to curriculum and instruction were interwoven with their language development programs and embedded in their school reform efforts. All three—curriculum and instruction, language development program, and school organization under reform—taken together created a high quality learning environment that provided challenging curricula for LEP students. This chapter presents specific findings on curriculum and instructional approaches. The innovative curriculum and instruction for LEP students blended opportunities for active discovery, cooperative learning, a curriculum related to students' experience, and thematic instruction into a coherent whole. Of necessity, the discussion below addresses each of these elements separately, but the reader will notice connections among the elements in the examples provided in text boxes. Strategies that were implemented across content areas are discussed in Findings #4.1 through 4.4. Findings #4.5 through 4.7 address the three curricular areas upon which the study focused—language arts, science, and mathematics. Finally, Finding #4.8 discusses uses of technology at the exemplary sites.

Table I-4.1
Content Areas Studied at Exemplary Schools

School	Language Arts	Science	Mathematics
Del Norte Elementary	X		
Hollibrook Elementary	X		
Linda Vista Elementary	X		
Inter-American K-8	X		
Graham and Parks K-8		X	
Hanshaw Middle		X	X
Horace Mann Middle		X	
Wiggs Middle		X	

Figure I.4-1
Strategies for Creating Engaged Learning



Finding #4.1 Engaged Learning. *Exemplary schools adapted innovative approaches that helped LEP students become independent learners who took responsibility for their own learning. Teachers acted as facilitators for student learning and were not the sole source of information and wisdom. Teachers encouraged students to view one another as resources for learning.*

The exemplary sites adapted innovative strategies for curriculum and instruction to create engaged learning environments that fit the needs of their LEP, as well as non-LEP, students. As part of the adaptation process, the schools adopted the vision of engaged learning, sometimes with the help of external partners (see Section I-6), and selected strategies from a collection of approaches. They adapted these approaches over time to create a unique curriculum and instruction particular to their sites.[1]

Figure 4.1 illustrates common strategies at the exemplary schools. As the figure suggests, the schools created learning environments in which students were the center of the classroom activity. Teachers structured assignments so students could clearly understand what was expected of them. Students collaborated with their peers and teachers within a structure that stimulated discovery and mastery of complex skills. Students explored curriculum content that had relevance to them and the reality of their communities. The curriculum emphasized depth of understanding over breadth of coverage, allowing students to see the natural connections among and within the traditional disciplines. Teachers delivered instruction in ways that encouraged students to approach their studies from different and broader perspectives and to seek more fundamental issues and knowledge. These approaches were true across grade levels and for language arts, science and mathematics.

In sum, the exemplary schools used a series of strategies that might be called engaged learning. These strategies are in line with research on learning.[2] As Healy (1994) explains, "Research on learning has demonstrated that students understand best, remember ideas most effectively, and think most incisively when they feel personally responsible for getting meaning out of what they are learning instead of waiting for the teacher to shovel it in."[3]

To put these innovative approaches into perspective, we can contrast them with the more traditional approaches to curriculum and instruction seen in many schools. The traditional approach has been characterized as a predominately passive form of instruction, in which the teacher is the center of the classroom activities. In this situation, the classroom discourse follows a script in which the teacher asks a question, students respond either verbally or in writing, and the teacher evaluates their answers as being right or wrong. This relatively rigid format may be conducive to the transmittal of discrete pieces of information, but the curriculum content may be

irrelevant to the students' reality and they may fail to make any connections across disciplines. As a result, "students struggle to understand concepts in isolation, to learn parts without seeing wholes, to make connections where they see only disparity, and to accept as reality what their perceptions question."[4] The movement away from traditional approaches requires time and a significant degree of learning-by-doing. Nevertheless, the contrast between the extremes of traditional versus *engaged learning* shown in Table I-4.2 illustrates how far the exemplary sites have progressed toward creating new learning environments.

Table I-4.2[5]
The Traditional versus Engaged Learning Paradigm

	Traditional Learning Paradigm	Engaged Learning Paradigm
Classroom Activity	Teacher-Centered Didactic	Learner-Centered Interactive
Teacher Role	Fact Teller Always Expert	Collaborator Sometimes Learner
Student Role	Listener Always Learner	Collaborator Sometimes Expert
Curriculum Content	Isolated Disciplines Textbook-Based	Integrated Disciplines Reality-Based
Instructional Strategies	Rigid Uniform Modes	Flexible Opportunities for Choice
Instructional Emphasis	Facts Memorization, Breadth	Relationships Inquiry and Invention, Depth
Concept of Knowledge	Accumulation of Facts	Transformation of Facts
Demonstration of Success	Quantity	Quality of Understanding
Assessment	Standardized Tests	Multiple Sources of Data Performance-based, Portfolios
Technology Use	Drill and Practice	Communication, Collaboration, Information Access, Expression

While the case study sites all promoted engaged learning, the process of adapting strategies to local conditions made the implementation of the strategies different at each site. For example, meaning-centered curriculum was a goal at all of the sites, but the implementation of this strategy varied considerably across sites. Table I-4.3 provides a matrix of the major strategies and their implementation at the case study sites. The following discussion of findings includes examples of various approaches at the exemplary sites.

Table I-4.3
How Study Sites Implemented Engaged Learning

	Elementary Grades (4-6)				Middle Grades (6-8)		
	Del Norte	**Linda Vista**	**Hollibrook**	**Inter-American**	**Graham and Parks**	**Hanshaw**	**Horace M**
Meaning-Centered Curriculum	• Project-based learning • Opportunities for hands-on experiences	• Social studies curriculum included the culture and traditions of the home countries of the students	• Work "centers" designed around common themes	• Thematic instruction • Curriculum emphasized the culture and traditions of the Americas	• Curriculum built on student experiences • Opportunities for students to expand their experience base	• Thematic instruction • Curriculum related to students' personal and community experiences • Curriculum included social action component relating to local or global issues	• Integrate project-b learning • Thematic instructi • Respect diversity promote through curricul • Curricul involved action compone relating or globa
Cooperative Learning	• Cooperative learning using heterogeneous grouping	• Cooperative learning using heterogeneous grouping • Use of student as expert	• Students collaborated in pairs and small groups	• Cooperative learning using heterogeneous grouping	• Whole class and small group collaborative activities	• Cooperative learning using heterogeneous grouping • Use of student as expert	• Coopera learning heteroge groupin

Table I-4.3 (cont.)

	Elementary Grades (4-6)				Middle Grades (6-8)		
	Del Norte	**Linda Vista**	**Hollibrook**	**Inter-American**	**Graham Parks**	**Hanshaw**	**Horace**
Literature-based Language Arts	• Whole Language: Reader's Theater, Literary Letters • Writer's workshop • Accelerated Reading	• Whole Language: Story Maps • Literacy development through storytelling	• Writer's workshop • Reader's workshop	• Writer's workshop	n/a	n/a	n/a
Experiential Science	n/a	n/a	n/a	n/a	• Inquiry-based scientific sense-making	• Learn science by observation • Learn science by applying science • Expeditions, experiments, and projects	• Learn s applyin • Learn s observa • Expedi experin and pro
Constructivist Mathematics	n/a	n/a	n/a	n/a	n/a	• Use of manipulatives • Problem-solving	• Proble • Math a curricu
Integrated Uses of Technology	(not integrated extensively)	• Use of multimedia technology as medium for expression	(not integrated extensively)	(not integrated extensively)	(not integrated extensively)	(not integrated extensively)	(not int extens

Finding #4.2 Cooperative Learning. *LEP students in exemplary schools worked in cooperative groups and students became proficient cooperative learners.*

At each of the case study schools, engaged learning environments were created with the use of cooperative learning groups in which four to six students worked together to accomplish a specific learning task. These small student learning groups emphasized collaboration and they were facilitated, not directed, by the teacher. As a result, the students had the opportunity to co-inquire with their peers and their teacher. As a "coach," the teacher offered critical guidance, not answers or solutions.

In the traditional learning paradigm, most instruction is conducted in a whole-class format and most work is completed individually and often competitively. In contrast, cooperative learning resembles the way people work and interact in the workplace and in families. Classrooms organized to make effective use of students' working jointly can better prepare students for more complex environments. Working in cooperative groups allows students greater opportunities to become more active participants in their learning and requires that they assume greater responsibility for their own learning.[6] Cooperative learning strategies are particularly effective with LEP students because they provide valuable opportunities for students to use language skills in a setting that is less threatening than speaking before the class as a whole. Cooperative learning groups promote student language use in relation to a subject area, such as science or math, which serves the dual purpose of enhancing language development and understanding of core content.

At most of the exemplary sites, teachers employed the two fundamental features of true cooperative learning: positive interdependence and individual accountability. Positive interdependence means that members of the group must assume collective responsibility for the group task and must understand that individual members cannot succeed unless the whole group succeeds.[7] Individual accountability means that the success of the group depends on the learning of individual students; each group member must understand that he or she must contribute to the group process.[8]

Study schools used cooperative learning strategies in a number of interesting and creative ways. Teachers skillfully designed, organized, and facilitated work that utilized group strengths, mitigated individual student weaknesses, and engaged the students in actively pursuing knowledge. Often teachers deliberately mixed students with varying levels of English fluency and literacy in a single group so that students who were less fluent could learn from those who were more proficient in English. Teachers often assigned roles to group members for

cooperative activities and periodically rotated those roles. Students were assigned to be facilitator, timekeeper, recorder, etc. and took their roles seriously. The entire class was trained in the process of carrying out each of those roles.

Successful cooperative learning groups require that students have an understanding of process steps and have been prepared for relating to each other with respect. At most exemplary sites, students had multiple years of experience with cooperative learning strategies. By the time they were at fourth grade or above, they were proficient cooperative learners who had mastered the process. Minimal time was wasted in these classrooms in organizing groups for instruction or keeping students focused on the learning assignment. Because students were effective cooperative learners, teachers devoted precious instructional time to productive activity rather than classroom management, discipline problems, or repeating instructions. See Box I-4.1 for a description of a cooperative learning activity at Del Norte Heights Elementary School.

Researchers have attributed a number of academic and social gains to the use of cooperative grouping strategies in the classroom. In the academic domain, researchers have found that cooperative learning produces higher achievement gains than do competitive or individualistic efforts. Furthermore, it is an effective strategy for all types of learning—from memorizing basic facts to performing higher-order reasoning and problem-solving. Achievement gains are higher for heterogeneous groupings than for homogeneous groups. These higher achievement effects hold for all students, regardless of their levels of achievement, gender, or ethnicity. The effects also hold across content areas and grade levels. In the social domain, researchers have reported that participation in cooperative learning groups results in increased self-esteem, as well as more positive attitudes towards classmates and school.[9]

Box I-4.1

Del Norte Heights 5th Graders Collaborate in Study of Eclipse

Fifth grade student groups were assigned the task of designing an exploration of an upcoming solar eclipse. The groups were responsible for designing a device for safe viewing of the eclipse. They were also asked to explore a myth about the eclipse and examine how light from the eclipse might damage the eye. Having learned about the dangers of viewing an eclipse directly, each student group brainstormed for ways of designing a device that would allow them to view the eclipse. The student groups demonstrated their understanding of the physics of designing such a device, the anatomy of the eye, and the possible impact of directly viewing the eclipse.

Finding #4.3 Meaning-centered Curriculum. *The exemplary sites developed meaningful curriculum that made connections across disciplines, built real-life applications into the curriculum, related curriculum to student experience, emphasized depth of understanding over breadth of knowledge, and provided opportunities to construct meaning through a process of active discovery. They often relied on thematic and project-based curricular approaches that related science, mathematics, social studies, and language arts and validated LEP students' cultural and linguistic backgrounds. The themes and projects were developed, assessed, and refined over a period of years by teachers working collaboratively, often together with an external partner.*

Each exemplary school made a concerted effort to make the curriculum content meaningful to their LEP students. Teachers recognized that this effort, in addition to delivering the curriculum through engaging instructional strategies, was the most effective way of drawing out LEP students' intrinsic desire to learn. Meaningful content is critical to the creation of an engaged learning environment in which students develop more in-depth understandings of curriculum content, are able to grasp relationships among disciplines, and have the ability to apply their knowledge.[10] In contrast, typical curriculum divides subject matter into separate fragments and formulas, losing connections across disciplines and to real-world applications.

Memorization of isolated facts and figures is particularly detrimental to culturally and linguistically diverse students whose past experiences are different from those of monolingual English speakers in many communities. Many language minority students, confronted with learning tasks without context, struggle even more than the average American student with learning tasks that are isolated from everyday life. Teachers at the case study sites strove to break the pattern of decontextualized learning by delivering curriculum in a way that has meaning to their students. As the examples in the boxes illustrate, they made connections across disciplines; built real-life applications into the curriculum; related curriculum to student experiences; provided students with hands-on experiences that enable them to comprehend and apply new information; and emphasized depth of understanding over breadth of knowledge.

The teachers in study schools provided opportunities for students to relate the curriculum to their own experiences and to construct meaning for themselves through a process of active discovery. In classrooms at the case study schools, curriculum was framed in a real life, authentic context. Students were assisted in developing integrated understandings of concepts. These approaches were particularly effective with LEP students because they provided an important context for learning and helped students make connections to the curriculum. Box I-

4.2 describes three strategies that exemplary schools employed to make curriculum more meaningful.

Thematic approaches were effectively applied in classes with LEP students. Teachers developed their curricula around coordinated themes that integrated the main content areas—science, mathematics, language arts, and social studies. Themes were taught in English, Sheltered English, and Spanish, depending on the needs of the students. Lessons were designed to help students make connections and achieve deeper understandings of concepts by studying a topic from the viewpoint of various disciplines. At most of the exemplary schools, the organizational structure facilitated interdisciplinary instruction. For example, at Hanshaw Middle School, science and mathematics were taught by one core teacher and language arts and social studies were taught by another core teacher. See Box I-4.3 for a description of a thematic unit used at Wiggs Middle School.

Box I-4.2

Exemplary Schools Implement Meaningful Curriculum

Horace Mann Students Pilot San Francisco's Project 2061 Project-Based Model. At Horace Mann Middle School, 100 8th graders were challenged to create a "non violent community for the year 2000" for their neighborhood in San Francisco's Mission District. The students worked with five teachers and community mentors, such as a Latino architect, who offered particular expertise needed to address the learning challenge. Five groups of 20 heterogeneously grouped students were given a week to develop a non-violent community. Students were challenged to address energy conservation, disposal of human and industrial waste, clean water and air, housing, care for the elderly and the very young, schooling, social institutions, transportation, crime control, and justice. Scale models were presented to the school and community at an open house at which students took turns explaining their ideal community and answering questions. All students got a chance to present during the assembly.

Hanshaw Students Study the Dreams of Immigrants. In Hanshaw's Sonoma House, the year-long theme for the 1993/94 school year was " I Have A Dream," from the Martin Luther King, Jr. speech. The theme focused on people's dreams and how they set about to accomplish those dreams. In one assignment for a Sheltered language arts and social studies core class, students interviewed an immigrant—a parent, relative, neighbor, or friend—about their dreams for living in the United States and their immigrant experience. Students as a class developed the interview questions, then individual students conducted and wrote up the results of their interviews. After completion of the interviews, each student gave an oral presentation of his or her findings to the class.

Inter-American Curriculum Relates to Students' Home Countries. Inter-American tailored its curriculum to fit the cultural background of its students. The curriculum emphasized the study of the Americas and, because many students at the school were African-American, included the study of Africa—especially as African culture has influenced the Americas. Teachers often developed their curriculum around themes drawn from the study of the Americas. For example, fourth-grade teachers used a thematic unit on Mayan civilization as an opportunity to integrate content across curriculum areas. In social studies class, students studied the geographic spread of the Mayan civilization, the Mayan religion, and cultural traditions. In science, students studied Mayan architecture and agricultural systems. In language arts, students read and wrote stories about the Mayans. Finally, an art lesson in which students painted Mayan gods was integrated into the theme by a volunteer parent. The unit began with a visit to the Field Museum to see an exhibit on Mayan culture, architecture, and religion.

Developing themes required intensive work initially, but teachers at the exemplary sites refined and reused themes year after year. The materials used in one year could be repeated and extended in subsequent years with new groups of students. Documenting and reflecting upon the successes and failures of themes were critical to the continuous improvement of thematic curriculum. Box I-4.4 explains how Hanshaw teachers collaborate to develop year-long thematic units.

Box I-4.3

A Theme on Chile Peppers at Wiggs Middle School

Teachers in the newcomer LEP student family developed an integrated unit on chiles. In social studies, students learned about the historic and continuing tensions between Mexico and New Mexico over the chile crop. In mathematics, students made graphs plotting the relative heat of chiles, studied crop yields in different parts of the world and computed yield of chiles by acre. Students developed salsa recipes using fractions, adjusting recipe proportions for smaller and larger batches of salsa. In Spanish class, students read literature about the chile god and composed their own stories extending the myth. In science, students studied chiles during the unit on green plants, dissected chiles and learned about chile seed dispersal.

Box I-4.4

Developing a Thematic Unit: How Hanshaw Teachers Do It

California curriculum frameworks were used as the starting point for the development of Hanshaw's year-long thematic units. For example, teachers used the California state frameworks for middle school science and mathematics as their starting point in developing the mathematics and science elements of a theme. Teachers worked together to plan themes that incorporated the framework topics. They laid out the topics that students are supposed to learn, then brainstormed to develop a theme that would incorporate the required elements from the science, mathematics, social studies, and language arts frameworks. Once they decided on a theme, they developed learning activities, often "sub-themes," that lasted a week, a month, or longer. After the theme was developed and implemented, the teachers reviewed the extent to which the original framework topics were covered. If one area, mathematics for example, was not covered adequately, teachers designed lessons to fill in topics that were missed or superficially covered; they did not force themes to include topics that could not be naturally integrated. Themes evolved over the years—activities that worked were extended and those that did not succeed were dropped. Teachers reviewed the success of the activities at the conclusion of the thematic projects.

Finding #4.4 Literature-Based Language Arts. *The exemplary schools delivered high quality language arts curricula to LEP students. By incorporating literacy development strategies that are used with English-speaking students into bilingual and sheltered English programs, teachers guided LEP students to develop the advanced literacy skills needed for success in later grades. In particular, the exemplary elementary schools employed literature-based language arts curricula that included grammar and phonic instruction. In bilingual programs, students developed literacy skills in English as well as in their primary language.*

The language arts curricula at the exemplary schools focused on developing students' reading and writing skills. Teachers adapted innovative strategies commonly used with monolingual English speakers, such as literature-based curriculum, to the needs of LEP students so they could learn English and develop their native language. Teachers drew on a number of instructional approaches in language arts, including Whole Language, Writer's Workshop, Reader's Workshop, and Accelerated Reading. In addition, teachers embedded more traditional approaches to language arts aimed at teaching phonics and grammar into reading and writing activities. A range of strategies was incorporated into bilingual and sheltered English instruction programs and employed to develop English reading and writing skills as well as to develop literacy in students' primary language when that was a goal of the program.

Whole Language. The whole language movement began in New Zealand, a nation that has led the way for many years in the study of reading and writing. It is based on four key assumptions:

- *Language is used to communicate*: Although this assumption seems obvious, in the traditional classroom, language becomes a subject of study rather than a way of communicating. Unlike real world communication, students have traditionally been asked to state whether a vowel is long or short, to parse a sentence, or to tell whether a particular "g" is hard or soft. Whole Language advocates argue that the study of language isolated from its use becomes meaningless.
- *Children increase their ability to use language by trying to use it:* Again, although seemingly obvious, learning language is a natural activity. Researchers used the analogy of learning to walk in describing language learning. It is assumed that children will learn to walk successfully; praise is given for effort; and perfection is not expected from the start. No one believes that telling a child how to walk will help a child learn. Similarly, proponents of the Whole Language approach argue that success in reading and writing should be assumed, that praise should be provided for effort, and that errors should be tolerated.

- *Children learn to use language better by becoming involved with language that is somewhat more complex than their regular language:* Proponents argue that deliberate simplification of language is counterproductive. Students learn from exposure to real language in context, such as in stories, rather than in the stilted world of the traditional primers that use language as it is not used elsewhere.
- *Children do not increase their ability to use language by being taught about language:* Proponents of the Whole Language approach argue that abstract knowledge about language is not useful in helping students learn to read. Students need to become involved with language in the classroom in a thoughtful and purposeful way, much like natural use outside the classroom.[11]

Study sites employed a rich array of Whole Language strategies, including Story Maps, Literary Letters, and Reader's Theater. As Box I-4.5 on the next page illustrates, each of these strategies incorporated other elements, including cooperative learning and meaningful curriculum. They promoted the LEP students' ability to function as independent learners.

Writer's Workshop. Writer's Workshop teaches writing through an iterative process that involves multiple steps, including development of a first draft, reflection, peer and teacher review, and a final product. Revisions are made after students reflect on their own work, as well as after receiving feedback from their peers and teacher. The following sign providing directions for the process was taken from a second grade bilingual class at Hollibrook:

Writer's Workshop

1. Draft number 1
2. Conference with self
3. Conference with friend, friend signs it
4. Revised copy
5. Teacher edit, teacher signs
6. Final copy book form
7. Share

Teachers at Hollibrook, as well as at Del Norte and Inter-American used the Writer's Workshop to develop students' literacy skills in both English and Spanish. Over time, students became familiar with the Writer's Workshop process. As a result, students knew what was expected of them and were able to function as independent learners. Teachers circulated among the students, asking questions and helping students sharpen their writing. Students' ability to work independently for sustained periods of time afforded individual students the opportunity to work one-on-one with their teacher during the teacher review stage of the process.

While students were permitted to write in the language in which they were most comfortable, they were often encouraged to challenge themselves by writing in English when they felt ready. Teachers coached Spanish-speakers in Spanish about their English writing, helping them to express their thoughts using correct English grammar and vocabulary.

Box I-4.5

Exemplary Sites Implement a Variety of Whole Language Strategies

Story Maps. Students created a map that showed the physical landscape of a book or a story. In the process of creating the map, the students became much more involved in the action of a story than they would have by only reading it. Students were also required to understand sequencing because they were asked to represent the chronological action of the story in a spatial arrangement.

In one of the exemplary classrooms, students were engaged in a complex example of the use of a story map. The class of middle school students had been learning English for less than a year. The class was reading *Sarah, Plain and Tall* and as part of a cooperative learning assignment, students were asked to identify Sarah's path across the country. Each group selected a state through which Sarah traveled as she moved from east to west across the country. The group traced the path through the state, identifying the site of major action in the book. In addition, students were responsible for learning about the state's demography and economy, both at the time of the story and at present.

Literary Letters. Students wrote a letter to a character in a book to encourage the students to draw inferences from the story and to promote understanding the character's motivations. In one of the exemplary classrooms, students were asked to write a letter from James to his aunts in the novel *James and the Giant Peach*. The assignment required students to understand the nature of the interaction between James and his aunts. The students were to explain why the aunt's treatment of James was upsetting and to give the aunts reasons why they should treat James better.

Reader's Theater. Students used dramatic interpretation to make part of a story come to life. A group of students stood or sat together and delivered lines of dialogue from the text. A moderator read the narrative portions. Dramatization of a story helps develop greater comprehension for both the actors and the listeners. Students were asked not just to identify with a character but to become that character. In one of the exemplary classrooms, students in a bilingual class used the Reader's Theater process. Students who were learning English were the actors in the Reader's Theater and presented the story to their classmates using the techniques of dramatic reading. The teacher served as a guide to the story, asking the actors to pause occasionally in their reading of the narrative to ensure that all students were understanding the text.

At Del Norte fourth graders in a bilingual class read *James and the Giant Peach* in English if they were able to do so; the recent arrivals read it in Spanish. All students had read the book. The teacher first discussed themes in the book for the Spanish readers separate from the English readers. The teacher asked students in one cooperative group to perform a portion of the book in a Reader's Theater for the entire class, and assigned each student a role. Students enacted a scene from the book, reading in English. The teacher asked the students in English to describe what happened in the scene, and what they thought the characters might feel about different aspects of the story. Throughout the discussion with the entire class, the teacher asked some of the same questions in English that she had previously asked the small group in Spanish.

Reader's Workshop. Like the Writer's Workshop, this strategy encourages students to work independently, to be reflective, and to consult with peers. It outlines a process for thoughtful

reading and enhanced comprehension. Box I-4.6 provides an example of the Reader's Workshop as implemented at Hollibrook.

Accelerated Reading. Accelerated Reading is a program developed at the University of Wisconsin designed to increase student reading and comprehension. At Del Norte, students chose a reading goal e ry si x weeks and read that number of pages in books they selected. Reading was done outside of class and could be done in Spanish or in English. Students gradually increased the goals they set for themselves from 300 pages in six weeks to 900 pages in six weeks. To receive credit for pages read, students took a computer-based comprehension test on each book. The computer maintained a cumulative record for each child. Demand for books from the school library escalated during the year. Teachers found that students were engaged in their reading and were willing to try increasingly sophisticated books. Del Norte's third through sixth graders participated in Accelerated Reading. Teachers felt the program increased reading comprehension, love of reading, and exposure to a wide variety of experiences through books.

Box I-4.6

4th Grade English Language Learners Engage in Readers' Workshop

Students in Hollibrook's fourth grade bilingual class engaged in a collaborative reading process called Reader's Workshop. The students, who were developing English literacy, were reading *Where the Broken Heart Still Beats.* A chart hung from the ceiling delineating the Reader's Workshop process:

Reader's Workshop
Express punctuation
Ask the meaning of words
Summarize
Use personal experience
Talk to yourself
Guess
Make predictions
Talk about your feelings (about the book)
Make connections

The list of steps was generated by students during a whole-class brainstorming session. It is added to as students learn new strategies. Working in pairs, students read aloud to one another and discussed reading strategies. The students in this class had been together with the same teacher since kindergarten; as a result they were expert cooperative learners and understood what was expected of their Reader's Workshop. The Reader's Workshop process helped students to develop their reading comprehension skills and gave them opportunities to express their ideas and thoughts about their reading.

Finding #4.5 Experiential Science. *Exemplary schools established high standards in science learning for LEP students and used new curricular and instructional approaches to science learning consistent with school reform. These approaches:*

- *included thematic and project-based science learning;*
- *were offered in the primary language or in English with primary language support;*
- *were effective for LEP students at different stages of development of oral, reading and writing skills in English;*
- *were either taught in the primary language employing (1) appropriately qualified teachers who were fluent in the students' native language and (2) learning materials available in the primary language; or taught using Sheltered English strategies by (1) appropriately trained teachers who often were fluent in the students' native language and where (2) learning materials were suited to sheltered strategies.*

Innovative science programs have been found to effectively involve LEP students in learning about science in hands-on experiential ways. Highlights of the science instruction seen in study sites at the middle grades included scientific sense-making through instructional conversation and students actively engaged in expeditions, experiments, and projects.

Fundamental change in science instruction is consistent with school reform. Reforms in science education call for students to learn the scientific method through application: by performing experiments, observing natural phenomena, and formulating conclusions based on scientific evidence. Students learn that there is not necessarily one right answer but rather many ways to reach many right answers. They discover that teachers are not the sole source of wisdom for them; they can also learn things for themselves, with their peers, or through systematic observation. Science is exciting for students when taught in a hands-on experiential way.

The study sites described in this study are unique in their approach to science with LEP students. The schools in this study offered stimulating science instruction that was comprehensible to LEP students, either by offering it in their primary language or in English using sheltered techniques. All the grade 6-8 schools succeeded in having LEP students participate fully in science, including laboratory experiences. The exemplary nature of the case study schools is particularly outstanding in contrast to Minicucci and Olsen's finding[12] that most schools do not teach grade level science to LEP students at the secondary level.

At the exemplary sites, students discovered scientific principles, honed their powers of observation, and learned first-hand application of the scientific method. TERC's program with

Creole speakers was especially noteworthy in this regard. Teachers used a method called "science talk" in which all students gathered in a circle and discussed a pre-arranged topic relating to findings in their experiments. Science talk allowed students to guide the discussion, develop topics, argue evidence, explore their findings, and formulate additional questions which would be explored in the next set of experiments. The teacher played a facilitative role, while allowing students to lead and introduce relevant topics. An experiential science lesson used at Hanshaw is described in Box I-4.7.

Faculty at exemplary schools who implemented innovative science curricula for LEP students were trained in second language acquisition. Teachers who taught in the primary language were fluent in the students' primary language. In most cases, teachers who taught science to LEP students using sheltered instruction were also fluent in the students' primary language. Teachers at exemplary schools, and the external partners working with them, reported that science lessons provided excellent language development opportunities for LEP students.

Advanced LEP students were effectively mainstreamed into science classes taught in English with certain adaptations. Adaptations to the learning environment seen in exemplary schools included: 1) clustering a small group of LEP students who spoke the same primary language in

Box I-4.7

Students Collaborate in Hanshaw Science Class

Eighth grade students at Hanshaw Middle School studied salinity and temperature in currents in a fully equipped science lab. Of the 31 students in the class, eight were LEP students. The teacher asked each student group to select one person to gather equipment, and directed the students to take notes on the results so they could answer questions. The teacher reminded the class that they had resources other than the teacher—the lab sheet and others in their group. If questions remained after those sources had been consulted, she would be glad to help.

The students were accustomed to working in groups and were comfortable dividing up tasks. The teacher moved from group to group asking students to consider their results from various perspectives. "What do you think will happen?" "Why do you think they are not mixing?" "How is this experiment like the salinity one?" "What do the two experiments together tell us about the ocean?"

LEP students in the class were concentrated in two of the groups. At least one student needed help in Spanish and another student in the group translated the directions or answered questions in Spanish. The groups with LEP students performed the experiments as proficiently as the non-LEP groups, but they needed more time to answer the questions and they consulted more with their peers than did the native English speakers. Though the teacher spent time with each of the groups, she spent a little more time with the groups that included LEP students.

the mainstream English class and allowing the students to clarify meaning for each other in the primary language in cooperative groups; 2) employing teachers trained in second-language acquisition to teach mainstream science classes that included advanced LEP students; 3) using a paraprofessional fluent in the students' primary language to accompany transitioning students into mainstream classes; and 4) allowing transitioning LEP students to sit through the class during a different period to hear the same lesson a second time.

Finding #4.6 Constructivist Mathematics. *Constructivist and project-based approaches to learning mathematics were effective with LEP students where they were implemented and were offered in the primary language or in English with primary language support. However:*

- *Exemplary schools, with some exceptions, had fewer high quality learning environments in mathematics than in science.*
- *Exemplary schools, with some exceptions, did not have external partnerships to work on math with the same frequency as they did with science partnerships.*

Exemplary math instruction for LEP students was found in schools in which teachers relied on constructivist and project-based approaches in teaching mathematics to LEP students. Constructivist learning environments are those in which "students search for meaning, appreciate uncertainty, and inquire responsibly."[13] Although constructivism is a major underpinning of many current reforms in mathematics education, such environments are rare in American schools.

The National Council of Teachers of Mathematics (NCTM) in 1989 promulgated standards for mathematics instructional reform. NCTM set forth the following goals for students: "that they learn to value mathematics, that they become confident in their ability to do mathematics, that they become mathematical problem-solvers, that they learn to communicate mathematically, and that they learn to reason mathematically."[14] NCTM endorses the constructivist approach to mathematics teaching and learning in which students discover multiple ways to solve problems and the teacher becomes a facilitator of student learning and discovery rather than the imparter of knowledge to passive learners.

In contrast are learning environments in which teachers dominate "learning" through lecture and direct instruction. In such cases, curriculum tends to be textbook-driven, leaving little room for students to construct meaning for themselves. In another Studies of Education Reform

Project funded by OERI, the Curriculum Reform Project, a review of the literature on reform in science and math curriculum identified the weaknesses of math teaching in the United States.[15]

> "[M]any students learn that mathematics is a disconnected set of rules, produced by others, that must be memorized so that correct answers to irrelevant exercises can be obtained...[Students] take a passive role in learning information over which they have no control."

At some of the exemplary sites, teachers adopted a constructivist and problem-solving approach to mathematics instruction. Teachers at these sites applied the NCTM approach to the learning of mathematics for LEP students. The middle school study sites, particularly Hanshaw and Wiggs, were moving toward a more constructivist approach to learning mathematics. Instructional approaches in use at the schools included the use of manipulatives and other authentic material as a part of the curriculum. Schools were also beginning to use thematic units and project-based learning as a way of linking mathematics instruction to the real world experiences of their students, this was particularly true at Horace Mann. These strategies also engaged students in problem-solving activities, often requiring students to come to multiple solutions to a particular problem.

The exemplary schools experienced difficulty in finding ways to deliver challenging content in mathematics in a real-world context. At Wiggs, for example, teachers of newcomer students integrated manipulatives and authentic material as a part of their mathematics curriculum, but often needed to teach basic mathematics content that students had not mastered prior to coming to this country. The goal was to have students operate at grade level in mathematics, but teachers had to deal with the tension between that goal and ensuring that students have a sound foundation in mathematical principals to build on for further study. Teachers at the exemplary schools reported that it was often difficult to include enough mathematics in thematic units to provide for appropriate grade-level coverage of mathematics. A particular challenge for faculties was to create opportunities within thematic units to integrate mathematics. Teachers reported that sometimes after the completion of a thematic unit, they still needed to go back and do direct instruction in math to ensure that students had mastered the concepts. Box I-4.7 describes an example of constructivist mathematics instruction.

Finding #4.7 Integrated Use of Technology. *Some of the exemplary schools used technology in the classroom to build knowledge and facilitate communication. Technology served as a medium to promote thinking, creativity, and self- directed student learning of*

complex tasks. However, most of the exemplary schools did not use technology extensively with LEP students.

At the sites where technology was used to enhance the engaged learning environment, it was used as a tool to facilitate collaboration, expand the possibilities for accessing information, and provide an additional medium for expression. These uses marked a significant deviation from the more common use of technology—for drill and practice exercises—that occur at the periphery of the learning environment.[16]

Some exemplary schools used technology in a meaningful, integrated context to enhance student learning. At these sites, students engaged in a self-directed learning process that involved complex, thought-provoking activities. Technology was used as a learning tool to build knowledge and facilitate communication. It served as a medium to promote thinking and creativity. The curriculum was project-based and relied on technology as a constructive tool. The roles of the students and teachers shifted and the interactions changed in these technology-rich learning environments. Teachers and students became collaborators in an environment in which both teachers and students were learners and experts. This type of learning environment is compatible with the principles of education reform and instructional strategies that are effective with LEP students.

In contrast, many applications of technology are often either too passive or are centered on transmission of information rather than on the process of active discovery. Technology is often not well integrated into learning activities. It is used most frequently as an add-on for "drill-and-practice," preempting complex problem-solving, critical thinking, or collaboration. Often, students have access to engaging stand-alone software packages, offering computer-assisted instruction that requires problem solving and critical thinking, but the use of the software is peripheral and is not incorporated into the core learning activities. In such cases, technology is often removed from the classroom and relegated to a computer lab.

Linda Vista Elementary School and Wiggs Middle School used technology in powerful ways. Both schools integrated it into instruction and made it a regular part of students' learning experiences. Linda Vista was most advanced in its use of hypermedia applications, such as *HyperCard* (see Box I-4.8). Wiggs made effective use of on-line, interactive networks (see Box I-4.9). Both Wiggs and Linda Vista, as well as other case study sites, used additional technology applications (i.e., word processing, spreadsheet, and graphic programs) as tools for learning; these programs were used in classrooms in conjunction with the regular curriculum and in separate "computer literacy" courses taught in a computer lab.

The application of technology to promote meaningful, engaged learning is highly dependent on the approach and skill of the teacher. Teachers at Linda Vista and Wiggs were well-trained and believed in technology as a tool to help them facilitate student learning. Both schools were involved with external partners who provided training in the form of in-class coaching and intensive teacher practicums.

Box I-4.8

Students at Linda Vista Compose Multimedia "Book Reports"

Teachers at Linda Vista made remarkable use of *HyperCard*, a software application that contains a database of graphics, text, and sound and is used to create multimedia compositions. They used the technology as a tool to support their curricular objectives and instructional strategies. The technology facilitated the learning process and was applied in ways that excited LEP students about writing and producing oral language. For example, in one lesson students were working on a "book report" which, through the use of *HyperCard*, quickly became a dynamic, multimedia composition produced through the collaboration of the whole class working in cooperative groups of three or four In this cooperative group setting, multimedia technology allowed students to serve as experts in their areas of strength. Groups at Linda Vista typically had a complementary mix of students with respect to academic strength, computer skills, and English fluency. Technology was used to facilitate the teachers' goals of providing hands-on, self-directed, student-centered learning. In addition, students were engaged for sustained periods as they worked alone or in cooperative groups on the computer, which freed teachers to work one-on-one with students who needed extra support.

Box I-4.9

Wiggs Students Cross the Country on the Information Highway

At Wiggs, students accessed and analyzed data through on-line computer networks. In oneclass, the teacher made technology part of an integrated ESL lesson. The students read *Sarah, Plain and Tall* and worked in groups to extend their learning from the book. The story described Sarah's journey across the country; one of the activities involved learning about the states through which she traveled. A group of students used an on-line database to gather information—relating to population, industry, geography, etc.—on the state they were studying. The process of gathering information on-line provided students with immediate access to up-to-date information. They could easily pursue a specific branch of information, and could manipulate and analyze data. Students were highly engaged in the classes in which they were working on-line, and their work had a direct connection to the class' core curriculum.

Chapter 4 Endnotes

[1] This process involves mutual adaptation in which the instructional approaches are adapted to the site and the site adapts to the strategies. See Berman and McLaughlin, 1978.
[2] Cazden, 1988; Garcia, 1991; Healy, 1990; Tharp and Gallimore, 1988; Vigotsky, 1978.
[3] Healy, 1990.
[4] Grennon Brooks and Brooks, 1993.
[5] Dwyer, 1994.
[6] Johnson, et al., 1981 and 1990; Roy, 1990; and Slavin, 1990.
[7] Johnson, Johnson, and Holubec, 1990.
[8] Roy, 1990.
[9] Slavin, 1990; Johnson and Johnson, 1989.
[10] See Brady, 1989; Bruner, 1986; Katz, 1989; Havighurst, 1976; Kovalik and Olsen, 1994.
[11] Johnson and Louis, 1989; Goodman, 1987.
[12] Minicucci and Olsen, 1992.
[13] Grennon Brooks and Brooks, 1993.
[14] NCTM, 1989.
[15] Anderson, 1994.
[16] Collins, 1990; David, 1991; Dwyer, 1994; Means, 1994.

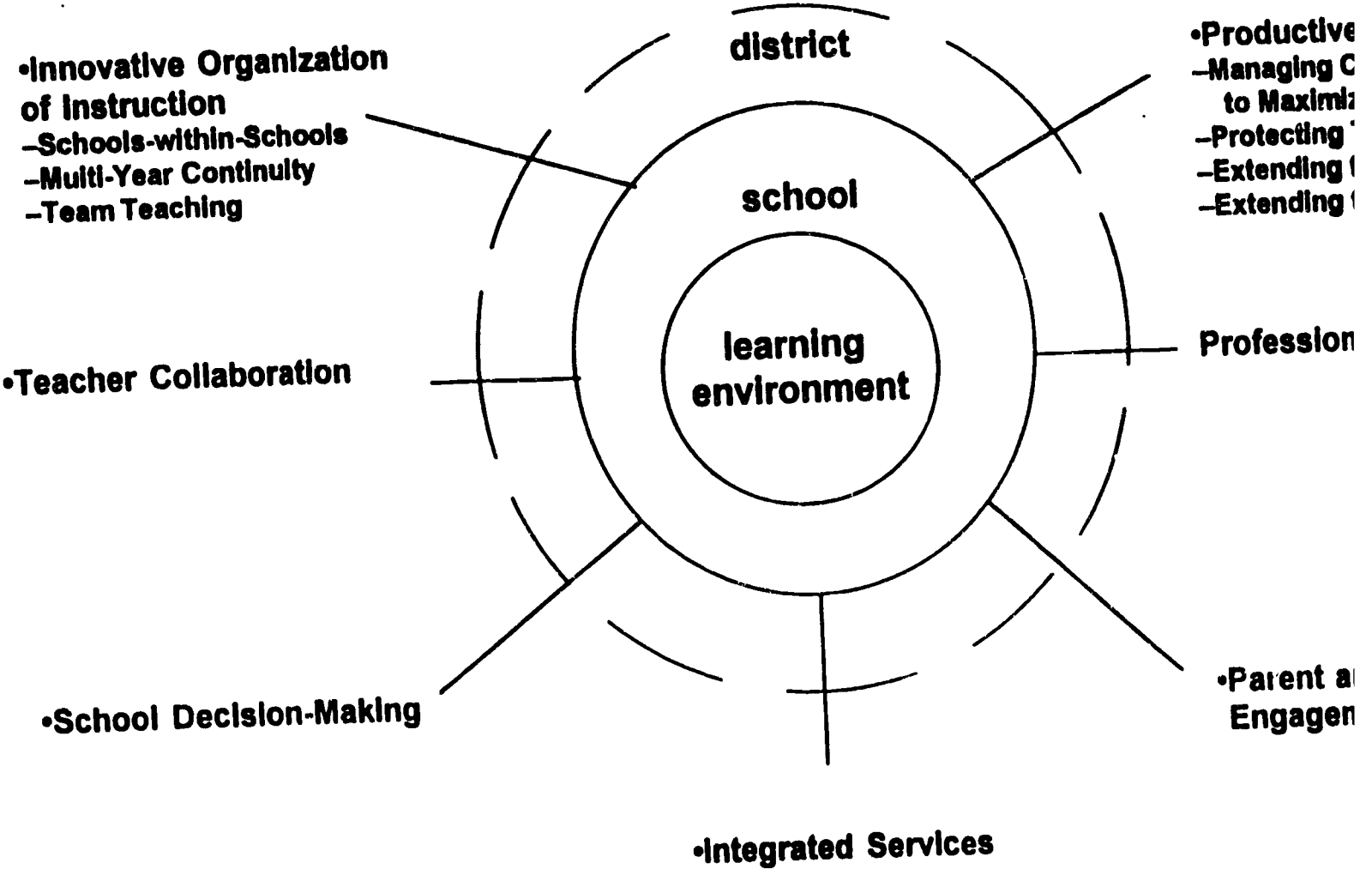
5. School Culture and Structure that Support High Quality Learning Environments for LEP Students

The previous section examined ways in which the exemplary schools implemented high quality learning environments to assist LEP students in learning challenging content in language arts, math, and science, while becoming literate in English. The development of innovative approaches to curriculum and instruction at the sites took place in the context of broader school reform. This section describes how the exemplary schools reinvented their culture and structure to support those high quality learning environments.

This process of reinvention is referred to in the reform literature as *school restructuring*, a term with multiple uses that have partially obscured its meaning. Restructuring requires fundamentally changing the way schools have traditionally been organized and how they have operated.[1] Staff at each of the exemplary schools were engaged in a continuous process of restructuring, rethinking the school's basic organization and structure to support and enhance the education of LEP—and all—students. The changes fundamentally affected the school's culture—the school values, the ways students learn, the role of teachers, the school's relations with parents and the community, and the school's overall goals. At the exemplary sites, the process of cultural change was evolutionary but nonetheless profound. The culture at these schools has taken on a completely different character from that of more traditional schools.

Though no two exemplary sites developed identical school reforms, each site departed significantly from the traditional ways that schools are organized and operate. Elementary schools have been traditionally organized into self-contained classrooms with teachers who are unconnected with other teachers. At the middle school level, schools have typically been organized into large, impersonal units that isolate both students and teachers. In terms of scheduling, schools commonly fragment the day into short, 45- to 55-minute periods, a practice that makes it difficult for teachers and students to engage in in-depth learning activities.[2] Administration and decision making have almost always been top-down processes dominated by an often distant district office, a structure that offers little opportunity for meaningful involvement of teachers, parents, or the community.[3] In fact, parents have very seldom been encouraged to play any type of significant role in the education of their children in the traditional setting.[4] In terms of services, schools have traditionally treated a child's educational needs separately from their needs for adequate health and social services.[5] Finally, many traditional schools, particularly those in urban areas, have not been seen as a focal point of their neighborhoods or communities.

Figure I-5.1
Elements of School Restructuring



The exemplary schools created organizational structures and ways of operating that permitted them to make significant departures from the norm. Figure I-5.1 identifies key elements of restructuring implemented at the exemplary sites. These categories do not comprise a comprehensive list of all reform activities undertaken by the schools; rather, they represent those restructuring elements that were the most mature at the time of our field visits and best supported the learning environment for LEP students in the exemplary schools. Table I-5.1 briefly describes how these categories of restructuring were implemented at each of the exemplary schools. As the table shows, no school had implemented all elements of restructuring in the same way. This variation is not surprising The traditional school structure was cast in a rigid mold, varying little from school to school or location to location throughout the country. In breaking this mold, it would neither be desirable nor possible for schools to recreate a single, uniform structure. Instead, the exemplary schools were involved in a process of creating schooling that best fit their own students, teachers, and communities as they sought to develop high quality, engaged learning environments for LEP students.

How these schools varied in their implementation of similar restructuring elements is a fundamental research question. In answering this question, this study describes an empirical range of options available to schools undergoing systemic reform. The remainder of this section states findings about how schools implemented these elements of restructuring to enable LEP students to learn challenging content in language arts, math, and science, while becoming literate in English.

Table I-5.1
How the Study Sites Implemented School Restructuring

	Elementary Grades (4-6)				Middle Grades (6-8)		
	Del Norte	**Linda Vista**	**Hollibrook**	**Inter-American**	**Graham and Parks**	**Hanshaw**	**Horace M**
Organization of Schooling	n/a	• Developmental, ungraded wings	• Continuum classes • Team teaching	• Collaboration within same grade level	• Multi-grade class (4-8) • Team teaching	• School-within-a-school: Houses • Integrated core courses	• School-wi a-school: Families
Productive Uses of Time	• Block scheduling • After-school tutoring • Summer school	• Block scheduling • After-school tutoring • Year-round schedule	• Extended block of time for language arts • After-school tutoring	• After-school tutoring	• Block scheduling • After-school tutoring	• Block scheduling • After-school tutoring	• Block schedulin • After-sch tutoring
Teacher Collaboration	• Cross-grade and within grade level planning	• Teacher collaboration within wings • Weekly minimum days for joint planning	• Team teaching	• Common planning time for teachers	• Daily common planning time for teachers • Team teaching	• Daily common planning time for teachers	• Daily con planning for teache
Professional Development	• Extensive professional development based on assessment of needs	• Extensive professional development supported by relationships with external partners	• Professional development focusing on language development	• Weekly professional development activities	• Professional development	• Intensive, long-term professional development through relationship with external partner	• Extensive professio developm supported state restructur grant and external partnersh
School Decision-Making	• Committee-based decision-making	• Committee-based decision-making	• Inquiry method implemented by cadres	• Committee-based decision-making	• Committee-based decision-making	• House-level administration and decision-making • Parent nd community inpu on school-wide decisions	• Committe based dec making, a by comm council

Table I-5.1 (cont.)

	Elementary Grades (4-6)				Middle Grades (6-8)		
	Del Norte	**Linda Vista**	**Hollibrook**	**Inter-American**	**Graham Parks**	**Hanshaw**	**Horace Ma**
Parent, Community Engagement	• Extensive parent education, outreach, and involvement	• Parent and community outreach	• Extensive parent education program • Collaboration with the community outreach	• Extensive parent involvement in governance and learning activities	• Parents involved in governance	• Extensive parent education program • Parent and community involvement in decision-making	• Parent involvemer through community council
Integrated Services	• Proactive student counseling	• Referrals made by community liaisons	• On-site social services and referrals via social workers	• Referrals to community social service organization	• Extensive counseling program • Referrals for health services	• Comprehensive integrated services via Family Resource Center	• Referrals t community based soci service providers

Finding #5.1 Innovative Organization of Schooling. *The exemplary sites restructured their schools into smaller schooling units that enabled teachers to work collaboratively to:*

- *implement curriculum and instructional strategies such as cooperative learning, meaning-centered curriculum, and project-based and thematic instruction;*
- *understand each LEP student's strengths, experiences, and cultural background;*
- *use innovative grouping approaches such as ungraded and developmentally appropriate classes, or keeping the same students with the same teacher over four or five years;*
- *incorporate newcomer students more easily; and*
- *integrate LEP students with English-speaking students and promote flexible transition strategies.*

The exemplary schools created organizational structures that allowed for increased interaction between teachers and students and produced significant pedagogic advantages, particularly for the education of LEP students. The following discussion describes these organizational structures.

Schools-within-Schools. One of the case study elementary schools, Linda Vista, and three of the middle schools, Hanshaw, Horace Mann, and Wiggs restructured their schools into a number of smaller organizational units or "schools-within-schools." At Linda Vista, the school was divided into four instructional "wings" that included LEP and monolingual English students. The schools-within-schools at the middle school level were called "families" at Horace Mann and Wiggs and "houses" at Hanshaw. Within these smaller units, involving, for example, about 100 students and four teachers, the teachers worked as teams and were thus able to maintain close communication. They planned their curriculum and thematic units together and sometimes taught as teams. All of the remaining study sites had some form of more informal sub-school structures.

Linda Vista's instructional wings provided four ungraded units, each of which spanned two or three traditional grade levels, with one wing for each major developmental progression from early childhood up to middle school. The wing structure allowed the school to break the rigid age/grade structure and respond appropriately to the developmental needs of individual LEP and other students. The structure was particularly effective for Linda Vista's multilingual LEP student population; it enabled the school to place students into groups within a wing according to

their primary language and previous schooling and to advance students as they learned and developed. See Box I-5.1 for more detail on Linda Vista's developmental wings.

The three exemplary middle schools created smaller units within the larger structure of what might otherwise have been a large, impersonal middle school. Traditionally, students move from elementary schools with small, self-contained classrooms to a junior high school structure that calls for students to make a sudden leap to a great deal of autonomy and independence. Typical junior high schools are organized like high schools, with a departmentalized administrative structure, 45- to 55-minute class periods, students who see a different teacher each hour, and teachers who see up to 200 students per day. In this environment, students move from one subject matter class to another with very little connection between the classes, and little opportunity to establish meaningful relationships with adults. However, research shows that students making the transition from elementary school to junior high school—as well as the transition from childhood to the teenage years—need a more intimate and interconnected school structure. Both teachers and students benefit from the smaller organizational units as faculty can get to know their students much better than they ordinarily would in the traditional junior high school organization and students can benefit both academically and socially from being known and cared about.[6]

Box I-5.1

Linda Vista Elementary Developed Ungraded "Wings"

All students at Linda Vista were placed into one of four developmental wings—early childhood, primary, middle, and upper. Each wing spanned two to three grade levels. The wings, rather than the classroom, served as the organizer for instruction. Students spent the full day in their wing and were grouped and regrouped to respond to their needs for specialized language instruction and for integration with other students in the wing. For example, during their two-hour morning language arts block, students were grouped with other students with similar language development needs. As students developed their language skills, they progressed through Linda Vista's continuum of increasingly advanced language arts classes. Students were regrouped for social studies based on their home language and regrouped again for mathematics based on mathematics proficiency. Finally, students spent the afternoons in heterogeneous groups for science instruction. The structure allowed teachers to serve LEP students in a manner appropriate to their level of language development without isolating them from their peers. Within each wing, teachers worked together to coordinate curriculum and plan joint activities.

The exemplary middle schools implemented the idea of a smaller schooling unit in the form of "families" or "houses" that differed somewhat from school to school in the way they were organized, in the number and types of classes students took within the smaller units, and in the way students—particularly LEP students—were assigned to those units. (In designing their schools-within-schools, the middle schools were influenced by the demography and needs of its student population, input from parents and the school community, and the available human and fiscal resources.) Smaller units allowed faculty to interact more closely with a smaller number of students; LEP students consequently benefited from their teachers' in-depth familiarity with their individual language development and academic needs. Not surprisingly, LEP students also felt more connected as a community and they responded with increased motivation marked by improved attendance and higher grades. The staff also benefited. They had more opportunities to work collaboratively with other teachers across disciplines, to develop and implement a meaningful curriculum, and to get to know their students. Given the complexity of educating LEP students, especially preparing them for transition into full English instruction, this increased teacher collaboration and contact appeared to have direct pedagogic benefits in strengthening the high quality learning environments described in the preceding section. Smaller organizational units also fostered enhanced parent-teacher relationships. See Boxes I-5.2 and I-5.3 for descriptions of specific elements of the school-within-a-school structures at the exemplary middle schools.

Box I-5.2

Horace Mann "Families" Provide Structure for LEP Student Program

Horace Mann's family structure grew from a schoolwide vision that included a revamped curriculum and a renewed focus on student achievement. One goal of the family structure was to create smaller units where faculty could take responsibility and be accountable for an identified group of students. Horace Mann's 650 students were organized in six families, two at each grade level. Students took all of their core classes, and some of their electives, with their family. Some electives were taken outside the family structure on a schoolwide basis. Within Horace Mann's families, students were clustered into strands of about 25 students each; strands were the typical unit of instruction in which students stayed together for their core courses. The strands allowed the families to accommodate LEP students easily into the families. There were one or two Spanish bilingual strands per grade level allowing LEP students to have instruction in Spanish *and* to be a part of a larger unit that facilitates contact with their English-only peers. The strand structure also allowed the school to cluster their bilingual teachers.

Box I-5.3

Hanshaw "Houses" Provide Link to University Campuses

Hanshaw's houses were affiliated with campuses of the California State University (CSU) system and students strongly identified with their house and the campus. The link to the CSU campus served two important functions. First, the relationship with the colleges was intended to raise the sights of the students, many of whom—especially the LEP students—were from families where no one had gone to college. Each CSU campus that sponsored a house provided an annual activities day for Hanshaw students. Students visited the campus, met with college students from similar backgrounds, attended special classes taught by faculty members, and participated in a ceremony to mark the event. Most Hanshaw students had never been to a college campus and the visits served to strengthen their identification to their house.

Second, the CSU link was designed deliberately to give students something to belong to—an alternative to gangs. Gangs were a problem in the community and school staff identified student need for a positive alternative to gang identification. The house system provided that alternative.

Multi-year Continuity. Three study schools, Hollibrook, Graham and Parks, and Linda Vista designed classes that allowed students to remain with a single teacher or teachers for more than one year. This design built more sustained teacher-student, teacher-parent, and student-student contact, over time, into each student's program. Students had more stability and teachers were able to provide greater individualization. Teachers reported that the benefits of keeping students together included increased opportunities for parent involvement and greater opportunity for students to learn what was expected of them in a particular class and how to be productive members of cooperative learning groups.

At Hollibrook, continuum bilingual classes were formed at kindergarten and the students remained together with the same teacher until third or fourth grade. (See Box I-5.4 for more on Hollibrook's continuum classes.) Graham and Parks used ungraded combined classes in which

Box I-5.4

At Hollibrook, LEP Students Stayed with the Same Teacher for up to Five Years

Hollibrook Elementary School staff responded to the research on student development and the need for a consistent relationship with a caring adult by implementing continuum classes in which students remained with the same teacher from kindergarten through third or fourth grade. One goal of the strategy of these continuum classes was to provide a sense of continuity for students whose lives outside school were characterized by instability. In these classes, students, teachers, and parents got to know one another very well. Gaps in learning from one grade to the next were eliminated because the teacher knew what was accomplished by the class as a whole and by individual students in the previous years. Finally, continuum classes offered unique advantages to students learning English. Transition to English literacy could be tailored to meet the needs of individual students and teachers had the advantage of gaining an understanding of the needs of individual students over a period of years.

students were grouped together for several years with the same teacher while they learned English. At Graham and Parks, each bilingual class spanned at a minimum two grade levels. In the upper grade Creole bilingual program, four grades were combined into one class with two teachers.

Team Teaching. At both Hollibrook and Graham and Parks, teachers delivered instruction in teams. At Hollibrook, teamed classes were composed of both English and Spanish dominant students, allowing the students to be grouped and regrouped according to the activity. As a result, LEP students might have been grouped together for language arts instruction, but had opportunities to interact with English-only students during other times of the day. When team teaching was combined with the continuum approach, it allowed teachers to work together for several years and become a proficient team.

Graham and Parks' 5th through 8th grade class for Haitian LEP students was team-taught by a native Creole-speaking bilingual teacher and an English-as-a-Second-Language teacher. The learning environment was significantly enhanced by the complementary strengths the two teachers brought to the class. The Creole-speaking teacher used only Creole in the class, while the ESL teacher served as the English-language role model.

Inter-American employed a different model of team teaching, one in which teachers delivered instruction as a team on a periodic and flexible basis. Teachers at Inter-American collaborated and shared students within each grade level. At times, this coliaboration led to joining classes for large group activities facilitated by two or more teachers. In some cases, adjacent classrooms had partitions between them that opened and allowed teachers to easily switch between a self-contained classroom and an environment more suited to team teaching.

Finding #5.2 Productive Uses of Time. *The exemplary schools organized time during the school day and the school year to support their instructional and curriculum strategies, meet the needs of their LEP students, and enable extensive teacher planning and collaboration. This restructuring included:*

- *managing classroom time to maximize time for learning;*
- *protecting blocks of time for in-depth learning activities;*
- *extending the school day; and*
- *extending the school year.*

One hallmark of a restructured school is a new approach to the organization of instructional time. Traditional junior high schools divide the six- to seven-hour school day into 45- to 55-minute instructional periods devoted to specific subject areas. Even in elementary schools with

self-contained classes taught by a single teacher, the instructional day is typically divided into short segments with a progression of different subjects in each time slot. Dividing instructional time in this way has serious shortcomings: time segments are too short and too rigid. Traditional uses of time do not allow sufficient time for project work or thematic instruction and do not allow the demands of instructional tasks to supersede a pre-determined schedule. Students may be deeply immersed in a learning activity when the bell rings and they are forced to stop whatever they are doing and shift (both physically and cognitively) to the next class.

In contrast, staff at the schools with exemplary programs for language minority students viewed instructional time as one of the school's most critical resources. While the arrangements of time were as varied as the creativity of the teachers involved, there were some common themes in the uses of time in these schools. Teachers at exemplary programs for LEP students consistently took steps to protect sustained time for student learning. The schools examined in this study did not allow rigidly predetermined short blocks of time to supersede learning activities. Interruptions and fragmentation of the school day were avoided. Sustained time devoted to learning enabled the schools to offer thematic learning, innovative science projects and labs, long writing assignments, and other learning challenges that extended the ability of students to think critically and develop higher order thinking skills. Staff at the exemplary schools also found ways to increase the amount of time LEP students spent learning by extending the school day and year.

Managing Classroom Time to Maximize Learning. Teachers at the exemplary schools skillfully planned instructional segments that moved students from activity to activity at a pace that kept them engaged yet allowed them time for in-depth learning. Teachers taught students how, when, and where to move around the classroom for different learning activities, how to use the resources of the classroom, and what types of behavior were expected of them during different instructional grouping situations. Because students were clear about what was expected of them, they were able to work independently and initiate extensions of the learning activities. Transitions between activities were efficient and smooth and very little time was wasted. (See Finding #4.2's discussion of cooperative learning for illustrations of how time was managed in the service of producing effective learning environments for LEP students.) The net result of these classroom management strategies was increased time spent learning.

Protecting Time to Learn. Protected time to learn is the foundation for innovative curriculum and instruction. Students have the luxury to work on projects alone, in pairs, or in groups for extended periods of time without bells ringing, messages coming over the intercom, being pulled out for other activities, or the thousands of other minor interruptions that disrupt the flow of

thought and concentration in a typical school. Exemplary schools protect the time to learn for students and for teachers in a variety of ways.

One way that schools protected time to learn was by giving the faculty control over daily schedules. Hollibrook and Graham and Parks teachers designed the way time was used during the day themselves. At Hollibrook, grade level teaching teams decided together when students would take physical education, music, and health education from specialists, and when their students would go to lunch. They planned the rest of the school day around specific learning objectives and created time to meet as a team. Teachers decided. Control over their schedules allowed continuum teachers to protect 90-minute to two-hour segments for Writer's Workshop or Reader's Workshop. At Graham and Parks, the two bilingual teachers in grades 5-8 controlled the use of time during the day; they allocated substantial blocks of time each for social studies, language arts, and for science projects.

Another way schools protected time to learn was by creating a schoolwide schedule that had blocks of time set aside for core content areas. Linda Vista devoted a two-hour block of time each morning to language arts classes organized by English fluency level. A shorter morning block was devoted to mathematics. Similarly, Del Norte scheduled long blocks of time for language arts and mathematics four days a week. On Fridays students spent the full day studying science and social studies. Hanshaw scheduled blocks of 90 minutes each for a combined class of mathematics and science or language arts and social studies. Horace Mann scheduled two 105- minute academic blocks each day; each academic class met every other day. Longer time blocks allowed teachers to plan more complex lessons and problem solving activities and they provided opportunities for science experiments, research activities, thematic projects, and sustained time for reading and writing.

Extending the School Day. The exemplary schools made effective use of after-school programs for LEP students. Many LEP students had no one at home who could help them with their homework and needed to find that help at school. In addition, students who are transitioning to regular instructional programs often needed help from tutors who spoke their native language. Each exemplary school responded to these needs in some way. Graham and Parks provided a homework center staffed by Creole speaking tutors, volunteers, and staff. Harvard University students who spoke Creole helped in the homework centers as did Creole teachers and aides. Hanshaw's homework center was staffed by students from the local community college. At Del Norte, classroom teachers provided after-school tutoring twice a week for 45 minutes. Students who needed extra support were encouraged to attend. For example, students who needed additional help in reading participated in an after-school program that focused on reading.

Students at all of the exemplary schools regarded these after-school tutorials and homework centers as important adjuncts to their school program.

Extending the School Year. The exemplary schools extended the school year to combat the traditional three-month summer vacation in which prior learning can be forgotten. This large gap of non-school time is particularly problematic for LEP students who can lose some of their gains in English over the summer while they are immersed in their native language environment. While only one study school operated on a year-round schedule, other schools reduced the summer time gap by offering summer programs designed to accelerate LEP students' language acquisition process. Box I-5.5 provides details of two strategies used by exemplary schools to extend the school year.

Finding #5.3 Teacher Collaboration. *The exemplary schools created opportunities for teachers to learn and work together. Using these opportunities, teachers collaborated to develop and coordinate curriculum, to share and r fine instructional strategies, to ease articulation across grade levels and from LEP student programs to mainstream programs, and to address the needs of individual students. Teacher collaboration at the exemplary schools ensured that LEP students had access to the same curriculum and were challenged to meet the same high standards as non-LEP students.*

The process of thoughtfully designing and adapting school programs must be a collaborative one. Because change is a creative and time consuming endeavor, implementing innovations requires collaborative effort. However, in traditional schools, teachers often work in isolation. In many cases, teachers' sole opportunity for interaction and exchange of ideas with other teachers is during their half-hour lunch period. The isolation of teachers in American schools contrasts

Box I-5.5

Exemplary Elementary Schools Design Schedules for Year-round Learning

Linda Vista adopted a year-round calendar in which students took more frequent short breaks rather than one long summer break. Linda Vista had a single-track year-round schedule designed not to make more efficient use of building space, but to reduce long blocks of time out of school. The year-round schedule was adopted with parents' and teachers' participation and consent. Faculty members had the same schedule as did the children so there were no discontinuities as are sometimes found in multi-track year-round schools.

Del Norte Heights Elementary offered a traditional schedule augmented by a four-week summer school. Forty percent of the student body attended the summer program which was designed as an enrichment activity. Students

who needed extra help in English or students who were borderline for being retained a grade participated in the summer school.

sharply with the professional environments of teachers in other countries. For example, in Japan teachers spend a good deal of their working day preparing and refining their lessons through a collaborative process with other teachers.[7]

Teachers at the exemplary sites in this study acknowledged that they were engaged in a collective effort and each school exhibited a commitment to teacher collaboration. All of the casestudy schools relied upon an open, collegial environment to develop their programs and to foster a sense of professionalism. At most sites, a portion of every teacher's day was spent working with fellow teachers; at a few sites, teachers regularly observed and were observed by other teachers. At all of the case study sites, teachers attributed much of their success in implementing dramatic changes to an atmosphere of collegiality and a shared vision, both of which came from collaborative teamwork.

The exemplary schools enabled teacher collaboration through the use of several strategies, including organizing the school into smaller units in which teachers regularly worked together. Team teaching, of course, facilitated the most intense teacher collaboration. (See Finding #5.1, Innovative Organization of Schooling, for a discussion of schools-within-schools and team teaching.)

Another strategy involved building time into teachers' daily schedules to allow for joint planning with other teachers. At the exemplary schools, staff recognized how much time it took to plan and implement innovations and the value of generating ideas through collaboration. Two of the elementary schools, Inter-American and Linda Vista, lengthened the school day four days a week in order to dismiss students early on the fifth day to allow time for joint planning. Linda Vista teachers also had a prep period each day that was made possible by flexible staffing arrangements; teachers frequently used this time to go into another teacher's class to observe the implementation of a new instructional strategy. In the same spirit, all classrooms were open for observation at all times. At Hollibrook Elementary, all students at the same grade level went to physical education at the same time, providing grade level teachers with time to collaborate.

The three exemplary middle schools had very similar structures that afforded teachers time for joint planning. Wiggs, Hanshaw, and Horace Mann all operated schools-within-a-school and teachers in each "family" or "house" had common planning time while their students were at physical education or elective classes. At Horace Mann, students attended elective classes outside of the family structure two days a week; on those days, family teachers had two contiguous periods of common planning time. Teachers at Wiggs had two non-teaching periods

each day. One was used for conferences or for individual preparation and the other was used for collaboration within teams.

Benefits of Teacher Collaboration

The effects of teacher collaboration at the case study sites were significant. Four specific benefits are highlighted below: coordinated curriculum, shared instructional strategies, smooth articulation, and attention to individual students.

Coordinated Curriculum. At the exemplary schools, teachers worked together to coordinate and align the curriculum and to plan thematic units. Their collaboration was directed towards creating a unified school where all children were challenged, held to high standards, and exposed to a common curriculum. At Hanshaw, Horace Mann, and Wiggs, teachers within the families (or houses) worked together to strengthen the academic program by making curricular connections between and among the core subjects (language arts, social studies, science, and mathematics) through themes and projects. Inter-American and Del Norte teachers met regularly to coordinate their curriculum and plan integrated, thematic units.

Shared Instructional Strategies. At many of the case study sites, teachers shared instructional strategies both formally and informally. The practice of peer observation at Linda Vista was one of the most powerful ways for teachers to share strategies and to ask their colleagues for feedback on their use of a strategy. Teachers at other sites discussed various instructional techniques and shared their knowledge on how they could be better implemented in the classroom.

Smooth Articulation. Smooth articulation from grade to grade and from classes designed for LEP students to mainstream classes required coordination among teachers. Schools tackled articulation in a number of ways—Linda Vista's ungraded wings and Hollibrook's continuum classes represented two ways of accomplishing articulation (see Finding #5.1 for information on these approaches). Other schools facilitated articulation through communication. Inter-American's third, fourth, and fifth grade teachers worked together to develop and link their goals, objectives, and outcomes. Coordination and alignment across grade levels was especially important to Inter-American's complex program with the dual goal of biliteracy and delivery of a full curriculum. At Del Norte, bilingual teachers worked together across grade levels to ensure articulated curriculum and the use of a coherent set of instructional strategies (i.e., cooperative learning). Bilingual and English-only teachers at the same grade level communicated to align curriculum so that students could easily transition from the bilingual to mainstream program.

Attention to Individual Students. Working with the same students allowed teacher teams to work together to address individual student issues. Attention to individual student needs is an important goal of the school-within-a-school approach to school organization. At the case study sites that had implemented this strategy, teacher teams met to discuss strategies for reaching individual students, including issues regarding the transition of LEP students into the mainstream. For example, the teams of teachers who staffed the LEP student families at Wiggs regularly discussed their students, including students' school progress and their family situations. Teachers were alert to signs of problems in any arena.

Finding #5.4 Professional Development. *The exemplary schools systematically used professional development, designed and planned by teachers, to ensure that teachers could discover, learn and implement new developments in*

- *language development and acquisition for LEP students;*
- *curriculum and instructional techniques (for example, in Whole Language, constructivist approaches in math teaching, or cooperative learning); and*
- *school restructuring (for example, TQM, team decision-making, visioning, and other approaches developed by external partners).*

"Staff development programs represent the substance of a long-range professional commitment to continue to grow intellectually, to gain new skills, and to refine the quality of one's performance."[8] Opportunities for such growth and reflection are essential to the development of thoughtful educators who can, in turn, nurture thoughtful students. Professional development takes many forms; it ranges from formal inservice programs to discussions among teachers during common planning periods. Teachers and site-based administrators took responsibility for shaping the professional development activities at the exemplary schools. They planned professional development activities in support of their long-range educational plan—their vision. Through a reflective process, teachers selected development activities that responded to the needs of their particular LEP student population and were at an appropriate level for the teachers involved. Box I-5.6 describes Del Norte's focused staff development activities.

While the idea that teachers plan their own professional development may not seem like a radical one, staff development at many schools is provided by the district in a top-down fashion and teachers have little say in the training they receive. This type of staff development is often unrelated to the pressing instructional issues at the school and occurs at the periphery of the school or classroom as a one-shot activity with little or no follow up. This episodic "professional

development" has been largely ineffective in leveraging the change required to reform teaching and learning in the nation's schools.

In contrast, at most of the exemplary schools, long-term, teacher-driven professional development programs were among the key features that supported the dramatic shifts in the way teachers approached teaching and learning. At these schools, teacher collaboration and professional development went hand-in-hand as new ideas and strategies were implemented. Each case study school prioritized different aspects of their program for staff development, but all schools targeted language acquisition, bilingual teaching, sheltered English, or other strategies that specifically address LEP students' language development and access to core content.

A number of factors supported the implementation of effective professional development programs at the case study sites. The first, and most critical, was sufficient school autonomy and teacher empowerment to foster site-level planning capacity; schools with this capacity were reflective about their strengths and weaknesses and able to identify their needs and target specific areas for growth. In many cases, these sites pursued grants or partnerships to support their professional development efforts. At some sites, the district played an important role in supporting staff development and, in a couple cases, state professional development programs impacted the exemplary schools.

Box I-5.6

Del Norte Staff Focus Professional Development Activities on Areas of Greatest Need

At Del Norte Heights Elementary School, staff development is seen as an effective way to support the school's goals, and the principal and faculty have adopted a strategy that focuses staff development on improving specific aspects of the school's instructional program. Once an area is identified as needing improvement, faculty make a long-term commitment to developing their skills in that area. School staff analyze the school's results on the Texas Assessment of Academic Skills (TAAS) in order to tailor their school focus, including staff development. In years past, Del Norte students had not performed well on the language arts sections of the TAAS. As a result, school staff focused on language arts, instituted the writing workshop process, engaged the students in literature-based studies, and intensively supported the language arts curriculum with schoolwide staff development activities. Schoolwide language arts scores on the TAAS increased dramatically. Staff next identified math as the focus for their staff development activities—again chosen because it was identified as weakness. Staff use their early dismissal days during the year (see Section 2 on Uses of Time) to work with a math professor from the University of Texas at El Paso (UTEP) on aligning the math curriculum across the grade levels and improving math instruction. The focus has been on using manipulatives and critical thinking skills as teachers introduce algebraic concepts. Next year, UTEP plans to assign 13 student teachers who have trained with the same math professor to work with Del

Norte teachers. The teachers-in-training will do their student teaching at Del Norte and further support the math program.

Finding #5.5 Inclusive School Decision Making. *The exemplary schools developed school decision-making processes in which teachers shared responsibility with administrators for school operation, organization and approach to learning and language development. The exemplary schools also involved non-teaching staff, parents, and often members of the larger community in the school's decision-making processes, which helped the exemplary schools be responsive to student and community needs.*

Inclusive and responsive governance structures were a key element of school restructuring at the exemplary sites. Each school designed its governance structures with the ultimate goal of improving its academic program. Decision-making processes were established that empowered teachers, parents, and often community members to set priorities in response to the needs of their students; to become involved in curriculum planning and development; to set an appropriate school schedule; to seek appropriate and needed professional development; and to allocate resources for the benefit of LEP and all students.

The restructuring of governance structures at the exemplary schools came at a time when states and districts all across the country were taking steps to devolve power over decision making to the school site level. School-level personnel were given increased responsibility for managing their own budgets, for making staffing decisions, for designing curriculum, for creating its own school climate, and for dealing with issues concerning student achievement. At the exemplary schools, this increased ownership allowed members of the school community to set priorities that were most appropriate for their students. Local flexibility was particularly important for schools as they developed programs to meet the complex needs of their LEP students. In return for this flexibility, districts and states have typically imposed stricter accountability measures, holding each school responsible for student achievement.[9]

Each of the eight exemplary schools had some form of site-based management. Schools' implementation of site-based management spanned a considerable range and responded to conditions at the districts housing the exemplary schools and at the school itself. At one end of the spectrum was Inter-American School, whose site-based management structure was mandated by Chicago Public School's devolution of power from a centralized bureaucracy to control of schools at the community level. Inter-American's governance structure involved teachers, administrators, and parents in a site governance committee with almost complete autonomy over decisions affecting all aspects of the school's operation. At another point along the continuum were schools where the principal shared decisions over the discretionary budget and some of the decision-making power with representative groups of teachers; Linda Vista, Horace Mann, and Hanshaw represented this form of management at the site. Between these extremes were the

Texas schools—Del Norte, Hollibrook, and Wiggs—that were in various stages of implementing site-based management. Each of these schools had committees with some responsibility for school organization, budget, curriculum, and instructional issues. Box I-5.7 describes the governance structure at Del Norte.

Finding #5.6 Parent Involvement. *The exemplary schools valued parent involvement and developed a variety of innovative strategies to engage parents of LEP students in the education of their children.*

According to a recent U.S. Department of Education report, "Thirty years of research shows that greater family involvement in children's learning is a critical link to achieving a high-quality education and a safe disciplined learning environment for every students."[10] Parent participation in the education of their children has been linked by research to increased reading ability, higher grades and attendance rates. more positive attitudes toward school, improved graduation rates, and higher rates of enrollment in higher education [11]

Each of the exemplary schools created environments designed to facilitate the involvement of parents in the education of their children. Despite years of research that argues for the importance of parent involvement, many schools are places where parents do not feel welcome. Many parents are reluctant to become involved with the schools because they have not had positive experiences with themselves and schools often exacerbate the reluctance of parents to have active positive relationships in their children's education by only involving parents when children are having problems. The exemplary schools developed strategies for involving parents as participants in their children's education.

Parents whose language and culture are different from those of school personnel face additional barriers to participation in school settings. Language differences can create powerful

Box I-5.7

Faculty and Parents Address Fiscal Trade-offs at Del Norte

Del Norte Heights implemented the Texas site-based management system. The school's Campus Educational Improvement Committee—made up of faculty, the principal, and parents—had control over the school budget (with the exception of personnel expenditures), made substantive decisions about curriculum and instructional issues, and set schoolwide priorities. Faculty and parent involvement in decisions about the school budget afforded both parties the opportunity to participate in setting schoolwide priorities. The school's learning environment and program for LEP students were supported by the ability to make schoolwide decisions to fulfill the school's vision.

divisions between school staff and parents of LEP children. In addition, the view of education in different cultures often complicates home-school relationships. For example, staff at Linda Vista reported that one of the difficulties they faced in involving parents of their Southeast Asian students was that the parents' believed, based on their experience with schools in their home countries, that schooling is the province of school professionals and that the school will educate their children without interference from parents. In addition, many of our exemplary schools were in port of entry neighborhoods and parents of LEP students often faced severe economic hardships and worked long hours to establish an economic foothold in this country. Little time or energy remained for participation in school activities.

Examples of Parent Involvement

Interaction between the school and home needs to be structured in ways that allows parents to play a meaningful role in the education of their children. Parent involvement must be real, not merely symbolic. The exemplary schools developed and implemented a number of strategies for involving parents in the education of their children and in engaging parents with the schools. The remainder of this section describes strategies used by the exemplary schools.

Exemplary Schools Communicated Better with Parents. The exemplary schools all found ways to communicate effectively with the parents of their students. Since language differences can cause problems with parental communication, each of the exemplary schools sent materials home in all of the languages spoken by their students and had office staff and/or support staff who spoke the languages of the parents and students. See Box I-5.8 for details of Linda Vista's approach to communicating with a multilingual parent population.

Box I-5.8

Linda Staff Communicate with Parents in Five Languages

At Linda Vista School, materials were sent home to parents in English, Hmong, Lao, Spanish, and Vietnamese. The school's three community aides among them spoke each of these languages and were responsible for calling parents, making home visits, and translating at parent-teacher conferences. The aides effectively served as a communication bridge between the school and the parent community. The community aides were chosen carefully—they came from the school's community and two of the three were parents of former Linda Vista students.

Exemplary Schools Provided Many Opportunities for Parent Contact and Make It Easy. The exemplary schools made it easier for parents to become involved and provided meaningful ways for parents to be a part of the school's structure. A strategy that was effectively used by the exemplary schools was the establishment of a parent center—a place set aside especially for parents. Parent education programs were another strategy used by the exemplary schools to engage parents with the schools. Several of the exemplary schools offered English classes for parents as well as seminars on parenting and classes to help parents develop survival skills. Box I-5.9 describes the parental involvement strategies at Hollibrook Elementary School that combine a well-developed parent center with an effective parent education program.

Box I-5.9

Hollibrook's Parent Center Provides Home Base for Parents on Campus

Hollibrook created a Parent Center—a room where parents could gather—to make parents feel more comfortable coming to their children's school. On the door to the center, a large sign read *Bienvenidos al Centro de Padres/Welcome to the Parent Center*. The room was equipped for formal parent meetings as well as for more informal get-togethers. The center served as a place for parents to meet, to work on projects for teachers, and to socialize. The Center was also the site for the school's Parent University program which provided ESL classes for parents of LEP students, as well as "parenting" seminars for all parents. The Parent Center created a welcoming environment for parents—particularly for the parents of LEP students.

Exemplary Schools Established a Home-School Liaison. Providing time for a member of the non-teaching school staff to become involved with parents is another strategy that was used by

the exemplary schools to increase parent involvement without burdening teachers. The exemplary schools had counselors and parent liaisons who were responsible for making linkages to the parents of their students—particularly of their LEP students. Staff in these roles fulfilled a number of duties including coordinating the parent education program, working with parents on attendance issues, and translating for the parents as necessary. Box I-5.10 provides an example of the Del Norte counselor's efforts to increase parents' involvement in their children's' education.

Exemplary Schools Provided a Way for Parents to Be Involved in School Governance. Parents were encouraged to play meaningful roles at the exemplary schools. Involvement in school governance was one way of ensuring that parents have a role in the school. Many of the exemplary schools involve parents in school governance. See Box I-5.11 for an example of a school that has deeply involved parents in the governance of the school.

Box I-5.10

Del Norte Pairs Mothers and Daughters with Latina Professionals from the Community

Del Norte's counselor selected girls who were doing well in school, but who did not have a parent or other close relative who had been to college, and paired the girls *and their mothers* with Latina professionals from the community. The professional women spent time with the mothers and daughters in mentoring, supportive, information-sharing relationships. The program involved the students and their mothers in hopes of raising the aspirations of both so that the mothers could support their daughters prepare for college. The counselor reported that including the mother allowed the impact of the program to extend to other children in the family, as well. In some cases, the mothers had been inspired to return to school themselves.

Box I-5.11

Parents Play Major Role in School Governance at Inter-American

Inter-American School was founded by parents. Because of its history, school staff recognized the importance of parental contribution and involved parents in school governance in a very meaningful way. Inter-American parents served on two of the school's site governance committees. Six parent members made up the majority of the 11 members of the Local School Council, which was the school's governing body. The Council was responsible for hiring and evaluating the principal and controlled both the discretionary and categorical budgets. A Parent Advisory Committee served as the voice of the parents to both the school staff and the Local School Council. This committee provided policy input, supported volunteer activity, and raised funds for the school.

The exemplary schools employed many effective parent involvement strategies. The exemplary schools all focused on involving parents in meaningful ways with the education of

their children. None of the schools believed that they had as much parental involvement as they would have liked, but they all recognized that an ongoing process is necessary and all were looking at additional ways of engaging the parents of their students, particularly the parents of their LEP students.

Finding #5.7 Integrated Services. *Staff at the exemplary schools interpreted their role in the lives of their students to include ensuring that students' needs for health and social services were met. The exemplary schools provided a wide range of services on-site—from limited to comprehensive. Most schools augmented the services available on-site by establishing links with, and providing referrals to, community health or social service organizations.*

There is a growing trend in the United States towards developing services that are family-centered and comprehensive. "Successful programs see the child in the context of family and the family in the context of its surroundings." School-linked services are being developed as an effective way to deliver comprehensive health and social services to families through a convenient and trusted institution, the school. This does not mean that schools assume responsibility for the full range of services needed by children; rather, schools are entering into partnerships with families and agencies to ensure that needed services are available. School-linked services are particularly needed in poor neighborhoods where family and community resources are limited.

The exemplary schools served primarily economically disadvantaged families and they varied in the extent to which they offered or arranged for nutrition, health services, counseling, social services, and other human services to families of students attending the school. At most study sites, school staff shared several fundamental beliefs. First, school staff talked knowledgeably about the circumstances of families of the students they served. They knew the occupations of parents, the housing arrangements (whether apartments or homes, how crowded they were, etc.), and the employment and immigration history of families. Second, staff at study sites recognized that inadequate food, clothing, health and dental care affected students' ability to learn in school. Third, families' needs for support were broadly defined. Schools conceived families' needs for physical assistance in the way of food, clothing, and health and dental care; for psychological services including individual, group, and family counseling; for prevention of harmful behaviors including substance abuse prevention and gang prevention; and for greater accessibility to social services such as Children's Protective Services and the Probation Department.

Three models of integrated services were seen at study sites providing such services: school-based models in which services were provided by school staff; comprehensive integrated services in which services were provided by school staff and contract providers on site; and a mixed model of school-based and off-site linkage with community agencies. Three approaches to the provision of integrated serves are described in the text boxes below: Box I-5.12 describes a strategy used with Wiggs' students; Box I-5.13 illustrates Graham and Parks' efforts to establish links with community agencies; and, finally, Box I-5.14 gives an overview of Hanshaw's comprehensive school-based clinic.

Three schools, Del Norte, Graham and Parks, and Hanshaw, provided or developed relations with providers for a wide range of family services. Hollibrook and Wiggs provided or arranged for a more limited range of services needed by students and parents. At Linda Vista, Inter-American, and Horace Mann, staff recognized the importance of fundamental family support, but did not arrange for services. Horace Mann was conducting a needs assessment for developing family support services during the time of the study research. As a city-wide magnet school, Inter-American had less of a community focus and was not a particularly convenient place for families to receive support services.

Box I-5.12

Wiggs' Advisory Period Helped to Address the Needs of the Whole Student

Wiggs' school organizational structure included an advisory period in which all of the school's teaching staff met with small groups of students to provide academic and social support. The Advisory period was scheduled at the same time schoolwide and all teachers had an Advisory group. Because all teaching and specialist personnel were involved, the Advisory classes were kept smaller than regular classes—often as small as ten students to an adult. This advisory relationship teachers with the opportunity to get to know a small group of students in a non-instructional role. Staff reviewed students' non-educational needs and formulated strategies to help students get the health or counseling services they needed to succeed academically. Each teacher served as advocate, liaison, counselor, and advisor for the students in their Advisory class.

While the models and approaches to family services varied, it is clear that these schools embraced the families of their students and advocated for them in the community. The schools had policies that supported families and their role in nurturing children. Nurses and counselors were important members of the school support staff team and energetic advocates for children at Del Norte, Hollibrook, Graham and Parks, Horace Mann, and Wiggs. The schools varied in their outreach to community agencies and providers. Several study schools, notably Graham and Parks and Hanshaw, demonstrated a sophisticated grasp of health, mental health, and social services and the ability to work effectively with community providers and how to access funding streams. The most developed integrated services model among study sites was seen at Hanshaw Middle School (see Box I-5.14).

Box I-5.13

Graham and Parks Staff Established Links with the Community to Meet the Health and Social Service Needs of Recent Haitian Immigrants

Graham and Parks provided a comprehensive set of family services to students, particularly for Haitian immigrant students and their families. The school had the traditional school nurse, psychologist, and counselor available, but augmented their staffing pattern with social workers and counselors who were qualified to work with Haitian, Creole-speaking families. Many Haitian immigrants had experienced violence, hunger, and trauma. Students often came to the US without their families and lived with guardians or other relatives. Students experienced loneliness, dislocation, and fear for loved ones left behind in Haiti. Graham and Parks had developed both school-based strategies and community linkages to meet the intensive need of Haitian immigrants for mental health and social services.

Graham and Parks had a Student Support Team made up of the principal, parent liaison, assistant principal, nurse, school psychologist, teachers, and interns. The team met weekly, using a case study approach to help students referred by teachers. Grants allowed the school to hire a bilingual parent coordinator and district funds supported a Haitian resource room teacher and Haitian mediation specialist. The Haitian Creole-speaking mediation specialist offered short-term direct services and referrals to outside agencies when needed. In addition, the school referred children and families to counseling at the Cambridge Hospital program for Haitian refugees. The school consulted with Children's Protective Services on allegations of abuse and neglect, providing culturally sensitive outreach to immigrant families. Despite the number and extensiveness of mental health services available at Graham and Parks and from local providers, services were strained to keep up with demand from traumatized immigrants coming into the Boston area from Haiti. Teachers in the grade 5 through 8 bilingual classroom assisted students with specific problems, often transporting families to the doctor or psychologist as needed.

Box I-5.14

Hanshaw Middle School had a California Healthy Start grant that supported a Family Resource Center on site. The Center offered medical, dental, and counseling services on site through contracts with community providers. Families in the neighborhood served by Hanshaw made use of the clinic. Virtually all the Resource Center staff were bilingual in Spanish and English. The Hanshaw Healthy Start program offered individual and group counseling, case management for families involved with more than one public agency, and referrals to community agencies. Group counseling, individual counseling, and conflict management were provided by a mental health clinician. Groups were formed to address grief issues, drug and alcohol abuse, gang issues, and self esteem. A probation officer was located at the school part time to monitor probation wards on campus. A bilingual Laotian college student made home visits to Laotian families to inform them about services available at the center and to learn about their need for services.

The Healthy Start project was spearheaded by district staff in cooperation with Hanshaw staff. The district staff entered into cooperative agreements with county public service agencies and private medical providers to bring the wide range of health and social services onto the campus. Healthy Start used a holistic, family-centered approach in which an entire family was allowed to receive services, including siblings of Hanshaw students attending other schools. The Healthy Start program at Hanshaw reinforced the concept of school as resource for families and communities.

Chapter 5 Endnotes

[1]Newmann, 1991
[2]Lipsitz, 1984; Alexander and George, 1981
[3]Wohlstetter, 1994
[4]Comer, 1986
[5]Schorr, 1988
[6]Lipsitz, 1984, Newmann, 1991; California Department of Education, 1987; Blos, 1979, Alexander and George, 1981.
[7]Elementary Schools Task Force, 1992; Stigler and Stevenson, 1991.
[8]*Caught in the Middle*, 1992
[9] Wohlstetter, et. al., 1994.
[10]Strong Families ..., 1994.
[11]Epstein, 1987, 1991

6. The Role of External Partners

As discussed in previous chapters, exemplary schools were undergoing substantial reform. One way that schools approached restructuring their organization or embraced new ways of teaching and learning was through accessing outside resources through external partnerships. Schools sought assistance from experts in the community, local institutions of higher education, and national organizations to capitalize on available resources. They sought the help of external partners as they developed curricula, employed new instructional strategies, and implemented organizational innovations. It is important to note that several of the exemplary schools developed and carried out their programs without the support of an external partner. There was, however, a pattern that schools facing the difficult challenge of providing mathematics and science instruction to their LEP students. The remainder of this chapter examines the ways in which the exemplary schools drew on external partners in support of the schools' vision and long-range educational plan. (For a description of partnership organizations, see pages I-6.10 through I-6.14.)

Finding #6.1 Nature of Partnerships. *While all relationships between external partners and staff at the exemplary schools were collaborative, dynamic, and interactive, the relationships varied in intensity and character. Partnerships ranged from those that leveraged comprehensive schoolwide change to those that focused on specific curriculum areas. Assistance from external partners usually took the form of intensive, long-term professional development and sometimes included in-class coaching.*

The presence of an external partner had a major impact on the case study schools. External partners played an important role in the design and implementation of innovative language arts, science, and mathematics curriculum and instruction, as well as in the design and implementation of specific elements of school restructuring. External partners brought new ideas into the school, helped faculty identify and solve problems, and provided important support for faculty efforts to improve teaching and learning. The types of external partners varied significantly, but all had expertise in one or more areas—expertise that the school did not independently possess—and all shared a commitment to the improvement of teaching and learning. All of the external partners in case study schools provided professional development. Some offered assistance with the design of curriculum and implementation of instructional strategies. External partners also provided in-classroom coaching for teachers, support with the development of assessment systems, and assistance with site level

decisionmaking processes. In a few cases, they furnished schools with costly equipment. Table I-6.1 shows the activities of external partners with study schools. As the table illustrates, external partners played a range of roles in case study schools.

The establishment of a close working relationship between school faculty and an external partner is a much more intensive and comprehensive school reform strategy than having teachers attend a one- or two-day training workshop off site. At several study schools, the external partner played an important role in helping faculty take stock of their school, assess what was needed, and implement new learning strategies. External partners brought human and financial resources into a school and reduced the isolation that teachers may have felt as they faced difficult challenges.

One of the most striking aspects of the partnerships observed in study schools was the long-term, well-developed relationship between teachers at study schools and the staff of external partners. Sometimes teachers became full members of a partner's team through years of collaborative work on a project. Teachers gave presentations at professional association meetings and consulted for the partner at other school sites. External partners often encouraged the teachers they were working with to extend the scope of their professional activities by writing articles for journals or speaking at conferences. The close relationships between external partners and teachers enriched the national dialogue on school reform by bringing together innovative practitioners who might otherwise have been working in isolation. Just as teachers reported that they learned many valuable skills from the external partner, external partners reported that they learned a great deal from the teachers in study schools.

Table I-6.1

Activities of External Partners

	Curriculum and Instructional Strategies	In-Class Coaching	Site Decision Making and Reform	Assessment
Accelerated Schools (Hollibrook)			X	
Apple Classrooms of Tomorrow (Linda Vista)	X			
TERC (Graham and Parks)	X	X		X
Susan Kovalik & Associates (Hanshaw)	X	X	X	X
San Francisco Project 2061 (Horace Mann)	X			X
UTEP—School of Education (Del Norte)	X	X		
UTEP—School of Education (Wiggs)	X	X		

Relationships between the school and the partner varied in intensity. As shown in Box I-6.1 on Hanshaw's relationship with Susan Kovalik & Associates, some external partners had very close working relationships with study schools. An intensive relationship also existed between Graham and Parks school and TERC.

Other partnerships were less intensive. In the cases of Horace Mann's partnership with San Francisco's Project 2061, Linda Vista's partnership with Apple Classrooms of Tomorrow and the National Alliance for Restructuring Education, and Del Norte and Wiggs' partnership with the School of Education at the University of Texas at El Paso, the external partners supported the schools by supplementing their programs in specific areas.

Finding #6.2 Organization and Funding of External Partners. *External partners varied in their organization (public and private, for-profit and non-profit) and funding sources (private foundations and federal, state, and local monies). Most partnership organizations were funded for research and conceptual development activities before establishing relationships with schools.*

Among the external partners in the study schools, no two organizations were identical. They shared a common commitment to the improvement of teaching and learning in America's schools and each made a long-term investment in working directly with schools. Table I-6.2 lists the external partners at the exemplary schools, their organization type, and funding sources.

External partners were funded by federal, state, local, and private sources. Federal investment in improvements in science education were an important source of support for several external partners. As the table shows, four of the exemplary schools were involved with external partners

Box I-6.1

Intensive Partnership Led Hanshaw Teachers to New Way of Thinking about Teaching and Learning

Hanshaw Middle School in Modesto, California, relied on an intensive relationship with an external partner for the majority of their staff development and technical assistance. Hanshaw staff made a significant, long-term commitment to professional growth aimed at radically changing the teaching and learning process through their involvement with Susan Kovalik & Associates. Hanshaw was a new school and the partnership with Kovalik & Associates was established before it opened. Kovalik & Associates provided professional development and support for the teachers as they designed and implemented the new school's educational program. Teachers participated in intensive summer training and weekend retreats. Three-day intensive institutes were held at the start of every school year and one-day institutes were held each month throughout the year. Topics included creating a life skills curriculum, implementing "brain compatible learning," and developing thematic units.

that received funds from the National Science Foundation (NSF). TERC at Graham and Parks and Project 2061 at Horace Mann received National Science Foundation funding to develop innovative science curriculum and instructional approaches. The University of Texas at El Paso (UTEP) used NSF funding to develop its technology partnership with Wiggs Middle School. Apple Classrooms of Tomorrow (ACOT) also received NSF funds to support their partnership with Linda Vista. Graham and Parks' relationship with NSF-funded TERC, as described in Box I-6.2, provides an example of one of these partnerships.

Several of the external partnerships were local expressions of a much larger national reform enterprise. Project 2061 received extensive support from national foundations for its developmental phase, including the development of the science learning benchmarks for grades 2, 5, 8, 12. Accelerated Schools also received extensive foundation support to develop its conceptual base and to reach out to schools. Schools themselves pay for staff to attend Accelerated Schools workshops. ACOT is part of the New American Schools Development Corporation's National Alliance for Restructuring Education effort. Susan Kovalik and Associates received support from the Packard Foundation for developmental work on their approach to improving science teaching and learning. Kovalik efforts at Hanshaw were supported by Hanshaw site discretionary staff development funds from state and federal sources.

The work of an external partner with a study school can be likened to the tip of an iceberg visible from the surface of the water. In the case of external partners, the funding provided by federal sources and private foundations provided the unseen basis for the effort visible in the schools. Outside funding for research and development supported the efforts of the external

Box I-6.2

Graham and Parks Teachers Implement "Inquiry-Based" Science through Partnership with Local Education Research Organization

At Graham and Parks, teachers in the Haitian Creole 5th through 8th grade bilingual class worked closely with TERC (Technical Education Research Corporation), a non-profit educational research firm located in Cambridge, Massachusetts in an effort funded by the National Science Foundation. These teachers have worked with TERC for three years to implement inquiry-based science instruction for LEP students. The TERC curriculum helped students learn scientific sense-making through instructional conversation. TERC provided participating teachers with stipends, conceptual guidance, special training in two-week summer institutes, in-classroom coaching, materials for science lessons, and twice monthly meetings that brought all participating teachers together. TERC videotaped science lessons as part of its research and instructional coaching and used the videos to review and refine instructional strategies.

partners before they began to work directly with schools. Funds needed to support the kind of R&D undertaken by external partners are outside the realm of the possible for individual schools and districts. The long-term developmental work of Project 2061 for example, or the conceptual framework of Accelerated Schools, or the adaptation of brain research to school settings of Kovalik, is only possible with long-term funding from the federal government and/or foundations.

Table I-6.2
External Partner Organization and Funding

School Name	External Partner	Organization	Funding Sources
Del Norte	University of Texas at El Paso, Professor of Mathematics and School of Education	Institute of higher education	Local/site-level funding
Hollibrook	Accelerated Schools	Non-profit affiliated with Stanford University and Texas A& M University	Chevron Foundation; various other foundations
Linda Vista	Apple Classrooms of Tomorrow, National Alliance for Restructuring Education	Collaboration of for-profit and non-profit organizations	Apple Computer; National Science Foundation; New American Schools Development Corporation
Graham and Parks	TERC	Non-profit organization	National Science Foundation; U.S. Department of Education's Office of Bilingual Education and Minority Languages Affairs and Office of Educational Research and Improvement
Hanshaw	Susan Kovalik & Associates	For-profit organization	Packard Foundation; local/site-level funding
Horace Mann	San Francisco Project 2061	American Association for the Advancement of Science, non-profit	National Science Foundation; private foundations; U.S. Department of Education; California Department of Education
Wiggs	University of Texas at El Paso, School of Education	Institute of higher education	National Science Foundation; private foundations

Finding #6.3 Program Adaptation for LEP Students. *Most of the external partners' programs were not designed explicitly for LEP students. Well defined programs for LEP students and program implementation by staff trained in language acquisition were critical to the success of the external partner relationship as it benefited LEP students.*

Efforts of many of the external partners were not designed specifically for LEP students. For example, Project 2061 and Apple Classrooms of Tomorrow are national efforts that do not have a particular focus on LEP students. However, the exemplary schools and external partners worked together to adapt each program to meet the needs of the school's LEP students.

The presence of a well-defined language development program for LEP students, as well as teachers trained in language acquisition, was critical to the implementation of the program of the external partner with LEP students. In order for schools to adapt the external partner program to their particular LEP students, the schools needed to have a solid framework into which the program could fit.

The technology program developed by the University of Texas at El Paso and implemented at Wiggs was designed for use in regular classrooms. At Wiggs, one of the twelve teachers implementing the technology program (see Box I-6.3) was part of a family for newcomer LEP students. Using the strategies she learned through the UTEP program and making adaptations for use with LEP students, she was able to effectively incorporate technology into her curriculum for newcomers.

Box I-6.3

Through A Partnership with UTEP, Wiggs Teachers Engage in Innovative and Resourceful Professional Development

At Wiggs, twelve teachers worked with the School of Education at the University of Texas at El Paso (UTEP) to receive training in innovative instructional uses of computers. The twelve teachers were paired for a year with student teachers who were trained in instructional uses of technology, hardware, and a number of software applications. In effect, the student teachers served as in-class technology consultants. Throughout the year, the teachers and teacher interns trained together on applications. The twelve teachers involved in the UTEP collaborative each had three Macintosh LC III computers with CD-ROM drives, an LCD panel, a scanner, and two printers in their classrooms.

Finding #6.4 School Culture and the External Partner. *Schoolwide restructuring, such as site-based management, joint planning time for teachers, and an inclusive governance structure, created a climate that enhanced the quality of schools' relationships with external partners.*

The exemplary schools' efforts to develop a culture that supported collaborative relationships among the faculty provided important preconditions for successful relationships with external partners. Organizational restructuring also supported the implementation of the efforts of the external partner. The implementation of San Francisco's Project 2061, for example, would not have been possible without a school structure that allowed time for teachers to plan together. Project 2061 required both collaborative effort on the part of faculty and a commitment to work on alternative assessment (see Box I-6.4).

Similarly, Hanshaw teachers would have faced major challenges developing interdisciplinary thematic units (part of the Kovalik curricular approach) had it not been for the school's 'house' structure and the collaboration it permitted among 'core' teachers. These and other approaches to school organization helped to create an environment receptive to change and responsive to new ideas.

Box I-6.4

Teacher Collaboration Makes the Implementation of San Francisco's Project 2061 Curriculum Model Possible

Project 2061, launched by the American Academy for the Advancement of Science in 1985, was designed to increase scientific literacy for the next generation of children. A team of 300 scientists developed learning goals for all students. Those goals were translated into benchmark standards for science, mathematics, and technology for grades 2, 5, 8, and 12. San Francisco Unified School District was one of six national sites selected to participate in Project 2061. San Francisco Project 2061 staff supported Horace Mann faculty efforts to design curricula and assess learning challenges. Within Horace Mann's family structure, teams of teachers designed learning challenges in which heterogeneous groups of students were challenged to accomplish a project within a given period of time. Students used science, mathematics, social studies, and language arts to meet the challenge.

Finding #6.5 School Reform Network. *Relationships with external partners provided teachers and other school staff with the opportunity to be part of a larger, often national, network of schools undertaking similar reform efforts.*

When a school worked closely with an external partner that was part of a national effort, the school staff had the sense that they were participating in a wider endeavor of improving schooling for all children. Partnerships that were locally-based allowed schools to play an integral role in community development efforts. Both types of relationships—national and local—had the effect of reducing isolation. The exemplary school staff networked with other school staff who were undertaking similar reforms and made connections with their community.

Several of the exemplary schools were involved with national reform efforts. Hollibrook's involvement with the Accelerated Schools Project provides opportunities for teachers and staff to attend conferences in which staff from participating schools gather to share with and learn from one another. These schools are bonded by a common philosophical belief that student learning needs to be accelerated. They also share the 'inquiry method' decision-making process. Horace Mann's on-going participation in San Francisco Project 2061's efforts to increase science literacy illustrates the power of both local and national. Linda Vista's partnership with a New American Schools Development Corporation-(NASDC) sponsored effort is described in detail in Box I-6.5 below.

Box I-6.5

Linda Vista Connects to National School Reform Movement through the National Alliance for Restructuring Education

The Lin la Vista teachers' skill in using technology as an instructional tool was the result of Linda Vista's partnership with the National Alliance for Restructuring Education (a New American Schools Development Corporation project) and Apple Classrooms of Tomorrow (ACOT), a member of the Alliance. Linda Vista's teachers had the opportunity to attend teacher practicums at ACOT Teacher Development Centers; during these practicums, they learned how to use the equipment and integrate technology into their instruction. Linda Vista was recently selected by ACOT to be a Teacher Development Center (TDC). The concept of TDCs was developed in response to the need to support teachers in making the significant pedagogical shifts that effective use of educational technology require. The goal was to develop an intensive, national staff development model. The result was an ongoing program of week-long teacher practicum at sites that are designated TDCs. As a TDC, Linda Vista teachers will train other National Alliance teachers to investigate new models of learning, integrate technology into the learning process, and develop student-produced projects. ACOT provided a substantial amount of equipment to Linda Vista's four ACOT classrooms. Each had four Macintosh computers with CD-ROM drives and they shared ten Powerbooks. These classrooms also had scanners, televisions, VCRs, and laserdisc players; one had a Palmcorder.

Description of the External Partners

The external partners that worked with the exemplary schools differed in their history and their development. The following brief discussions highlight the development of the external partner efforts being implemented at the exemplary schools.

Accelerated Schools. The Accelerated Schools program was founded by Dr. Henry Levin of Stanford University as a systematic approach to improve failing schools serving disadvantaged youth. Levin's theory was that remediation as a strategy had failed and that the key to improvement was to *accelerate* learning by challenging students in an enriched school environment.

The Accelerated Schools model was first implemented in elementary schools and had since expanded into middle schools. There were Accelerated Schools in many states, including Texas where 300 schools were participating. Assistance for Texas Accelerated Schools was provided by the Accelerated Schools staff at Stanford University and the Texas Accelerated Schools staff affiliated with the Texas A&M University School of Education.

A hallmark of Accelerated Schools was the inquiry method in which all faculty members in a school participated in committees or cadres to examine important questions developed by the faculty, administration, parents and students. The inquiry process involved reviewing the needs of the school using available information in a systematic way and developing a vision for the future unique to each school and its students. The Accelerated Schools model aimed to empower faculty, administrators, parents, and students to create a school vision that fit their circumstances and then be accountable for accomplishing that vision.

During the Accelerated Schools inquiry process, the Hollibrook faculty developed the idea of the ungraded continuum class, the bilingual program approach, and the strong emphasis on language development schoolwide. In later years, the Accelerated Schools process contributed to creation of a full-day kindergarten, hiring social workers in place of school counselors, creation of the Parent Center, and investing heavily in technology for the school.

Apple Classrooms of Tomorrow (ACOT). Linda Vista school had an ACOT grant that supported instructional technology in the classroom. Linda Vista had four ACOT classrooms. The partnership provided professional development for teachers and equipment for the classrooms.

The staff development for teachers involved with ACOT was provided at a Teacher Development Center (TDC), a laboratory school with funding from Apple Computers, Inc., the National Alliance for Restructuring Education, and the National Science Foundation. Ten TDCs

offered week-long practicum for participating ACOT teachers. Linda Vista was recently designated a TDC, which meant that Linda Vista teachers would train other National Alliance teachers to investigate new models of learning and integrate technology in the learning process. ACOT reflects the long-term commitment of Apple Computers to support the use of technology to improve schooling. ACOT provided equipment for Linda Vista classrooms including four Macintosh computers with CD-ROM drives, Powerbooks, scanners, televisions, VCRs, laserdisc players, and a Palmcorder.

Technical Education Research Corporation (TERC). With support from the National Science Foundation and the U.S. Department of Education, Office of Bilingual Education and Minority Languages Affairs and Office for Educational Research and Improvement, TERC (a non-profit educational research firm located in Cambridge, Massachusetts) and Graham and Parks teachers collaboratively developed an approach to science education for students learning English that relied on instructional conversation for scientific sense-making. Graham and Parks and several others schools in the Boston area served as living laboratories for the development of the TERC's sense-making approach to learning science.

TERC had worked with Graham and Parks for six years in the Haitian Creole bilingual program. TERC studied what and how LEP students learned in an inquiry-based science classroom. In project classes, science was viewed as a way of knowing and thinking. Students were encouraged to determine what was studied and to decide which questions to explore within a given topic. The TERC staff developed extensive background material for the teachers and supplied materials for student projects. Teachers attended two-week summer programs and bi-weekly seminars with all the teachers in the Boston area working on TERC project science. In the seminars, teachers and TERC staff read scientific literature and analyzed classroom practice using videotapes, transcripts of lessons, and samples of student work. For example, they explored ways to generate more student talk and less teacher-dominated talk.

There was a close in-classroom working relationship between the TERC staff and the teachers in which TERC staff provided support and guidance to teachers as they worked through developing students' firsthand knowledge of an inquiry. Participating teachers received a $3,000 stipend annually. The two bilingual teachers in Graham and Parks' grades 5 through 8 classroom had been participating in the TERC project for two and a half years.

Susan Kovalik & Associates. Susan Kovalik, an educational consultant based in Washington State, and her firm of 50 consultants worked with individual schools, with districts, and with entire states to reform teaching and learning. Kovalik offered seminars as well as long-term

coaching and assistance to schools. Kovalik required that all teachers at a school want to participate in her training before accepting the school for a coaching relationship.

The cornerstone of Kovalik's approach was the development of a brain-compatible learning environment. Kovalik argued that schools should design learning environments in ways that were compatible with what is known about how humans learn. She identified eight attributes of effective learning environments: [1]

1. *Absence of threat*: Students feel physically and psychologically safe from harassment, put-downs or hostility from their peers or teachers.
2. *Meaningful content*: Curriculum is taken from real life, depends heavily on students' prior experience, is age appropriate, and promotes learning as its own reward.
3. *Choices*: Students are provided with different ways of knowing something.
4. *Adequate time*: Learning activities are scheduled to occur over a reasonable period of time to allow for student mastery.
5. *Enriched environment*: Students are exposed to a variety of firsthand resources, books, a reference library, and "being there" experiences.
6. *Collaboration*: Students work together in group learning activities.
7. *Immediate feedback*: Teachers provide students with an assessment of their performance in learning tasks.
8. *Mastery/application*: Students gain sufficient skill over a subject area that they can demonstrate mastery in the skill rather than superficial understanding.

Involvement with Kovalik began with several day-long in-service seminars. This intensive work was followed by a Kovalik consultant coaching teachers over a long-term period. Kovalik coaches assisted teachers in developing thematic units and creating a brain-compatible learning environment.

Despite the fact that Kovalik's theories and approaches were not specifically designed for LEP students, Hanshaw Middle School teachers and administrators reported that they were effective with minority and LEP students.

San Francisco Project 2061. Project 2061 was an endeavor sponsored by the American Association for the Advancement of Science. Launched in 1985, Project 2061 was designed to transform K-12 science, mathematics, and technology education to ensure science literacy for all high school graduates. The mission of the project was to increase science literacy for all

students who would live to see the return of Haley's Comet in 2061. A team of over 300 scientists, mathematicians, engineers, and historians participated in defining learning goals (including knowledge, skills, values, and attitudes) for science literacy as outlined in *Science for All Americans*. Educators collaborated with Project 2061 in specifying likely steps along the way in progressing toward these 12th grade understandings and habits of mind—by the end of grades 2, 5, 8, and 12. Focusing on the understanding and interconnection of concepts, rather than memorization of discrete facts, these specifications appear in *Benchmarks for Science Literacy*.

In the fall of 1989, San Francisco Unified School District became one of six national sites participating in Project 2061; curriculum models developed as a result of the Project were intended to be tools for reforming K-12 science, mathematics, and technology education. A task force of 20 teachers and curriculum directors from elementary, middle and high schools prepared the original district plan for 2061. (Three of the five middle school teachers on the district task force were from Horace Mann Middle School.) A curriculum model was developed and teams of teachers began to implement the model in four schools beginning in 1991.

The San Francisco 2061 curriculum model was based on interdisciplinary, project-based learning experiences called "Challenges." Teams of teachers at each school designed "learning challenges" that integrate natural sciences, mathematics, and technology as well as social sciences and humanities. Heterogeneous groups of students were challenged to address environmental or social issues of local or global scope within a given period of time using a constructivist approach. The model included an assessment component that was designed to measure students' ability to construct and apply knowledge, not reproduce it. The assessment tools included portfolios of student work, substantive dialogue with peers and teachers, and cooperative performance.

District-level support for teachers at participating schools focused on designing learning challenges and assessing their impact on student learning. While it was not explicitly developed for LEP students, the inclusiveness built into 2061, and the heterogeneous grouping practices, resulted in meaningful LEP student participation.

UTEP—School of Education. Through a variety of projects, the University of Texas at El Paso (UTEP), School of Education was actively involved in El Paso schools. As a result, Both Wiggs Middle School and Del Norte Heights Elementary School benefited from collaborative relationships with the University.

Support for Wiggs took many forms, ranging from in-class coaching to professional development activities to the provision of costly equipment. Wiggs teachers and administrators

received on-going assistance from University staff on the implementation of the "middle school concept." UTEP faculty also helped Wiggs staff develop a proposal for an on-site health clinic. Through a School of Education technology grant from NSF, Wiggs teachers were trained in instructional uses of technology. Twelve teachers at Wiggs received training from UTEP on computer hardware and software and on how to design lessons using the computer. The grant provided each participating teacher with three Macintosh LC III computers with CD-ROM drives, an LCD panel, a scanner, and two printers for their classroom. UTEP also linked student teachers with Wiggs teachers to help the teachers integrate technology into their classrooms. The School of Education also led an a community-wide effort called the El Paso Collaborative for Academic Excellence which was supported by a grant from the National Science Foundation, as well as by funds from private foundations. Through the El Paso Collaborative, Wiggs teachers participated in a Mathematics Institute to help restructure the school's mathematics curriculum. Teachers who participated in the off-site professional development activities returned to Wiggs to train their fellow teachers.

When Del Norte staff decided to target mathematics for their professional development activities, they hired a mathematics professor from UTEP to provide teacher in-services. The focus was on using manipulatives and critical thinking skills as they introduced algebraic concepts. This relationship eventually led to a partnership between Del Norte and the School of Education in which student teachers who had been trained by the mathematics professor did their student teaching at Del Norte and worked with teachers to further support their mathematics program.

Endnotes

[1] Kovalik, Susan J. and Karen D. Olsen. *Kids Eye View of Science: A Teacher's Handbook for Implementing an Integrated thematic Approach to Teaching Science, K-6.* Kent, WA., 1994.

7. The District Role in Support of Reform

While districts differed significantly in the ways in which they related to the exemplary schools and in the amount of autonomy they allowed the schools, most districts shared a commitment to high quality programs for LEP students, supported school restructuring efforts, and provided opportunities for professional development to the exemplary school faculties. The remainder of this chapter will discuss the district role in support of reform at the exemplary schools.

Finding #7.1 Degree of District Support. *Districts ranged in their support of schools from laissez-faire to facilitative; none were controlling.*

Although not every district housing the eight study schools employed the same set of strategies to support the schools' programs, most districts allowed schools the flexibility to create programs that fit their populations as long as schools were in compliance with federal and state regulations. In support of schools, districts ranged from a laissez-faire approach to a facilitative one. In the former, the school was allowed to create and implement its program with only minimal involvement from the district office. The Chicago district's relationship to Inter-American school represented a laissez-faire approach. The district held the school responsible for legal compliance with federal and state requirements. Once Inter-American had met those requirements, the district position was to allow the school considerable autonomy in the development of curriculum and instructional programs.

Other districts including Ysleta (Del Norte) and San Diego (Linda Vista) facilitated school programs and activities. Facilitative districts provided activities that supported schools as they designed and implemented their programs. Both the San Diego and the Ysleta districts worked with schools in the district to help meet their specific needs. Although the facilitative districts differed in the level and type of support provided for the school, they typically supported the schools' programs for LEP students through the provision of staff development, through support for smaller class size, and by providing schools with the flexibility to create programs that fit their populations.

Finding #7.2 Shift Toward Site-Based Management. *Some districts allowed schools the flexibility to create programs to meet the specific needs of their student populations by transferring management responsibilities—including budgetary control to the site level.*

Most of the exemplary schools had a significant degree of site-level autonomy. Both Texas and Illinois had implemented site-based management. In each case the state made a commitment to providing greater autonomy for schools. Freeing districts from a rule-based regulatory system and making them more accountable for student outcomes are features of both the Texas and Illinois systems of site-based management. The Texas schools (Del Norte, Hollibrook, and Wiggs) and Inter-American were able to make decisions about school programming and budgetary issues to meet the needs of their students. (See Finding #5.5 for a discussion of the governance systems in place at the exemplary schools.)

Despite the movement towards site-based management, districts still played an important role in supporting both curriculum and instructional strategies as well as in providing support for the programs for LEP students.

Finding #7.3 Support for High Quality Programs for LEP Students. *Many districts supported the creation of high quality programs for LEP students by recruiting bilingual teachers and teachers trained in language acquisition, providing stipends for such teachers, offering professional development to teachers, lowering class size limits for LEP student classes, and supporting schools' goals of developing students' bilingualism.*

Each of the eight exemplary schools employed teachers and other staff who spoke the language of the school's LEP students. Several districts took a leadership role in recruiting bilingual staff for the schools in the district. District support for recruiting bilingual teachers was strongest in districts where large numbers of bilingual teachers were needed to support the types of programs offered by the schools.

Del Norte, located in Texas near the Mexican border, and Hollibrook, also in Texas, had bilingual programs enrolling large numbers of LEP students. Both schools were located in districts that supported the goal of bilingualism and biliteracy for LEP students. The combination of large numbers of LEP students and programs that supported biliteracy created a demand for teachers bilingual in Spanish, trained in second-language acquisition, and holding the appropriate credential. Linda Vista was also located in a community on the Mexican border and faced some of the same challenges as Del Norte and Hollibrook. The school enrolled large

numbers of Spanish-speaking LEP students and required a large number of trained and certified Spanish-speaking teachers.

The three districts employed a number of strategies to recruit, hire, and retain teachers who were bilingual, trained in second language acquisition, and appropriately certified. Stipends were paid to bilingual teachers—$3,000 by Hollibrook's district and $1,000 by Wiggs' district; relationships were established with local teacher training institutions; and support was provided for bilingual paraprofessionals who wanted to become certified as teachers.

In addition to a large Spanish-speaking LEP population, Linda Vista enrolled a large population of Southeast Asian LEP students. Although the school did not promote full literacy in the Southeast Asian languages, Linda Vista's program called for social studies instruction in Hmong, Vietnamese, and Lao. District support for Linda Vista included helping them recruit one of the few teachers in the state who spoke Vietnamese, as well as paraprofessionals who spoke Southeast Asian languages.

District support for LEP student programs also involved reducing the number of students in classrooms with LEP students. Section K describes the mechanisms to reduce class size. Box I-7.1 describes the reduction of class sizes in Wiggs' newcomer program.

Districts where several of the exemplary schools were located expressed goals for their LEP students beyond transition to English and mastery of content. These districts valued bilingualism and supported students' development of bilingualism and biliteracy at the exemplary schools. The districts housing Hollibrook, Del Norte, and Linda Vista all supported the goal of bilingualism for

Box I-7.1

District Facilitated the Development of High Quality Newcomer Programs by Reducing Class Sizes

Nationally, classrooms average 24 students in elementary schools and 25 students in secondary schools (Digest of Educational Statistics, 1994), and classes in some of the exemplary schools had more than 30 students. One feature of some of the exemplary schools was that the number of students in classrooms with newcomer LEP students was smaller than other classrooms at the school. At Wiggs, for example, the district had established a class size limit of 15 for beginning LAMP (newcomer) classrooms. The district provided additional support to maintain classes at that level. These small classes were in contrast to the mainstream school environment, where classes averaged between 25 and 26 students. Smaller classes allowed teachers of LEP students to provide more individualized instruction and allowed them to structure more opportunities to produce language for their students in both whole class and small group settings.

their Spanish-speaking students. District support for bilingualism presented itself in a number of ways. District staff shared a vision for maintaining the native language of their Spanish-speaking LEP students. Districts also provided access to materials in Spanish through the textbook adoption process. District staff in all departments viewed LEP students as part of the population of the district—not just as the province of the bilingual department. Staff development, staff recruitment, curriculum development, and support for innovative instructional activities were conceptualized and implemented with the goal of bilingualism for LEP students in mind.

Finding #7.4 Support for School Restructuring. *Many districts provided forums for school staff to learn about current ideas in school reform and to communicate with staff from other schools. Districts also facilitated the approval of waivers to release schools from restrictive regulations.*

Many districts that housed the exemplary schools encouraged the schools as they implemented aspects of school reform. Districts provided professional development support that allowed school staff to attend conferences and visit other sites implementing school reform. Districts also supported schools as they requested waivers from district or state rules that served as barriers to implementation. Waivers were often necessary to implement such reforms as block scheduling and other adjustments to the traditional day or year schedule.

District support for schools making the adjustments necessary to implement the middle schools model was noteworthy in two districts—San Francisco (Horace Mann) and El Paso (Wiggs). The two schools implemented the middle school model prior to wider implementation in their districts. In each case, the district used the schools as a learning laboratory for other schools in the district wanting to create middle schools. The districts recognized that the schools were on the forefront of innovation, supported their efforts and provided a environment within which the schools could be creative.

Finding #7.5 Support for Professional Development. *Most districts supported the development of powerful learning environments by providing professional development activities.*

Districts with exemplary programs were moving toward a holistic approach to staff development. Districts viewed their role as supporting curriculum and instructional programs at the school level and provided staff development in response to requests from schools. In a few districts, school faculties created staff development plans that connected to schoolwide improvement plans. Districts coordinated the staff development requests of each school and planned district wide staff development activities. The result was a coordinated staff

development program intended to meet the needs of each school in the district. Box I-7.2 illustrates district support for Hollibrook's professional development plan.

Districts also provided staff development in areas that they wanted to develop districtwide. Several districts provided large menus of staff development activities including language development, cooperative learning, and Whole Language strategies in which many teachers at the exemplary schools had participated.

Box I-7.2

Hollibrook's District Responds to School's Professional Development Plan

Hollibrook's district has given priority to staff development by supporting ten paid staff development days (five are required by the state). The districtwide process for determining overall staff development needs is based on site-level staff development plans that are connected to schoolwide improvement plans. From these documents, the district locates trainers and resources to help schools implement their plans. An example of Hollibrook's involvement in district-supported staff development activities includes the participation of fourth grade teachers in a 15-day Writer's Workshop training. Teachers learned to implement the Writer's Workshop approach to teaching the process of writing. After participating in the training, the fourth grade teachers came back to the school and taught other teachers how to implement the Writer's Workshop. This training was provided in response to Hollibrook's goal of focusing on literacy development.

8. State Support for the Exemplary Schools

State policies impacted each of the exemplary case study sites. New systems of accountability involving increased local autonomy affected some schools. State policies designed to decrease class size for LEP students and fund pre-kindergarten programs that targeted LEP students supported the education of LEP students. In addition, state programs supported schools as they took on the challenges of restructuring.

Finding #8.1 Special Programs Required for LEP Students. *All states had a regulatory environment that mandated the development of programs for LEP students. State regulations included the use of teachers trained in language acquisition, instruction in students' primary language where there was a critical mass of LEP students, and consistent assessment of LEP student progress.*

Each of the four states in which the exemplary schools were located required schools to develop special programs to address the needs of students with limited proficiency in English. Texas, for example, mandated bilingual instruction through 6th grade where there was a critical mass of same language LEP students at a grade level. Hollibrook Elementary was significantly affected by this law, as they have struggled to hire bilingual teachers to keep up with the growth of the LEP student population. The state mandate kept pressure on the school and district to recruit and retain bilingual teachers. Del Norte's bilingual language development program had a much longer history than Hollibrook's. The state provided the impetus for the development of Del Norte's bilingual program in 1974 when Texas began mandating bilingual instruction. In response to this mandate, Ysleta Independent School District began offering stipends to bilingual teachers; the district also paid for teachers to obtain bilingual credentials. Bilingual education was institutionalized at Del Norte and the school no longer received pressure from the state. Del Norte had two bilingual classrooms with certified bilingual teachers at each grade from kindergarten through 5th grade and one in 6th grade.

Inter-American remained unaffected by Illinois' requirements for LEP students (three years or less of bilingual instruction where there is a critical mass of same-language LEP students at a grade level) because their Developmental Bilingual program called for nine years (pre-kindergarten through 8th grade) of bilingual instruction. Massachusetts' policy on primary language education was similar to Illinois'. Massachusetts law required school districts with 20 or more LEP students with the same home language to offer a Transitional Bilingual Education program. These programs provided students with instruction in their primary language and English in all mandatory subjects. The state also required districts to submit an end-of-year

report on the progress of LEP students. In this report, the district were asked to justify keeping an LEP student in a bilingual program for more than three years. The California regulations were similar to the laws in Texas, Illinois, and Massachusetts.[1] They require that schools with 20 or more LEP students who speak the same language provide instruction either in those students' native language or in a specially designed instructional program in English. Further, the California regulations require that LEP students are taught by teachers who have training in English language development. All of the states required teachers who deliver bilingual or ESL instruction to have bilingual or ESL credentials.

Finding #8.2 Local Autonomy and Increased Accountability. *Some states allowed districts and schools the flexibility to create programs that met the specific needs of their student populations by increasing local autonomy and accountability.*

Exemplary schools in two states, Illinois and Texas, were impacted by new governance systems based on local autonomy and increased accountability. Texas implemented a major school reform bill that shifted school management to the district and school level and increased school accountability. The reform bill required schools to establish Campus Leadership Teams and to submit an annual Campus Improvement Plan. In return, the bill gave schools responsibility for their budget. Schools were then held accountable for student achievement as assessed by the Texas Assessment of Academic Skills (TAAS). Schools that scored below certain levels were placed on probation and sanctions were applied: the school had to accept technical assistance and be overseen by a state monitor. If the schools' TAAS scores did not improve, the principal and teachers would be dismissed. This provision had not yet been implemented, but it was causing much discussion and apprehension in the schools.

The new accountability system affected each of the three case study sites in Texas. At Del Norte, for example, staff enthusiastically embraced the shift to site-based management. The Campus Educational Improvement Council—made up of four parents, four teachers, and the principal—made budget and programmatic decisions relating to student achievement, including decisions on staffing, professional development, and schoolwide priorities. Because all budget decisions—with the exception of salary items—were made at the site level, teachers and other staff members were aware of the impact of expenditures. As a result of the increased autonomy, school staff understood the trade-offs and made decisions to maximize funding for the academic program.

[1]Though the Bilingual Education Act sunset in 1988, the California Department of Education had issued guidelines regarding the education of LEP students.

Illinois had also developed a new school accountability system and had made significant progress towards implementing site-based management. The accountability system was school-based and required schools to meet designated outcome standards. Schools had to meet both state and local standards. The state annually administered an assessment of student performance in grades 3, 6, 8, and 10; students were assessed against grade level standards in writing, science, social studies, and mathematics. Schools also set goals for themselves and selected or developed appropriate assessment tools to complement the state assessment tools. This emphasis on outcomes marked a significant shift from Illinois' previous system based on inputs and compliance. Like Texas, Illinois required schools to develop school improvement plans identifying specific goals and outcomes. If schools exceeded their goals, they became eligible for waivers that released them from compliance with state regulations. If schools did not meet their goals, they were placed on the state's academic watch list. If poor performance continued, schools were subject to state takeover.

Inter-American was affected by additional state polices that specifically targeted Chicago. Because of the size of the district, the state mandated that each Chicago school be governed by a Local School Council composed of parents, community members, teachers, and the school principal. The eleven-member board was responsible for setting school policies, hiring and evaluating the principal, and interviewing candidates for teacher positions. The state had mandated that all categorical funding (e.g., Chapter I) be spent at the site level; the LSC controlled these funds, as well as other discretionary funds, and made decisions on expenditures.

Finding #8.3 Funding for Reduced Class Size and Pre-Kindergarten. *Most states adopted policies to reduce class sizes at schools that are highly impacted by LEP students and to fund pre-kindergarten programs that give priority to LEP students.*

The exemplary schools reduced class sizes for LEP students to allow for increased individualized instruction. The schools were also able offer pre-kindergarten programs for LEP students, giving students a critical extra year of school. Both of these strategies were made possible by state policies.

State policies relating to class size varied significantly from state to state. Texas mandated relatively small classes: the maximum student-teacher ratio in pre-kindergarten through 5th grade classrooms was 21 to one; it was 26 to one for 6th through 12th grade classrooms. At the other extreme was California where districts were penalized when average class sizes exceeded 30.

Some states had mechanisms to reduce class sizes at schools that were highly impacted by LEP students. Illinois assigned state-funded teachers to schools with significant LEP student

populations to allow those schools to lower class size. Schools were eligible for a maximum of two teachers per language group. Inter-American had two state-funded bilingual teachers. In Massachusetts, Transitional Bilingual Education classes had a maximum student-teacher ratio of 18 to one. [The ratio was 25 to one in two instances: a) If an aide who speaks the students' native language was assigned to the class; or b) If a non-native aide was assigned to a class taught by a native-speaking teacher.] In multi-grade classes, as was the case at Graham and Parks, the maximum student-teacher ratio dropped to 15 to one. Graham and Parks' fifth through eighth grade Transitional Bilingual Education class had 23 students and two teachers.

Among the elementary grade exemplary schools, three of the four schools—Inter-American, Hollibrook, and Linda Vista—had state-funded pre-kindergarten programs. Illinois funded a large pre-kindergarten program for "children at risk of academic failure," including LEP students. Inter-American's pre-kindergarten classes were funded by this program. Texas also funded half-day pre-kindergarten programs in which LEP students were given priority when there was insufficient space to accommodate all children. Hollibrook had a state-funded pre-kindergarten.[2] Finally, Linda Vista's pre-kindergarten program was funded by state funds that support early childhood programs for low-income students at school and community sites.

Finding #8.4 Support for School Restructuring. *States made an effort to advance the development of innovations by providing frameworks for reform, extra time and opportunities for professional development, and grants to pilot innovations.*

The exemplary schools were supported in their restructuring efforts by a number of statewide policies. For example, the exemplary middle schools were located in states that were promoting a shift toward a new "middle school concept." Both states, California and Texas, created networks through which schools shared information and both offered professional development. California developed a framework for restructuring elementary and middle schools. In support of a new approach to curriculum and instruction, California offered on-going "subject-matter projects" that provided professional development on the state-of-the-art in a given curricular area. Finally, California funded pilot programs to demonstrate the possibilities of school restructuring.

A Framework for Reform

The California Department of Education supported the implementation of a new concept of education for students at the middle grades. In 1987, the Superintendent for Public Instruction's

[2]Hollibrook used federal Chapter funds to extend their pre-kindergarten program to full-day.

Middle Grade Task Force published *Caught in the Middle*, a reform agenda for grades six, seven, and eight. To support the reform agenda, the state established networks of middle schools so that schools could confer with one another on implementation issues. The ideas in the state report formed an underlying structure for Hanshaw Middle School, with many of the important state design features incorporated into the school's structure. For example, the state model supports adherence to a common core of knowledge (the state's curriculum frameworks serve as the underpinnings of Hanshaw's curriculum), the division of schools into smaller organizational units or schools-within-schools such as the "houses" at Hanshaw, extended time blocks for core subject areas, the use of cooperative learning groups and active learning strategies, attention to the social development of adolescents, and the cultivation of cooperative relationships between the school and parents and community members.

Middle schools were a newer concept in Texas—Wiggs was the first middle school in El Paso when it opened in 1987. The Texas Education Agency created a middle school department in 1991, initiating the statewide dialogue on the middle school concept. The state sponsored workshops and created a Texas Middle School Network to raise the level of consciousness in the state regarding the concept of middle schools. Because Wiggs was one of the original middle schools in the state, it served as a model for other middle schools. Wiggs staff attended state and national conferences on issues relating to the implementation of effective strategies for middle grade students.

Professional Development Networks

California and Texas both sponsored professional development networks that impacted case study sites. California had developed an infrastructure of subject-matter projects, such as the California Writing Project and the California Mathematics Project. The Subject Matter Projects offered intensive, three-to-four week workshops that focused on current thinking in the field and classroom applications. These institutes were supported by one to two years of follow-up meetings that provided a continuing forum for the exchange of ideas about instructional strategies in a given curricular area. Teachers at Hanshaw, Horace Mann, and Linda Vista used strategies learned through these state-sponsored training projects.

At Wiggs, the Texas Mentor Schools Network had a significant impact. As a Mentor School, Wiggs served as a laboratory for other schools, especially those wanting to implement the new ideas relating to education at the middle grades. Wiggs staff trained teachers at other sites and participated in development activities and conferences sponsored by the Texas Mentor Schools Network. El Paso schools had six district staff development days and schools could

decide how those days were used. Because Wiggs was a Mentor School, it received ten staff development days in addition to the six provided by the district.

Restructuring Grants

California had a unique mechanism that supported school reform. Senate Bill 1274, California's school restructuring legislation, supported schools through a number of activities, including direct grants. The grant process had two phases: first, schools competed for one-year Restructuring Planning Grants; second, they presented their plan in competition for four-year Restructuring Demonstration Grants. The grants were intended to support schools to become demonstrations of what is possible in a restructured school. Only about 100 schools in the state had Restructuring Demonstration Grants; two of those—Horace Mann and Linda Vista—were case study sites. Linda Vista used its Restructuring Demonstration Grant ($172,000 a year for four years) to improve the education of their LEP students through the implementation of innovative practices. More specifically, they used their grant money to develop a comprehensive assessment system. The grant supported release time for teachers to develop schoolwide language arts and mathematics standards, staff development activities on alternative assessment, and a part-time technical person who helped design and implement an electronic portfolio system. They also used their restructuring grant to provide training for teachers on uses of instructional technology and to purchase equipment. Finally, the 1274 grant supported their schoolwide priorities by financing extensive, ongoing staff development. Teachers were trained in committee process, student access, team teaching, cooperative learning, language acquisition, and bilingual teaching.

Horace Mann used its Restructuring Demonstration Grant to support professional development and teacher collaboration, to develop a plan to expand the school's health and social services, and to enhance the school's instructional technology program. The school used the grant ($119,000 a year for four years) to pay teacher stipends for time spent on joint planning and professional development. The grant supported an on-site training program that allowed teachers to become certified as Language Development Specialists. In addition, the grant supported a Social Services Coordinator who was responsible for conducting a needs assessment and developing a more extensive integrated services program for the school. Finally, the grant helped fund two well-equipped computer laboratories.

9. Federal Influences

The federal government's role at the exemplary schools was an important one that manifested itself in a number of ways. The federal government's presence was felt at each of the exemplary sites and strengthened the school's ability to provide high quality instruction for LEP students. Although the federal role was not always direct, the support it provided was evident. Exemplary schools that were particularly entrepreneurial were especially effective at finding and utilizing federal resources.

Finding #9.1 Schoolwide Chapter I. *Federal Chapter I funds supported innovative curricular and instructional strategies as well as activities such as after-school tutoring, summer school, and parent outreach programs. The shift to schoolwide Chapter I funding contributed to more comprehensive and integrated programs and more efficient use of funds.*

All of the study schools received Chapter I funds since they each served large populations of economically disadvantaged students. Chapter I funds supported some of the innovative curricular and instructional strategies at the case study sites. The schoolwide Chapter I program was especially important to those schools that were able to implement it because it allowed the schools to use Chapter I funding more comprehensively to support the schoolwide vision. At Del Norte Elementary School, the school's high percentage of low-income students (85 percent eligible for free or reduced-priced lunch) made the school eligible to implement a school-wide Chapter I program. Del Norte used its Chapter I funds to implement several instructional strategies. Chapter I funding provided supplemental staffing for Enrichment Time—a block of time (each day or four days) during which all students, in small groups, participated in language arts enrichment activities. Del Norte's Chapter I funds also supported after-school tutoring and extensive parent outreach programs.

Finding #9.2 Support for Research. *The federal government's sponsorship of research and development activities—e.g., NSF for science curriculum development—had a direct impact on the exemplary schools.*

At the exemplary schools in our study, federal agencies were important sources of support for curriculum development, particularly in the area of science. A previous chapter (see Chapter 6), described the role and importance of the National Science Foundation's (NSF) funded research efforts aimed at improved science curriculum at four of the exemplary schools. Although NSF's research efforts were not directed toward LEP students and although NSF

funding typically was not to the exemplary schools, the impact on the schools and their curriculum was clear and direct. Similarly, funding for the Department of Education's Eisenhower Mathematics and Science program which is directed to state education agencies and state agencies for higher education to improve the skill of teachers and the quality of instruction in science and mathematics is not directed toward LEP students. Nonetheless, Eisenhower funding provided in-depth training in science instruction and support for curriculum development for teachers at several of the schools in the pool of 15 schools from which the eight exemplary schools were selected. Horace Mann's Project 2061 and Wiggs' infusion of technology into the curriculum were both supported from federal efforts.

Finding #9.3 Nutrition Programs. *Federal support for breakfast and lunch programs was critical at the exemplary schools.*

The school breakfast and lunch programs were crucial at many of the exemplary schools. At several schools, a large percentage—up to 94 percent—of the school's students were eligible for and participated in the schools' federally-funded free and reduced-price lunch programs. School staff believed that for some of their students, the school breakfast and lunch provided the only meals of the day.

Finding #9.4 National Leadership. *The federal government's leadership in school reform efforts and in supporting research on innovative programs for LEP students was important to districts and schools.*

While impact of national leadership could not be easily assessed, national dialogue linking states, professional associations, private foundations, corporate philanthropy, and universities in a broader discussion of goals and ways that schools can be involved to reach those goals appeared to indirectly impact the exemplary sites.

Federal leadership through Title VII has been an important force in the development of programs for LEP students. Title VII resources helped to leverage state funds and provided districts with a degree of spending flexibility. In several districts housing the exemplary schools, the resources allowed the district to focus program development efforts and supported staff development. Title VII funds also helped districts and states share with and learn from other districts. The training, assessment tools, curriculum, and dialogue that emanate from Title VII represent a contribution to the development of sound schooling for LEP students nationwide.

J. ASSESSMENT OF THE OUTCOMES OF THE REFORM

The process of assessment—the gathering and interpretation of data about the knowledge and achievement of students—must be appropriate to those being assessed. Earlier chapters of this report suggested an important finding from the study: Comparable data to assess the impact of the reforms on student achievement across the sites are not available. The lack of data to assess the impact of reforms on the achievement of LEP students stems from both technical and logistical issues. This chapter first examines some of the technical issues around the use of standardized tests to assess LEP students' achievement and then looks more specifically at the assessment issues faced by the exemplary schools in our study.

Technical Issues in Assessing LEP Students

Calls for reform of schools have been linked to an emphasis on holding schools accountable for improved student outcomes. Historically, standardized tests have been used in large-scale assessment systems to determine the effectiveness of educational programs, schools, and school districts. Many who advocate fundamental school reform argue that students must be held to higher standards and that those standards should be linked to performance assessment systems as a more effective way of measuring student achievement than traditional standardized tests.[1]

The use of standardized tests to measure the achievement of LEP students has raised serious concerns about the ability of standardized tests in English to provide accurate assessments of LEP students' level of academic achievement. One set of concerns raised about standardized tests centers around whether the tests have been validated and normed for similar students. Valid inferences from standardized tests can only be drawn for the population for which the test has been validated and normed. Without such validation and norming with a particular group of LEP students (or former LEP students), scores obtained from standardized tests are not likely to accurately reflect the achievement of those students.[2] Typically, standardized tests are not normed with LEP students or with former LEP students calling into question the validity of using such tests for LEP or former LEP students.

A second set of issues relates to the ability of standardized tests to disentangle LEP students' mastery of content from their mastery of academic English. When LEP students are tested on English standardized tests, they, not surprisingly, do less well than their English-only counterparts. Standardized, norm-referenced English language achievement tests do not allow us to sort out the LEP student's grasp of content (mathematics, for example) from their competence in English.

Assessment in content areas should allow students to demonstrate their mastery of the content being assessed, however assessing students who are in the process of learning English in English does not provide an unambiguous assessment of those students' mastery of content. The standardized test would measure both the students' mastery of content as well as the students' mastery of English.. The score resulting from such an assessment would confound the two issues and would likely underestimate the students' mastery of content.[3]

Assessment at the Exemplary Schools

The exemplary schools were committed to providing high quality and challenging content to LEP students—the same high quality content that they provided to their English-dominant students. Individual schools developed school-based methods of assessing student mastery of curricular content and used the results of those assessments to improve their programs. Including LEP students in a comprehensive statewide or districtwide system of assessment of academic achievement has proven more problematic. The technical issues described above—the appropriateness of standardized tests for measuring LEP student achievement and the confounding of English language mastery and the mastery of English acquisition for LEP students—were recognized by the exemplary sites.

In this study, we were limited to collecting available data from our exemplary sites. We were unable to test students on comparable instruments or to track their progress over time. Available data had a number of limitations, including the lack of academic achievement data for most LEP students. In most cases, LEP students were not tested using standardized tests for academic achievement because such tests were only available in English. In cases where LEP students were tested in English, school staff were unable to disentangle whether the tests measured academic achievement or content mastery.

We did, however, learn a great deal about assessment of LEP student progress toward English language fluency and the ways in which schools, districts, and states were assessing academic achievement. The remainder of this chapter examines these two critical assessment issues.

State and District Level Assessment of English Language Development

Each of the states had policies for identification of LEP students. Each state had a definition of a LEP student detailed in legislation and regulation. The definitions were very similar; the Massachusetts language provides a good illustration of how states defined a LEP student:

(a) children who were not born in the United States, whose native tongue is a language other than English and who are incapable of performing ordinary classwork in English; and

(b) children who were born in the United States of non-English speaking parents and who are incapable of performing ordinary classwork in English.

Massachusetts General Law, Chapter 71A

States used a combination of methods to determine whether students fit the definition of limited English proficient. In California, Illinois, and Texas, for example, all parents completed a home language survey upon enrolling their child in school. In Massachusetts, parents and students are interviewed about languages used in the home and student language use. In addition, every state required that districts use one of the standard measures of English language fluency—the Language Assessment Scales (LAS), the Bilingual Syntax Measure (BSM), or the Idea-Oral Language Proficiency Test (IPT). On a yearly basis, states required districts, which in turn required schools, to assess LEP students' progress toward full fluency. In Texas, for example, a mandated Language Proficiency Assessment Committee (LPAC) at each school monitors LEP students' yearly progress toward fluency. The LPAC is composed of the principal, a bilingual teacher, an ESL teacher, and a parent; the committee meets as necessary over the course of the year to review student records. In Massachusetts, a district representative helps a site-based committee review each student's progress toward fluency.

Reclassification. Each of the states established criteria to determine when a student became fully proficient in English. Although the criteria differed in specifics, each state required that students reach the level of full fluency on one of the standard measures described above. In addition, students were required to score at a certain percentile level on a test of academic achievement given in English.

The acceptable tests and percentile scores varied from state to state. In California, students needed to score at the 35th percentile level on the CTBS. In Texas, students had to score at the 40th percentile on one of several norm-referenced tests of achievement, or pass the reading portion of the state performance-based test, the Texas Assessment of Academic Skills (TAAS). In Illinois, students needed to score at the 5th stanine (which corresponds to the 40th percentile) on the Iowa Test of Basic Skills (ITBS). In Massachusetts, once a student had been in a program for three years, a committee composed of the ESL teacher, primary language teacher, principal, and a district representative reviewed student records.

School Level Assessment of English Language Fluency

Teachers in the exemplary schools monitored LEP students' mastery of English in a number of ways. They tracked students' ability to speak. read. and write in English and used that information to modify classroom experiences.

Three of the exemplary elementary schools—Del Norte, Linda Vista's bilingual program, and Hollibrook—had programs designed to develop English language mastery over several years. Students moved from grade to grade with an increased proportion of their instruction in English. Transition to English was gradual and teachers could individualize student transition. At the fourth elementary school, Inter-American, the dual language program also used a gradual transition process. In addition, the program had Spanish language development goals for students who entered as English-only speakers. Each of these schools had a process for redesignating students as fully English proficient, but this typically did not affect classroom placement. Students remained in the same classroom setting which included both LEP students and students who had been reclassified as fully English proficient.

In Linda Vista's sheltered English program, students moved from one level of the English language development program to the next as they mastered the necessary learning outcomes. Students could move from Entry level, to Sheltered B, to Sheltered A, to Transition B, to Transition A at any point during the year as they mastered the previous level. LEP student classroom placement was a direct result of their mastery of English. Teachers who believed a student was prepared to transition to the next level presented his or her case to the LEP Review Panel. Teachers presented a portfolio including work samples and other evidence of performance that indicated that the student had met the standards for his or her current level.

The exemplary middle schools faced a different set of challenges. They had to provide middle school content to newcomer LEP students, to students who had been enrolled in an elementary school LEP program but were not yet ready to transition to an all-English environment, and to students whose parents wanted them to maintain their Spanish language literacy.

Schools responded to these challenges in several ways. The schools with formal newcomer programs—Wiggs and Horace Mann's Cantonese bilingual program—expected that a student would remain in the newcomer program for only one year. They structured the program to use English and their students' native languages so the transition to an all-English instructional environment could be made quickly. At Graham and Parks, the program was structured to allow students to make the transition to English at a more developmental pace.

In Horace Mann's Spanish bilingual program, a few students were newcomers, but most had either been enrolled in a LEP program at the elementary level or were enrolled to maintain their Spanish literacy. Some who were enrolled for Spanish literacy were native Spanish speakers; others were English speakers who had been enrolled in the district's Spanish dual immersion program. Because of the program's goal of maintenance of Spanish literacy, students were not necessarily reassigned once they reached fluency in English.

State-level Standardized Academic Achievement Measures

Each of the four states housing the exemplary schools had an accountability system that assessed the level of student achievement of academic goals. In accordance with the national movement towards performance-based assessment, several of these states had recently revised or were in the process of revising their state-level assessments to be more performance-based. Table J-1 contains an overview of achievement testing in each of the four states.

Table J-1
State Academic Assessment Systems, 1993-94

	California	Illinois[4]	Massachusetts	Texas
Name of test	California Learning Assessment System (CLAS)[5]	Illinois Goals Assessment Program (IGAP)	Massachusetts Educational Assessment System (MEAP)	Texas Assessment of Academic Skills (TAAS)
Grade levels	3, 4, 8, 10	3, 6, 8, 10	4, 8, 10	3-8, 10
Performance-based	Yes	No	No	Yes
When LEP students tested	After 3 years in school program	After 3 years in school program	After 3 years in school program	After 3 years in school program
Spanish version of test available	No[6]	No	No	No[7]

Two of the four states—Texas and California[8]—had moved to a performance-based assessment system. The Texas Assessment of Academic Skills (TAAS) was designed to provide students the opportunity to demonstrate knowledge and higher-order thinking skills. The fourth grade science test, for example, was designed to:

- assess core concepts and content;
- assess higher-order thinking skills in a science context; and

- assess students' ability to apply hands-on knowledge to real-world problems and decisions.

The Massachusetts Educational Assessment Program (MEAP) was designed to provide information to schools and districts so that they could identify areas that needed improvement: no individual student scores were reported.[9] The Illinois Goal Assessment Program (IGAP) was linked to statewide grade-level goals for student performance in each content area (language arts, science, social studies, and mathematics). The Program also mandated a local assessment component in which schools were to set their own goals and select or develop complementary assessment tools.

Typically, LEP students were not tested in English until they met some state-established criterion; as shown in Table J-1, the criterion in each case was expressed in terms of length of student enrollment in the program. Each of the states directed that students be tested in English on the standardized state assessment after being enrolled in a program for three years.

At the time of our study, Texas was in the process of developing a Spanish version of their TAAS exam, but in the meantime the three-year rule was in force. In Illinois, where the district was required by the state to choose and administer an additional assessment instrument, the Chicago Public School district had chosen to administer the Iowa Test of Basic Skills (ITBS) to its students. The district had selected La Prueba—a Spanish-language assessment—to administer to Spanish LEP students. Inter-American administered La Prueba beginning in third grade to students who began as either Spanish- or English-dominant. In Massachusetts, students were not tested for their first three years in a program unless their parents requested that they be tested.

Data from state-level assessments were for the most part unavailable for LEP students in our exemplary schools for a number of reasons. First, many LEP students had not been tested using English language assessments because students were not tested for the first three years they were enrolled at the school and in the language development program. For schools with a large influx of immigrants, the three-year rule excluded many of their LEP students from testing. This was the situation at Graham and Parks, Linda Vista, Hanshaw, and Wiggs.

The population of LEP students was transient in many of the exemplary schools. Students moved from school to school within the same district and from district to district. The impact of student transiency on the appropriateness of the measure to determine student achievement was similar to the impact of recent immigration. Although transient students might have been enrolled in schools in the United States for more than three years, the program they had been

enrolled in was not necessarily the exemplary program we were examining. This was particularly true at Horace Mann and at Hollibrook.

Inter-American had a stable LEP population and most of their LEP (and English-dominant) students had been enrolled at the school since kindergarten. Due to this stability, Inter-American provided the richest source of data on student achievement. Because the program was dual immersion, all students had the benefit of enrollment in the same program. Table J-2 provides data from Inter-American's 1993 Illinois Goals Assessment Program (IGAP) test at grade six.

Table J-2
Mean Scores of Inter-American 6th Graders on IGAP, Compared to the District and State

Subject Area (scale)	School (n = 64)	District	State
Reading (0-500)	237	184	259
Mathematics (0-500)	245	192	257
Writing (6-32)	23.3	19.6	21.4

The data show that Inter-American sixth graders performed better on average on the IGAP than did students districtwide. They did not perform as well on average as did students in the remainder of the state, except on the writing assessment. The sixth grade performance was typical of the performance at other grade levels: students outperformed their district but not their state counterparts.

Del Norte Heights Elementary School also had a relatively stable student population. Most of the students in upper grades were at the school long enough to be tested on TAAS and for their scores to reflect the quality of Del Norte's program. Table J-3 shows the percentage of Del

Table J-3
Percentage of Del Norte Heights 4th Graders Passing TAAS, Compared to the District and State

Subject	School	District	State
Reading	87.1%	68.3%	75.5%
Writing	94.2%	79.4%	85.5%
Math	65.7%	52.1%	59.4%

All Tests	60.0%	45.9%	54.8%

Norte Heights' 4th graders who passed each section of the 1994 TAAS test as well as the percentage that passed all tests.

As Table J-3 shows, Del Norte's 4th graders outperformed their counterparts in both the district and the state. About half of the students who entered Del Norte at kindergarten were LEP, and of those most were reclassified by the end of fourth grade. The test scores shown above include the scores of these reclassified FEP students, of LEP students who had been in the school for more than three years, as well as English-dominant students. Separate scores were not compiled for LEP, FEP, and English-only students.

School-level Assessment of Achievement

The exemplary schools assessed their students' progress in the classroom in a number of ways. Staff at many schools had participated in workshops in the use of authentic assessment methods and many were beginning to use those methods in their classrooms. Several schools had implemented portfolio assessment systems; however, for the most part the schools relied on traditional grades as a means of reporting student progress.

Classroom teachers monitored student progress in mastering the curriculum through teacher-developed tests. Many teachers reported that they focused on providing students the opportunity to demonstrate higher-order thinking and problem-solving skills, rather than just regurgitating facts or memorized material. Students were required to complete challenging essay and short-answer examinations that demonstrated their ability to analyze and synthesize what they had learned. Teachers saw classroom assessment as an integral part of the teaching/learning process and used the results to adjust their teaching methods and presentation of material.

Teachers at the exemplary schools used performance-based assessment methods to evaluate student performance. Students wrote, edited, and published book reports and essays, and performed other writing tasks. They gave and received constructive feedback to fellow students and maintained journals in which they analyzed reading assignments. They performed complex science experiments that allowed them to discover scientific principles, and then completed writing assignments that extended the lessons. They worked in groups on complex learning activities that required each member of the group to contribute to the completed assignment.

Assignments at the exemplary schools required students to extend their learning beyond completing worksheets. While practicing skills was clearly important, teachers tried to create opportunities for practice that challenged students to think and problem-solve. Teachers relied

on portfolio system as a way to gather student work over the course of the year. Students selected work to include in their portfolios and had opportunities to review past assignments to see their own progress throughout the year. Parents were also able to view their child's portfolios. When meeting with teachers, they could then view their child's work and see examples of particular strengths and weaknesses and follow their child's progress over the grading period.

Moving away from traditional methods of assessing student knowledge presented special challenges for teachers. Planning assessments that challenged students to use higher-order thinking and analytical skills required a considerable amount of teacher preparation. Assessing the results of work performed in groups with integrated group products was difficult for some teachers. Because of the challenges of alternative assessment, teachers engaged in professional development activities to help them develop meaningful assessment tools and learn how to use results. Some schools were striving to develop a comprehensive authentic assessment system; in these cases, schools sought external expertise to assist them in their efforts.

The next section describes the computerized portfolio assessment system in place at Linda Vista Elementary School, which had the most well-developed alternative assessment system among the exemplary schools.

Linda Vista's Alternative Assessment Program. Linda Vista School's program was ungraded and age appropriate. The school developed an authentic assessment process for assessing both student academic skills and their working and learning styles. The portfolio assessment system was built around a series of specific learning outcomes or standards. These outcomes established expectations and requirements for students at each of the school's developmental levels: early childhood, primary, middle, and upper. Within each level the outcomes and requirements were linked to student placement in the English language development program: Spanish bilingual, Sheltered A, Sheltered B, Transition A, Transition B, and English proficient. For example, there were separate sets of specific learning outcomes at the middle and upper levels level for Spanish, Sheltered A, Sheltered B, Transition A, Transition B, and English, therefore making six sets of learning outcomes for each level. (At the early childhood and primary levels there are fewer options for the language development program placement.)

Assessment rubrics (descriptions of student performance) were created for each developmental level for oral language, reading, and written language. Rubrics built on each other as the student progressed through the developmental levels. Table J-4 displays a complete set of the language arts learning outcomes for Upper Level (grades 5 and 6) Transition B and selected rubrics for the Upper Level. The complete rubrics each had five or six categories—for

Table J-4
Linda Vista Learning Outcomes and Rubrics
Upper Level: Transition B

Content Area	Learning Outcomes	Rubric Examples	Portfolio
Oral Language	• Speak clearly and loudly • Use complete sentences • Address audience and purpose • Summarize briefly core literature currently used in classroom	**3. Developing listener-speaker** • is an experienced speaker, usually attentive • occasionally takes part in class activities • makes relevant responses • expresses ideas in complete sentences **5. Exceptional listener-speaker** • is confident, effective, attentive • actively takes part in class activities, consistently in leadership role	• Tape students tv various types of
Formal Reading	• Follow directions • Note important details • Sequence correctly • Identify main ideas, supporting details, paragraph topics • Draw conclusions • Predict outcomes • Use context clues • Recognize cause and effect • Categorize orally and in writing • Thematic approach to topic for language arts by use of fiction, nonfiction, biography, mystery, poetry	**3. Moderately experienced reader** • is developing fluency as a reader and reads some books with confidence • is usually most comfortable reading short books with simple narratives • relies on re-reading favorite or familiar books • needs help with reading the content areas, especially using reference and information books **5. Exceptionally experienced reader** • a self-motivated confident reader who pursues his/her own interests through reading • capable of reading in all content areas and of locating and drawing on a variety of resources to research a topic independently • is able to evaluate evidence drawn from a variety of sources • is developing critical awareness as a reader	
Written Language	• Communicate ideas clearly and fluently in writing • Address audience and purpose • Edit for punctuation, grammar and capitalization • Write five part directions • Summarize written and oral material • Write multiple format book report • Write poetry, limericks • Write 1½ pages in daily journal	**5. Experienced writer** • is self-motivated and confident writer who uses a wide range of techniques to engage the reader • collection of work demonstrates: ♦ clear organization ♦ use of descriptive words ♦ complete, varied sentences ♦ selection of vocabulary appropriate for the writing ♦ beginning to make revisions ♦ few errors in convention and spelling	• Three student writing that de writing proces • Three book re (title, author, s summary, opi first, second, a • Three sample samples colle second, and th

written language the categories included Pre-writer, Emergent Writer, Developing Writer, Moderately Experienced Writer, Experienced Writer, and Exceptionally Experienced Writer. Rubrics had been developed for each language arts area. School staff had also developed anchor papers that illustrated what work at rubric level looked like in practice.

Student work was scanned and stored in a computer file along with the teacher's application of the appropriate rubric. Thus, a student's current portfolio could be shared with parents and maintained as a part of his or her permanent portfolio for future teachers to review.

Summary

A school's inability to systematically measure LEP students' academic achievement relative to other students in the school and in the state is a serious issue that needs attention at the state and federal levels. At the school level, schools were beginning to adopt alternative assessment measures including portfolios and performance-based assessment. Teachers viewed assessment as an integral part of the teaching and learning process. The exemplary schools monitored the level of student fluency in English and monitored their progress toward content mastery, adjusting their curriculum in response to student needs.

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[1] For a more complete discussion of performance assessment linked to standards, see Resnick and Resnick 1991, Madaus, 1993, and Mitchell, 1992.

[2]Discussions of the equity issues surrounding standardized tests for LEP students can be found in Durán, 1989, Geisinger 1992, Gandara and Merino, 1993, Haladyna, 1992, and LaCelle-Peterson and Rivera, 1994.

[3] LaCelle-Peterson and Rivera, 1994.

[4]Illinois also required that districts adopt an assessment instrument to measure learning objectives. Chicago used the Iowa Test of Basic Skills (ITBS) with its students. As an alternative to ITBS, La Prueba was used for Inter-American LEP students. The school also used La Prueba with its students whose first language was English after they had been enrolled in the dual immersion program for three years.

[5]CLAS was administered in Spring 1993, the year preceding the fieldwork for this study. Since then, the test has been canceled and a new system is being developed.

[6]California was in the process of developing a Spanish version of CLAS.

[7]A Spanish version of TAAS is to be administered in Spring 1995 at some grade levels.

[8] California's CLAS test was suspended in 1994 after being administered twice. A new assessment system will be developed.

[9]MEAP was in place at the time fieldwork for this study was conducted. However, a new assessment system is being developed in Massachusetts; it is scheduled to begin in 1997.

K. RESOURCES NEEDED FOR REFORM

The eight exemplary schools examined in this study relied on a mix of resources to support their curriculum, instruction, and school reform efforts. This section of the report reviews the resources used by exemplary schools from state, local, federal, and private sources and suggests some steps needed to "get the reforms to scale" throughout the country in schools with large numbers of LEP students.

1. Resources that Support Exemplary School Programs

This section summarizes study findings on the resources used by exemplary schools to implement high quality language arts in grades 4 through 6, and mathematics and science in grades 6 through 8.

Four types of funding are used by exemplary schools to support the programs described in this study: the general funding provided to school districts for all students, supported by state and local funds; state and federal funding in formula-driven programs such as Chapter 1; state and federal competitive awards such as federal Title VII; and resources of the external partner.

General Funding

School district expenditures are supported by general funding derived from state aid and local tax revenue. General funds are distributed according to state laws governing the use of local property tax revenue and distribution of general state aid to K-12 education. The eight exemplary schools were located in California, Texas, Illinois, and Massachusetts. Each state had its own laws governing the general support of school districts and collection of local property taxes. As a result, the amount of general funds per student available for the exemplary schools varied. The level of general education funding combined with average teacher salary had a strong influence on class size in the four states. As shown in Table K-1 on the following page, Massachusetts had a relatively higher per-pupil expenditure than the other three states, and also had the smallest average class size. Illinois spent more per pupil than Texas, yet Texas had a lower class size average. Texas also had the lowest average teacher salary of the four states in the study. California's class sizes were the highest of the four states. Its expenditure per student was lower than Massachusetts and Illinois, and its average teacher salary was the highest among the four states.

Table K-1
Comparison of States with Eight Exemplary Schools

State	Average Class Size, 1987	Average per Pupil Cost, 1989-90	Average Teacher Salary, 1990-91
California	28	$4,391	$39,598
Illinois	23	$5,118	$34,605
Massachusetts	21	$6,237	$36,090
Texas	22	$4,150	$27,658

Source: U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 1990 and 1992.

Some states had laws governing class size for LEP students. The classes with LEP students were maintained at a relatively lower level than the average class size in that state. Supplementary state aid often supported the reduced class size. Two of the states in the study, Massachusetts and Texas, had designated a weighted pupil rating for LEP students in their main state aid system and provided additional general funding to schools serving LEP students. The funding systems for the four states are described in general terms below, along with the class size average in those states and relevant state laws governing class size for classes with LEP students.

California. In California, state revenues constituted about 67 percent of general (non-categorical) support for elementary and secondary education. Each school district had a revenue limit per student which was calculated according to state laws and regulations and was based on historical expenditure levels and state efforts to equalize educational funding among school districts. Property taxes were collected for schools and distributed according to state formula. School boards did not levy property taxes directly, but rather shared in the proceeds of property taxes collected by county authorities. The differences in revenue limits per student among different school districts were relatively small in California due to Proposition 13 and state efforts to comply with the Serrano school funding decision.[1]

California experienced a severe recession and shortages in state revenues in the early 1990s. As a result, state general funding for schools had not risen for several years. The funding per

[1]Proposition 13 was enacted by California voters in June of 1978. It placed restrictions on property tax collections, rolled back tax levies, and limited annual increases to 2 percent. The Serrano decision of the California Supreme Court in 1977 found that the system of school funding was unconstitutional because of differences in spending between districts arising from local property wealth differences. The state was ordered to equalize school spending across districts.

pupil had remained constant and any increases in general funding for school districts had occurred due to growth in enrollment.

Class sizes have historically been large in California compared to other states. Also, teachers' salaries have been relatively high in California. School districts and teacher unions have maintained teacher salaries and allowed class sizes to remain relatively large. Compared to other states, schools in California make extensive use of aides or paraprofessionals to assist teachers with large classes. The schools in the study in California have higher class sizes than schools in other states examined in this study. State law regulated maximum class sizes for K-3 only. The limit was 33 students for kindergarten and 32 students for grades 1-3. Compared to other states, these maximum limits were very high.[2]

California supported LEP student programs at the rate of about $110 per LEP student through a formula-driven categorical aid program. State support for LEP student programs was primarily used to fund aides in the classroom, teacher training, assessment and evaluation services, and teacher recruitment. Districts had discretion over the allocation of these funds to specific schools. In general, state revenues for LEP student program support were not used to reduce class size in California.

The exemplary schools examined in this study utilized state and local resources to support their schoolwide vision and LEP student program. Each school had a unique approach to school organization and setting class size that reflected their philosophy. In many cases, the exemplary schools in the study departed from the California norm of large class sizes, and the use of aides to supplement the teacher's efforts.

Linda Vista Elementary School pooled its categorical aid resources from federal Chapter I, state LEP student funds, state School Improvement funds, and a state restructuring grant to support additional teachers and lower class size during the morning language arts block. Classes were developed according to the needs of students and the expertise of teachers; class size varied considerably as a result. Class sizes varied between the Spanish bilingual classes and the sheltered English classes for speakers of languages other than Spanish. For example, one grade 5-6 sheltered class for entry level LEP students with mixed primary languages had 22 students and a part-time aide assisting the teacher, while another sheltered class for more advanced students in grades 3-4 had 34 students with one teacher, one aide, and one student teacher assisting in the class. A Spanish bilingual class in grades 1-2 had 28 students and one aide assisting the teacher.

[2]California Legislature, February 1988.

At Horace Mann Middle School, the San Francisco Project 2061 learning challenge involved a group of 100 students and five teachers for a specified learning activity. Other Horace Mann class sizes observed in fieldwork averaged 25 students. Classes of LEP students taught by primary-language fluent teachers did not use aides. Classes taught in English to LEP students typically included an aide who translated for Spanish-speaking LEP students and supported Chinese students transitioning to mainstream classes. Horace Mann supported reduced class size in academic classes with consent decree funding from the state.

At Hanshaw Middle School, LEP student core classes in science and mathematics or social studies and language arts tended to be smaller than mainstream core classes. Core classes for LEP students ranged in size from 19 to 25 students. Mainstream classes taught in English but including LEP students averaged 28 to 31 students in size. None of the classes observed at Hanshaw had an aide present, reflecting a decision made by the school to lower class size rather than to rely on aides.

Illinois. In Illinois, state support constituted 32 percent of school funding, local resources 59 percent and federal support 9 percent. Local school boards levied property taxes. State aid was provided according to a formula that took into account local property tax wealth. Chicago's school board was appointed by the mayor, and the city levied the property taxes for city expenses, including school costs. In 1992-93, the average expenditure per pupil in Illinois was $5,580 and Chicago's per pupil expenditure was $6,596.

The state of Illinois provided categorical aid funds to school districts to support bilingual education based on the number of LEP students and the type of program offered. State funds supported special "state-supported teachers" who could reduce class size or provide special services. Inter-American School had two state-supported teachers. As a result, class sizes in Inter-American's 4th through 6th grade classes ranged from 16 to 22. In contrast, during the 1993-94 school year, the average 6th grade class size in Chicago was 26. The state compensatory aid funding was distributed to districts based on the number of Chapter 1 eligible students.

Chicago had engaged in a wide-ranging reform program that decentralized much of the authority over school decisions to local sites, governed by community boards. The community boards hired the principals and made decisions about the use of state, local and federal funds.

Massachusetts. Massachusetts school districts were part of city and town government. The city levied property taxes for school support, under the provisions of state laws. In general, support levels for schools in Massachusetts were higher than in California, Texas or Illinois. In 1992-93 the state and local per-pupil expenditure for school operations averaged $5,130. This did not include federal funds. Expenditure levels varied by school district as did the relative share of state and local

funding. Districts with higher property wealth per student received less state aid than districts with low levels of property wealth per student. The state strove to equalize school spending differences based on property wealth per student. Despite state aid, however, gaps in expenditure existed between low-spending and high-spending districts.

Cambridge is a relatively property-rich district; in 1992-93 the expenditure (state and local) per student was $8,988. This expenditure supported relatively low class sizes in Cambridge schools. At Graham and Parks Alternative School, the grade 5 through 8 Creole bilingual class had 23 students and two teachers.

State law regulated class size for LEP students in elementary schools in Massachusetts. By law, classes with LEP students could not exceed 18 unless an aide was present, in which case, classes of LEP students could include 25 students. Multi-grade classes were limited by law to 15 students per teacher; multi-grade classes with an aide were limited to 20 students. State support for LEP student programs was provided through a pupil weighting system in the main state aid formula. Students in bilingual programs were weighted at 1.4 compared to students in regular programs who were weighted at 1.0. Therefore districts received 40 percent more state aid for LEP students than non-LEP students. These funds, in turn, supported lower class sizes for LEP students.

Texas. Property taxes made up 47 percent of the general support for school districts, and state revenues comprised 53 percent. School districts' per-pupil general support varied in Texas, in part due to historical expenditure levels and variations in local property tax bases. School boards levied taxes on property in Texas. Texas had a provision in its state aid program that recaptured local tax revenue over a certain threshold from districts with high property tax wealth to redistribute to poorer districts. The state guaranteed a minimum foundation level of expenditure to all districts in the state, supported with state aid.

In 1992-93, the average Texas per pupil expenditure of state, local and federal funds for school operations was $4,774. Of the three districts with exemplary schools examined in this study, Spring Branch Independent School District had the highest per student general support at $4,725 in 1992-93. Ysleta Independent School District spent $4,254 per student in 1992-93 and El Paso Independent School District spent $4,039 per student.

Class sizes for all students were regulated by state law in Texas. In grades pre-K through 5, classes could not exceed 21 students. In grades 6 through 12, classes may not exceed 26 students per teacher. The state provided extra funding to districts to support programs for LEP students. State aid was directed to districts under a formula that weighted LEP students 10 percent more

than non-LEP students. Districts could use those funds to support a lower class size for LEP students.

Classes at Del Norte Heights and Hollibrook typically had 20 or 21 students, in compliance with the state law. Wiggs Middle School used state compensatory education and bilingual education funds as well as local "excess cost funding" to reduce class size for LEP students in the LAMP program. For example, beginning LAMP classes typically enrolled 16 or 17 students.

State and Federal Categorical Funding

State and federal categorical funding for schools supplements district general support for all students. Categorical funding is provided to schools in two forms: formula-driven grants and competitive grants.

Formula-Driven Grants. Formula-driven grants (e.g., Chapter I) were distributed fairly automatically to school districts. Formula grants support paraprofessionals, assessment of LEP students, recruitment and training of staff for LEP student programs, technology, expanded school day and year programs, and school nutrition programs.

Exemplary schools combined state and federal categorical funding in ways that supported school restructuring, LEP student programs, and language arts, mathematics, and science instruction. Of the exemplary sites, five were schoolwide Chapter 1 schools (Del Norte Heights, Linda Vista, Hollibrook, Inter-American, Hanshaw Middle School). They utilized Chapter 1 funding to enrich general instruction in classes rather than for pull-out programs. Hollibrook Elementary School used Chapter I funds to support a full-day kindergarten program. Wiggs Middle School used state general fund support for LEP students and state compensatory categorical funds to reduce class sizes for LEP students.

Important factors such as teacher collaboration and site-based decision-making enabled exemplary schools to make decisions about unifying discrete funding sources, and determine how to apply them strategically to further the school's vision. Exemplary schools reduced class size, extended learning time or purchased intensive support from an external partner with formula-driven categorical funds. For example, Hanshaw Middle School staff utilized categorical aid funds from state and federal sources to support training and coaching from Susan Kovalik and Associates. Hollibrook staff made the decision to fund a full-day kindergarten and to support technology through a site-based decisionmaking process.

Competitive Awards. States and the federal government made competitive grant awards to schools and districts. These were made by application, were time-limited, often involved external

evaluation and often supported training, innovation in curriculum design, and additional instructional time or materials.

Exemplary schools received a wide range of competitive state and federal grants to support restructuring, LEP student programs, science and mathematics curriculum, assessment, technology and integrated services. For example, Linda Vista Elementary School received funding from diverse sources to support its technology program and restructuring efforts, including a state competitive grant to support restructuring under California Senate Bill 1274. Horace Mann also received additional funding from SB 1274 for school reform and restructuring.

Exemplary schools were often very entrepreneurial in obtaining special funding to support aspects of the program for LEP students. Exemplary schools utilized diverse funding sources to implement an integrated vision. For example, Graham and Parks School in Cambridge obtained special grant funding to support the cost of a Haitian mediation specialist to work with students and families in a culturally competent manner. Hanshaw Middle School obtained a California Healthy Start grant to support medical care, dental care and counseling services on campus in a family resource center.

State Funding for Organizations that Support Reform

States established organizations or funded intermediate units or institutions of higher education to support reform in schools and districts. Examples included the California subject matter projects, Texas Education Service Centers, University of Texas campuses that received National Science Foundation (NSF) funding, and the Illinois Resource Center. These organizations offered training resources and expertise that were used by exemplary schools to train teachers, plan curriculum, and develop innovative instructional strategies.

Resources of the External Partner

Private foundations and corporate philanthropy supported conceptual development and early implementation activities of several external partners, enabling them to develop their approach to learning or school reform. Accelerated Schools (Hollibrook) received funding from Chevron Corporation to develop its approach to assist schools in revitalizing their programs to better serve low-income students. Susan Kovalik and Associates (Hanshaw) received funding from the Packard Foundation to develop their innovative approach to teaching science, mathematics, and language arts based on findings in brain research on how students learn. Linda Vista's Apple Classroom of Tomorrow program was made possible by corporate philanthropic support from Apple Computers, the New American Schools Development Corporation (NASDC), and NSF. A number of foundations, including Carnegie Corporation, Mellon Foundation, John D. and

Catherine T. MacArthur Foundation, Pew Charitable Trusts, Robert Noyce Foundation and IBM, supported the development of the Project 2061 science benchmarks and approaches to science learning.

While partners working with exemplary schools commonly obtained private philanthropic support to develop their approaches, implementation at the schools was often supported by federal funding,[3] such as NSF or OERI, paid directly to the external partner or by school funds paid from general sources, state and federal categorical funds, or discretionary funds. NSF funds figured prominently at the exemplary sites. Four of the eight schools were involved in partnerships that were supported by NSF; the funds were used to promote science learning and the use of technology.

Private funds provided critical support for research and development of innovative curriculum and instruction. Public funding sources were critical to the application of the innovative approaches in the schools. Public funding supported training for teachers, extra time for teachers to plan curriculum, coaches to assist teachers in improving instruction, and purchasing of additional materials.

2. Resources Needed To "Get Reforms To Scale"

Benefits of Partnership

External partners played an important role in exemplary schools, particularly in reforming science curriculum and instruction for LEP students at the middle school level. More schools would benefit from ongoing relationships with external partners such as universities and public and private training organizations. Funding from state and federal sources should include strategies to fund partnerships between schools and external partners. The study shows that external partners of many types can be effective with schools.

San Francisco's Project 2061 curriculum model is a comprehensive approach to improving science education that bears review because it combined a national effort to conceptualize the goals of the project, joint funding by foundations and federal agencies, local school district experimentation to allow multiple expressions of a common vision, and sustained support at the national and district level. San Francisco's program was not originally intended to provide excellent learning opportunities for LEP students, but the program's inclusive vision and the capacity of the San Francisco Unified School District in bilingual education created the

[3]During site selection screening visits, researchers saw high quality science programs for LEP students that were implemented with the support of Eisenhower funds.

conditions for that to happen. The design, implementation, and impact of San Francisco's Project 2061 on LEP students should be disseminated to other districts in the United States.

TERC is another model that provides important lessons about the benefits of the interaction between an external partner and a school. The quality of collaboration and long-term partnership between schools and TERC staff has been supported by NSF and OERI. The partnership is informal and collegial, but is developed within a theoretical framework. Teachers interact with other teachers implementing TERC approaches, as well as with researchers and the research community in universities and research centers.

Accelerated Schools differs from the two above in that it was conceived and implemented in a national context but without major federal government involvement. AS promotes accelerating rather than remediating student learning, as well as a process of inquiry for school examination and reform. Networks of schools participate in AS and receive training and support from a coach provided by AS.

More Linkages Needed

Linkages between school reform, LEP student programs, and exemplary language arts, mathematics, and science curricula need to be enhanced and extended. The federal government should partner with foundations in new ways to develop and disseminate innovations. Foundations provided critical seed money for the development of new approaches in education. The federal government played a major role in the dissemination of new ideas to schools. Federal funding, particularly in science education, had a major impact on the programs in the exemplary schools in this study.

States supported training of teachers and created new entities to support school reform. Both are important resources for schools which are seeking to adapt new ideas within unique contexts. In addition to new entities to support school reform, key proponents of school reform include state departments of education, intermediate units such as Multifunctional Resource Centers, service centers, or county offices of education. State-supported organizations devoted to school reform should concern themselves with LEP student issues and link up with programs that train teachers of LEP students and districts with large LEP populations. Support for reform is like a web—it is dynamic, both top down and bottom up.

L. IMPLICATIONS FOR POLICY AND PRACTICE

The preceding sections have summarized our review of the literature, presented profiles of eight exemplary schools, and drawn lessons from the in-depth fieldwork across these sites, as reported in *Volume II*. This section considers implications for policy and practice stemming from our findings.

The implications stem from the following context: Many schools with LEP students appear to follow practices that implicitly reflect lower expectations for LEP students in core subjects, in part deferring the teaching of challenging content until these students have mastered English. These schools tend to treat the education of LEP students as a remedial issue, assuming that LEP students must learn English *before* they can be expected to learn the standard curriculum designed for "mainstream" students. The exemplary schools examined in this study demonstrate that *LEP students can learn challenging content in language arts, mathematics, and science, while becoming literate in English, and, further, that they can realize the high expectations for academic achievement and personal development expected of all other students.* This conclusion has profound implications for policy at the federal, state, and local levels. It implies that many, perhaps most, schools with LEP students must re-examine their basic assumptions and practices in order to produce significant gains in the academic achievement of LEP students.

This section considers implications of this and other central study findings for federal, state, and local policies and practices.

Implications for Implementing Goals 2000 and IASA

Recent federal policy, as reflected in *Goals 2000* and *Improving America's Schools Act (IASA)*, shifts the federal role from a regulatory function to one of policy guidance and technical assistance. In light of the most recent Congressional debate on the federal role in education, there is considerable uncertainty about the funding available for *Goals 2000, IASA*, and other education initiatives. Nonetheless, whether funding comes in the form of block grants or in the manner originally prescribed in the two Acts, it is reasonable to assume that the regulatory role of the federal government will be significantly altered. In this new policy environment, it is particularly important for states and schools to look to the examples of the kind of exemplary schools studied here in order to introduce systemic change in school operations, student assessment, curriculum and instructional practices, professional development, and personnel policies that can enhance the learning of LEP and all students.

In *Goals 2000* and *Improving America's Schools Act*, the federal government has delineated an approach to education reform that calls for comprehensive and systemic school change. We assume that the thrust of this approach will continue regardless of the outcome of the current Congressional debate. Our findings clearly show that the approach is on the right track and can benefit the education of LEP students. *Goals 2000* and *IASA* require states to develop consolidated state plans for school reform. LEP students represent one of the target populations to be served by Title I of *IASA* and must be included in the state plans. The exemplary schools show that such students can learn to high academic content and performance standards, and that state plans should embody the new, and more accurate assumption that acquiring English and mastering high quality curriculum, are best done together. The technical assistance afforded in state plans should be directed toward helping teachers and school communities to develop—and adapt—successful instructional, curriculum and school reform strategies of the type used by the exemplary schools, as documented in *Volume II* of this series.

The new Title VII of *IASA* provides "Comprehensive School Grants" and "Systemwide Improvement Grants" to promote systemic change in schools and districts, respectively. The experience of the exemplary schools suggests that this direction could produce the breakthrough in dealing with LEP students that is so necessary. Our study found that a shared vision is the foundation upon which school reform rests. Consequently, districts and schools implementing these grants should begin with the notion of developing a schoolwide shared vision. The exemplary schools developed a shared vision that permeated the school culture and operations and that consisted of five dimensions—high expectations for all students; cultural validation of the diverse backgrounds of students and their parents; development of a community of learners including teachers, administrators, and parents; openness to external partners and research; and comprehensiveness of educational planning and programs for all students. These elements are illustrated in detail in *Volume II*. Specifically, in implementing Title I and Title VII grants, Goals 2000 and IDEA, local plans should include:

1. ***high content and performance standards for LEP children consistent with the standards for all other children***. Such standards may be a key to correcting the tendency of many schools to marginalize LEP students in decisions about resources and planning and thus effectively leave them out of reform efforts. However, only two of the exemplary sites used performance-based assessments systematically aligned with content standards and the language development goals for LEP students. These sites demonstrated the value of such assessments, but the limited use of performance assessments at the other sites suggests that the state and local implementation of the Acts should focus on how to provide assistance for schools to incorporate performance

assessments. The new Title VII grants specifically require accountability tied to student outcomes in core content areas. Assessment of LEP students must address the needs of these students and must determine whether they are meeting the same high quality standards as other students. Insofar as content instruction is in the students' native languages, the tests of student achievement should be in these languages. This implies that student outcome assessments, aligned to the content curriculum, should be developed in non-English native languages (see Section J for a discussion of assessment).

2. ***a comprehensive and schoolwide approach to school improvement that integrates LEP students into a quality education experience.*** The exemplary schools provide various models of how this can be started (see *Volume II* for details). A lesson from these sites stands out clearly: Reform has to be systemic and involve all teachers, not just the teachers working with LEP students.

3. ***professional development that can help teachers learn instructional strategies and the collaborative skills needed to develop and implement a shared, schoolwide vision.*** These cases make it clear that improving the knowledge base and practices of staff serving linguistically and culturally diverse students requires a schoolwide commitment to developing a community of learners.

4. ***parent involvement and community partnerships.*** Though the Acts call for such involvement, it is important to note that the exemplary schools went well beyond the standard notions of parent and community involvement and made very deliberate efforts to actively involve the parents of their LEP students. As part of their vision, they saw parents as part of the community of learners and the schools as a resource to the community. The implementation of these Acts might be strengthened if this broader concept of the role of the school in communities with LEP children could be clearly articulated, using the approaches that these and other exemplary sites have pioneered.

Implications for Local Practice and State Policy

The exemplary sites used the students' native language for teaching content until the students were ready to transition to instruction in English. Much is now known about underlying principles of using primary language for both content instruction and more general language development. The use of sheltered English and content-based ESL in multiple-language situations or during periods of transition to content instruction in English are also better understood. These findings and advances in practice suggest a far-reaching implication: *Teachers of LEP students should have the training and experience in language acquisition to*

assure that they can create and deliver the educational programs appropriate to the different developmental levels of their LEP students. The states could support this essential condition in a number of ways. They could require pre-service training to include knowledge of language development and active ways of promoting it in the classroom. Further, credentials for teachers who serve LEP students could include fluency in a second language[1]. The states could shift toward renewable credentials and require teachers to update their knowledge as new information about language development and second language acquisition is gained. Further, given the importance of the use of native language for learning content and meeting high standards, states and schools should provide instructional materials in students' native languages that are on a par with those in the English language curriculum.

Looking across the exemplary sites, a range of curriculum and instructional strategies were employed to engage limited-English-speaking students in learning in ways that the more traditional lecture or question-answer formats do not allow. For example, in cooperative learning settings, LEP students produced language in natural ways in order to interact with other students. Other instructional strategies such as hands-on science lessons were effective in engaging students in the curriculum. In terms of policy implications, pre-service teacher education should provide training in these effective practices, particularly so that new teachers can learn to create and work with heterogeneous groupings. The country's teacher colleges have a special responsibility to seek information about effective practices and make such empirical information part of their curriculum.

However, the skills required for teachers to learn the techniques of engaged learning for LEP students are beyond what most teachers receive in pre-service training. Teacher instructional leaders may be best able to provide staff development for other teachers in settings having linguistic and cultural diversity. The policy challenge at local and state levels is to identify such teacher leaders and employ them as part of a deliberate and long-run strategy for the training of other teachers. Districts with high proportions of LEP students might consider this strategy and make due allowances for incorporating it as a central element in their plans for professional development in response to the planning requirements of *Goals 2000* and IASA. In any event, professional development should be seen as a continuing effort that should be largely teacher-driven, linked directly to the needs of students, and should contain all the essential components of effective staff development—acquisition of new knowledge and skills, demonstrations of effective strategies, coaching, and training in becoming inquirers and evaluators.

[1] In cases where multiple languages are involved, it may not be possible to require teachers to be fluent in the native languages. Only one of our exemplary sites had a large proportion of students from a wide variety of language backgrounds. In this case, the school used various strategies to provide native language support while using Sheltered English to teach content. See *Volume II* for details.

Another area of policy implications concerns school restructuring. School restructuring enabled the *exemplary schools to design and adapt programs that best suited the needs of LEP—and all—students*. The implications of this finding are significant because LEP students are often left on the margins of school restructuring efforts. To promote the inclusion of LEP students into school reform efforts, schools with a significant number of LEP students should include specific steps to:

1. ***organize their units of schooling into smaller units of schooling***, such as "families" and "schools-within schools," to manage the much more personalized and cooperative approaches beneficial to all students, including those learning English.

2. ***reallocate their use of time to promote intensified instruction for LEP students, an expanded educational calendar, and close teacher collaboration***. As Section I and *Volume II* show, effective programs increase the time available for instruction by using extended day and extended year programs as well as other strategies. Teacher collaboration is essential especially to maintain high content and performance standards across both classes with native language instruction and those with instruction only in English.

3. ***shift decision-making and develop governance structures that include teachers, staff, parents, and community members***. In particular, staff that teach LEP students and parents with LEP students should be part of site decision-making. All the exemplary sites had taken steps toward participatory decision-making, though no two sites did it the same way. States, districts, and schools should resist the temptation to think there is one right way to restructure.

4. ***deliver integrated health and social services***. Since LEP students often lack access to such services, it is important to build them into the fabric of school plans. Schools can address multiple needs of families and children in a variety of ways such as bringing those services onto campuses, using traditional school support staff (e.g., school nurses and school counselors) in non-traditional ways linked to community agencies, and entering into agreements with community agencies to serve students and families, by referral, at the school.

5. ***develop a comprehensive program of educational excellence***. In such a program, school organization, flexible time scheduling, high quality curriculum, effective instruction, teacher professional development, and appropriate student assessments all complement and reinforce each other.

Given the shift of the federal role away from a regulatory posture, districts will necessarily have to play an active role in assuring a full and appropriate education for LEP students. The district plan under Title I—which should be congruent with their Goals 2000 plan—can become an important policy instrument to strengthen the district role. The district plan should give a powerful message: the district is committed to assuring access to a high quality curriculum for all LEP students. In particular, these district plans should address:

1. the recruitment, professional development, and deployment of teachers and aides to provide effective instruction for LEP students;
2. provisions for high quality instructional materials in native languages;
3. the setting of high content and performance standards;
4. development of assessments in native languages where appropriate to measure progress and give feedback to students, parents, and teachers;
5. the incorporation of new immigrants into school programs;
6. the meaningful participation of language minority parents and community members in school and district decision-making;
7. the linkage between schools (from pre-school to high school) in the same district so that the educational programs and language support from one level of schooling to another can be aligned for LEP and former-LEP students; and
8. the alignment of the K-12 system to career pathways to further education and/or work.

Implications for External Partners

The study found that, for a relatively small expenditure, direct federal support for external partners can leverage change in schools with LEP students. For example, federal support for partnership organizations developing science curriculum has had a powerful and direct impact. These and similar efforts should be expanded. External partners can also provide on-going staff development, assistance with curriculum and instruction, and coaching as teachers implement new ideas and encounter barriers. Effective external partners can also bring teachers into the larger school reform dialogue, thereby enriching school reform and enhancing the professional roles of teachers. The federal government might consider providing specific guidance for state grants under *IASA* that would encourage the types of external partnerships that work well for schools with LEP students, as detailed in *Volume II*. Similarly, the "Systemwide Improvement Grants" under Title VII might be an appropriate vehicle for districts to work with external

partners in ways that enable schools to receive assistance according to their needs and their stage of reform. The federal government also might consider developing a "resource bank" of qualified technical assistance providers for schools and districts with high proportions of LEP students that would facilitate their connection with qualified providers. (Such a "resource bank" has been initiated in the School-to-Work area.)

M. IMPLICATIONS FOR NEEDED RESEARCH

In the course of our work on this project, we became aware that a good deal of research guided the reform efforts we documented. All of our sites reflect a strong relationship between the research community and the schools.

However, it also became apparent that a number of significant questions require further research. Our study has determined what exemplary schools do. Now we need to find out how they have been able to do it. We need to research more systematically what resources are required to support exemplary teaching and learning environments, and which instructional strategies are most effective. In general, we need information to help formulate the resource and practice standards that are necessary to enable schools to teach their LEP students as well as they are capable of teaching other students.

In this section, we suggest a number of questions that indicate directions for future research. This list is not exhaustive; it reflects the range of data and issues that will be required if we are to reform schools to meet the needs of culturally and linguistically diverse students.

It is important to point out that the essential issue of education reform for these students is how they are taught in the classroom; research must illuminate both student and teacher learning. We need to discover how different strategies affect the quality of student learning—with respect to both school performance and students' ability to function in society later on. We need to find out how teachers translate knowledge gained through professional development into practice in the classroom.

The suggested research topics are organized in a progression from the classroom outward to the teacher, school, and external factors. The touchstone is the classroom. In each instance, further research needs to show how the various elements in exemplary schooling support enhanced learning for diverse students.

The Classroom Learning Environment

- How can children become responsible for their own learning? How do children become effective learners in cooperative groups?
- How do cultural differences affect the success of cooperative learning experiences? What modifications need to be made in cooperative learning strategies to fit the needs of children from culturally and linguistically diverse backgrounds? Are mixed-age groupings more successful with these children?

- Which strategies maximize opportunities for contact between monolingual English speakers and LEP students in the classroom? Which strategies are ineffective? What effect does such contact have on the process of second-language learning?
- What modifications to school and classroom organization and instructional strategies need to be made to meet the needs of older students who enter the school with little knowledge of English?
- What instructional strategies are needed to fit the real-life experiences of children from culturally and linguistically diverse backgrounds? What topics for thematic instruction are particularly effective for these children?
- How is thematic instruction used over time by teachers to meet the needs of children from diverse backgrounds? How are high standards of learning in science achieved through thematic instruction? How are high standards of learning in mathematics achieved through thematic instruction?
- How is second-language development furthered through thematic instruction? What strategies are available to take into account the difficulties LEP children have with the language, without modifying the curriculum?
- Is it better to group children on the basis of their ability in English or their ability in their primary language?
- How do children from culturally and linguistically diverse backgrounds differ from other children in their use of classroom technology? What adjustments need to be made to take into account the child's language abilities?
- How does the use of technology promote thinking and creativity for these children? What use can be made of the opportunities technology provides for cross-cultural communication and for second language learning?
- Which assessment practices are most suitable to the needs of children from culturally and linguistically diverse backgrounds? How does limited English proficiency affect performance on standardized tests? What benefits do portfolios and other alternate forms of assessment provide for these students?
- How can assessment be embedded in everyday learning tasks? How does assessment help to focus instructional goals?
- What kinds of homework contribute most to student learning? What kinds of activities outside of school contribute most to cognitive development?

The Teacher

- What factors help teachers adopt teaching strategies that promote engaged learning, learning by doing, learning from peers, and other forms of independent learning? What classroom-management skills do teachers need to use to foster independent learning their students?
- How does knowledge of the second-language learning process affect the way that teachers teach LEP students? What adjustments do teachers make as a result of gaining understanding of the processes of second-language acquisition?
- How does professional development in the area of cultural understanding affect the way teachers teach children from culturally and linguistically diverse backgrounds? What adjustments do teachers make as a result of this knowledge?
- How do teachers promote motivation to learn in students from culturally and linguistically diverse backgrounds? To what extent are these strategies subject-specific? What kinds of interaction with parents promote high aspirations for children?
- What are the factors that influence success in new approaches to teaching language arts? How appropriate are these methods for children from culturally and linguistically diverse backgrounds? How effective are these approaches with children from such backgrounds?
- What are the factors that influence success in new approaches to teaching science? How do such approaches as learning science by doing science, learning from peers, and learning from observation prepare students for later science classes in upper grades? How appropriate are these methods for children from culturally and linguistically diverse backgrounds?
- What training do teachers need in sheltered English strategies when teaching science?
- What are the factors that influence success in new approaches to teaching mathematics? How appropriate are these methods for children from culturally and linguistically diverse backgrounds? What training do teachers need in sheltered English strategies when teaching mathematics?
- What teaching strategies are most effective for mixed-ability groups in mathematics and science? What teaching strategies are most effective for mixed-age groups?
- How much time do teachers spend on non-instructional tasks when they teach children from culturally and linguistically diverse backgrounds?

- How can teachers use peer-tutoring most effectively with children from culturally and linguistically diverse backgrounds? How can teachers use parents and paraprofessionals most effectively in teaching culturally and linguistically diverse students?
- What kinds of learning occur outside the classroom in the experience of children from culturally and linguistically diverse backgrounds? How can teachers capitalize on the work that students do at home so that students see the relevance of their independent work?
- How can teachers best be supported in their efforts to restructure the teaching and learning environment to foster the learning of all students? What strategies help teachers overcome barriers to teaching for engaged learning in their classrooms? What kinds of resources are most helpful in developing new ways of teaching?

The School

- What is the best way to assess the language development and proficiency of LEP children?
- What assessment procedures are best suited to determine the level of achievement of LEP children in subject area courses? How are schools to demonstrate that these children meet national (or widely accepted) performance standards?
- What language development approaches are most effective for children from different primary language backgrounds? What approaches are most effective for schools with children from multiple language backgrounds?
- What are the benefits from sustained teacher-student contact over a number of years in fostering English literacy and reading skills, parental involvement, and the development of a sense of community with children from culturally and linguistically diverse backgrounds?
- What are the forces that initiate, characterize, and sustain the process of reform in schools serving children from culturally and linguistically diverse backgrounds?
- How effective are restructuring strategies that protect student time to learn in meeting the needs of LEP students? How effective are restructuring strategies that extend the school day or year for LEP students? How effective are restructuring strategies that promote staff development in meeting the needs of these students? How effective are restructuring strategies that lead to flexible school organization and the creation of small school organizations, such as families, in meeting these students' needs?

- What effect do experiments with different time configurations (such as alternative schedules, different amounts of time for different students, longer school years) have on the performance of culturally and linguistically diverse students?
- What are the effects of school size on academic performance of culturally and linguistically diverse students, on retention, morale, student behavior, parent involvement?
- How may schools set aside time for teachers to develop a community of learners? What methods of teacher collaboration are most effective? What methods are least effective?
- What can schools do to promote learning in the home? What are the best methods of involving parents in their child's learning? What are the best methods of involving parents in school activities?

External Factors

- What barriers exist at the federal, state, and local levels to prevent or frustrate the integrated delivery of health and social services to children from culturally and linguistically diverse backgrounds? What policies are required to bring necessary services to these children? How can the various agencies involved be held accountable?
- How do federal and state mandates and policies fo EP students affect the quality of education these children receive?
- How do national standards affect the instruction of LEP students? How will new approaches to assessment affect these students?
- What is the role of initial (government) funding of curriculum development that is crucial to the success of exemplary programs? How does federal or state funding for poor and LEP children affect the school's ability to provide an exemplary program?
- How do successful programs utilize funding sources to implement an integrated vision? What strategies do such programs use to win competitive awards and other funding?
- What are the factors that lead to successful long-term alliances between schools and external partners? What keeps the relationship dynamic and collaborative?

- What factors promote the development of a sense of being part of a larger, perhaps national, network of schools undertaking similar reform efforts?
- What state and district efforts are necessary to increase the school's sense of local autonomy? What state and district efforts are necessary to increase the school's sense of local accountability?

APPENDIX

CROSS-SITE ANALYSIS TABLES

LIST OF TABLES

The Elementary Grades

The Middle Grades

Table 1

Case Study Research Area #1A: The Context for Reform
Demographic Conditions at the Elementary Grades, 1993-94

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-
Community Context	Border community, port of entry.	Low-income neighborhood in high-income district.	Port of entry, low income.	Inner-city ma drawing fron neighborhoo
Grade Span	K-6	preK-5	preK-6	
Total Enrollment	650	1000	950	
Ethnicities (%)	Hispanic (91.8%) African American (4.5%) White (3.7%)	Hispanic (85%) White (12%)	Southeast Asian (44%) Hispanic (38%) White (7%) African American (5%)	Hispanic (69 White (17%) African Am
% LEP	40%	67%	66%	
Languages (% of LEP Students)	Spanish (100%)	Spanish (100%)	Spanish (50%) Hmong (22%) Vietnamese (16%) Lao (6%)	Spa
% Eligible for Free or Reduced-Price Lunch	85%	87% (Economically Disadvantaged)	88%	

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTEI
Background of LEP Students	An estimated 6% of the LEP students were recent immigrants; the majority of the remaining students were born in the U.S. Most late arrivals were literate in Spanish.	Most families were first generation immigrants; the children were born here to Mexican parents.	Some entering LEP students were born in the US, but most were recent immigrants, either political or economic refugees.	Some enter were born i were recen Approxima Mexico; 2 Rico; 5% v 27% perce Latin Ame
Actual Attendance	96.7%	97.2% (1992-93)	95.8%	9
Transiency/Mobility	Very stable	Medium to high mobility (30%)	Medium to high mobility	Stable (1

Table 2

Case Study Research Area #1B: The Context for Reform
Factors Affecting Implementation at the Elementary Grades

FACTOR	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-
Time in Operation	The bilingual program has been in place since 1974 when the district began bilingual education	Restructuring began in 1989-90; the bilingual program is still developing.	Restructuring began in 1988; the program has been evolving since.	Pre-kindergar the school gr per year until pre K-8.
Impetus for Reform	The school has gone through an evolutionary reform process. Reforms were implemented on the basis of need to improve aspects of the program.	The school staff recognized the need for change as a result of the dramatic growth in the Latino population in the neighborhood in the last ten years. A bilingual program was created and the use of primary language for instruction is being expanded in response to state laws. Restructuring began as a result of participation in the Accelerated Schools program.	The principal and teachers felt that the ESL pull-out program previously in place fragmented the school's educational program.	The school w parents and t worked toget implement a emphasized t biliteracy. T evolved over research and
Role of District	The district is a strong advocate of school restructuring and bilingual education.	There is a strong district tradition of site-based management; they are financially supportive. They have just recently begun work to develop policies for the education of LEP students.	The district is facilitative; it supports restructuring and the development of programs to meet the needs of LEP students.	The district supportive o the school is model for th other immer

FACTOR	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTE
Principal Leadership	The principal is a strong instructional leader with an open management style.	The principal who initiated the reforms focused on the process of reform and teacher empowerment in decision-making. The current principal has focused more on parent involvement and community relations.	The principal who initiates the reforms created and supported a climate of risk-taking; she is an instructional leader and knew how to build staff support.	The princip collaborati program in staff in deci
Staff Role in Reform	Bilingual program staff report that they have a strong voice in school governance.	Staff have been involved in reforms through Accelerated Schools decision-making processes.	Teachers all serve on two schoolwide committees which have helped to steer the reform effort; the resource teachers play a leadership role.	Staff play governanc
School Climate	School climate is very positive with focus on quality teaching and learning.	Climate at the very large elementary school was generally positive.	The school has a positive climate with high value placed on serving LEP students.	The school with emph
Community Involvement	Full-time parent liaison offers ESL for parents, parents' club, and volunteer program.	Community members did not play an active role in the school's reform; the parent center attract significant parent involvement. Collaboration with the community is also a current priority.	Community members have not played a large role in reform efforts, but community involvement is targeted as a goal of reform efforts.	Parents ha in school g the LSC a

Table 2, cont.

FACTOR	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-A
Staff Qualifications	All teachers in the program are native Spanish speakers and all hold bilingual credentials.	There is a limited supply of bilingual teachers which has caused students to be transitioned to English earlier than if they had greater staff capacity.	Most teachers in the school have bilingual or language development credentials. Of the 16 designated sheltered teachers, 10 have a language development credential and 6 are in progress. 7 of the 9 bilingual teachers have bilingual credentials; the others are in progress.	All teachers at Spanish speak bilingual crede
Administrator Background	The principal was a bilingual teacher and a bilingual supervisor.	The principal was a former high school administrator.	A former principal initiated the reform. The current principal has been principal at other "minority isolated" elementary schools in the district.	The principal teacher.
State Policies	Texas is implementing a new accountability system that increases site-level autonomy and hold schools accountable for student performance on TAAS, the statewide assessment.	Texas is implementing a new accountability system that increases site-level autonomy and hold schools accountable for student performance on TAAS, the statewide assessment. Also, the LEP student program is impacted by the state mandate requiring primary language instruction. Finally, the pre-kindergarten program is funded though state program.	The school is supported in its restructuring through a state restructuring grant. In addition, the school operates a state-funded pre-K program.	State legislati based manage establishment Councils. Sta mandate that must be spent IN support of students, the additional tea programs at significant LI populations.
Federal Policies	The school is eligible for schoolwide Chapter 1 and 85 percent of students benefit from federally-funded nutrition programs.	The school is eligible for schoolwide Chapter 1 and a large percent of students benefit from federally-funded nutrition programs.	The school is eligible for schoolwide Chapter 1 and 88 percent of students benefit from federally-funded nutrition programs.	The school is schoolwide C percent of stu federally-fun programs.

FACTOR	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER
Desegregation Policies	No major impact—a neighborhood school	No major impact—a neighborhood school	The school is designated "minority isolated" meaning that its population is less than 35% White. Because of this status, it receives a district grant that supports parent involvement, academic achievement, and social development.	Magnet scho supported tr Ethnic balar selection de lottery.
External Partner(s)	The school program was developed without the help of an external partner. Assistance in targeted areas was sometimes provided by UTEP.	The schools' involvement with Accelerated Schools led them to restructure.	Partnerships with the National Alliance, ACOT, etc. supported the schools' reform goals.	The school developed external pa based infor critical to the progra

Table 3

Case Study Research Area #2A: Design and Implementation of the Reform at the Elementary Grades

School Restructuring

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER
School Climate	Staff share a vision, value bilingualism, and maintain a high level of commitment to students.	While all staff maintain a high level of commitment to students, there is no common "game plan" for their approach to language development.	Staff share a vision of systemic reform designed to meet the varying needs of their LEP student population; they are entrepreneurial and willing to take risks.	Staff share bilingualism there is a hi commitmen their approa acquisition.
Leadership	Principal is a strong instructional leader, as well as being skilled at consensus-building among staff for school-wide decisions.	Principal is strongest in public relations—i.e., networking in the community, securing grants, parent involvement.	The former principal was a strong instructional leader and negotiator; she initiated the vision and built consensus around it. The current principal is brand new; it is too soon to assess his style or impact.	Principal is instructiona represents t the school.
Use of Time	The use of block scheduling allows for more complex lessons and problem-solving activities; teachers are able to offer science labs, get students engaged in social studies research projects, and provide time for sustained reading and writing. • After-school tutoring • Summer school	Students at a grade level go to p.e. and other school-wide electives at the same time allowing teachers at that grade level an opportunity to coordinate curriculum and instruction. • After-school tutoring	There is an extended language arts block every morning; students are then grouped and regrouped through out the day to cover social studies, mathematics, and science. The school operates on a year-round schedule and offers after-school tutoring. Weekly minimum days provide time for professional development and joint planning.	The school Th to allow every Frida time on Fri staff develo meetings, a curriculum strategies, (• After-sc

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER
Student Grouping	Students are placed according to language ability into one of two strands in the school: Bilingual and Regular. Students in the Bilingual strand range from NEP to FEP; students in the regular strand are FEP and EO.	LEP students are clustered in classes with bilingual teachers; in team teaching situations, classes of Spanish-dominant students are paired with classes of English-dominant students and the students are mixed throughout the day depending on the activity.	Students are grouped by home language or English language level for language arts and social studies; they are grouped heterogeneously for the remainder of the day, except for math when they are grouped by math level.	English- an students are equal balan except for E instruction. compositio reflects the
Use of Management Technology	Not used extensively.	Not used extensively.	Computers are used to manage the school assessment system. Student work is scanned into "electronic portfolios."	Not used e
Integrated Services	The school has a full-time nurse, a full-time social worker, and a full-time home liaison. Some health and social services are provided at the school site and referrals are provided as necessary.	The school has two full-time social workers: one focuses on building community partnerships and the other focuses on student and family issues. They also have a full-time nurse and a full-time counselor. They offer mental health services on-site, as well as on a referral basis.	The three community aides serve as home liaisons and provide some health and social service referrals. Counselors work directly with students.	As a magn serve as a social servi community a social wo community on-site nur day a week referral-ba
Articulated Preschool	Pre-K is not offered at the school.	There is a half-day, state-supported pre-K program. They use Chapter I funds to create a full-day program. It is not large enough to accommodate all of the students, but LEP students are given priority.	The school offers an integrated pre-K program as part of their early childhood wing. The program is state-supported.	The school pre-K class three-year PM classes The progra

Table 3, cont.

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTE
Parental Involvement	The school offers ESL classes for parents; they offer parenting seminars; and, parents volunteer at the school.	There is a Parent Center on site; they offer a Parent University program that focuses primarily on ESL, but also includes parenting seminars. There are facilities on site for toddlers to make it easier for parents to become involved with school activities.	Parent involvement is a challenge for them. The community aides work as home liaisons; the school offers parenting seminars a few times a year, organized by the resource teachers and the community aides; community aides translate and interpret communication between the school and the home to make the school accessible to non-English-speaking parents. Aides mentioned that there are some cultural barriers to increasing parent involvement.	There is a program c part-time coordinato involved i through th and a pare influences making. parenting
Governance Structure	The school has a significant degree of autonomy and school-based committees have the authority to make virtually all decisions affecting the school. The school-based council is composed of school administrators, faculty, and parents.	They employ the Accelerated Schools inquiry method as a way of setting goals and priorities; staff are elected to a steering committee and informed by faculty cadres that focus on various schoolwide issues. Control of the school budget is at the site level.	The school has a committee-based decision-making structure in which all staff members serve on two committees: one relates to curriculum and instructional and the other relates to schoolwide issues.	The schoo degree of instructio decisions School Co parents, c teachers, Standing committee council.

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-
Organization of Teaching	Classes are self-contained, but there is a great deal of communication among faculty. Teachers—bilingual and regular—hold one to three grade level meetings pre week; they share effective strategies, align curriculum, and plan common themes. Teachers in the bilingual strand also work together to ensure articulation of their strategies and curriculum.	There is a range of teaching configurations: some teachers team and virtually combine their classes; some keep the same students for a number of years; some classes are self-contained and one-year only. There are math and technology resource teachers that supplement the regular teaching staff.	Teachers work within "instructional wings." Within their wing, they collaborate with other teachers on curriculum and scheduling; they share students for different content areas throughout each day.	There are thr grade level; grade 4, teac variety of wa joining classe field trips. G are "departm form that thi grade level. subject area languages th strengths.
Staff Development	Staff development is focused on areas of their program that have been identified as needing improvement. One year, they focused on reading and writing skills; the subsequent year they focused on math. They are also working on integrating technology into instruction, alternative means of assessment, and site-level governance.	They have ten staff development days paid for by the district (five are required by the state). They also have weekly faculty gatherings that focus on staff development. Most of the topics for staff development are initiated by the teachers. Individual teachers often get training off-site and then train other teachers at the school. Continual professional growth is encouraged through the teacher evaluation process which is based on teacher-developed portfolios that typically include staff development	Staff development is a high priority; staff seek out grants and partnerships to support their professional growth. They use their state restructuring demonstration grant to provide staff development (e.g., committee process, student access, team teaching, cooperative learning, language acquisition, and bilingual teaching). Their partnership with ACOT supports staff development in computer-based instruction. Their partnership with the National Alliance supports, among other things, participation in national conferences. The district supports training in alternative assessment methods through their Leadership and Accountability Demonstration.	Staff develop typically tea Topics in the have include assessment, learning, pe math and sci Next year, th integrating t instruction. modified Fri staff develop

Table 4

Case Study Research Area #2B:
Design and Implementation of the Reform at the Elementary Grades

Curriculum and Instruction

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER
Curricular Strategies	Language arts curriculum focused on the reading and writing processes. The literature-based curriculum included instruction that taught specific skills such as phonics. Students worked on research-based projects that integrated multiple content areas. They used the Accelerated Reading program to motivate students to read.	Language arts curriculum focused on the reading and writing processes; the Writer's Workshop and the Reader's Workshop strategies were both used as well as instruction that targeted development of specific skills.	Language arts was taught using Whole Language strategies that focused on literature and writing. An effort was made to capitalize on the diversity of the students' experiences through assignments that allowed students to build on their own experiences rather than assignments that relied on a common experience base. The culture and traditions of students' home countries were integrated into the social studies curriculum.	The school study of the covered Afr African hist influenced t Teachers de studies-base connections The langua focused on in both Spa Literacy in also develo based appr

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-A
Instructional Strategies	Teachers had high expectations for the students' reading and writing and allowed students to direct their own work. Most teachers employed cooperative learning strategies.	There were a variety of instructional strategies in place in this school; the instructional philosophy was based on an enrichment, rather than remedial approach. Some teachers teamed to accommodate varying student needs and there were "continuum classes" in which students stayed together with the same teacher for multiple years. Students were encouraged to work cooperatively and to direct their own work, particularly in the continuum classes.	Within ungraded, developmentally appropriate classes, teachers used cooperative learning and employed a variety of different grouping strategies. Teachers also integrated technology into instruction.	Cooperative le extensively, as science and m A variety of gr including peer employed at th

Table 4, cont.

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTEL
Instructional Discourse/Role of Teacher and Student	In many cases, students managed discourse and initiated relevant discussion, and teachers played a facilitative role. In these cases, students were engaged and self-motivated. In other cases, the teachers lectured or were more directive and students were more passive.	In many cases, students managed discourse and initiated relevant discussion, and teachers played a facilitative role. In these cases, students were engaged and self-motivated. In other cases, the teachers lectured or were more directive and students were more passive.	Teachers played a facilitative role and students managed discourse during cooperative learning exercises, including the time students' worked on computers. In these cases, students were engaged and self-motivated. Whole class discussions tended to be less student-centered.	In many ca managed di relevant dis played a fa these cases engaged ar other cases or were mo students w
Use of Instructional Technology	There were some new computers, as well as some older equipment. Computers were used as part of the Accelerated Reading program, as well as for word processing. Technology was not integrated into the curriculum.	There was a lot of up-to-date technology at the school and students had access to it. The use of technology did not tend to be integrated into the curriculum.	Four classrooms in the school were designated ACOT classrooms and they were technology-laden: 4 Macintosh computers with CD-ROM drives, Powerbooks, scanner, Palmcorder, laserdisc, etc. All other classes have at least one computer. The use of technology is supported by a resource teacher; she is paid out of funds from a state Restructuring Demonstration Grant (SB 1274). They used technology for projects that were integrated into curriculum.	Most of th site was pr computer l to develop word proc was little the classro

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-AM
Assessment Strategies	The statewide assessment system played a significant role at this school. Teachers showed interest in alternative means of assessment and sought training, but few alternative approaches to assessment were in place.	The statewide assessment system played a significant role at this school. All classroom teachers kept student portfolios.	There was a comprehensive schoolwide assessment system (for language arts and math) based on standards and rubrics. Students advanced based on their progress toward the standards. Student work samples were stored in an "electronic portfolio."	Most teachers w student portfolic with teacher-des some teachers w published tests, the 7th and 8th
Articulation with Middle School	The middle school that the school fed into relied solely on ESL instruction for LEP students; school staff expressed that the need to prepare students for an all English environment compromises their program by rushing the transition for students that arrive in the later grades, particularly those that arrive without literacy in their primary language.	There was little connection or continuity in terms of the programs for LEP students. The district's bilingual department served grades K-5; 6-12 LEP students were served within the secondary schools' department.	Articulation with the junior high school was facilitated by the restructuring of the district into "clusters" of schools that feed into one high school. The "cluster" superintendent eased articulation issues by fostering communication through joint activities. The school fed into a junior high that was also on a year-round schedule.	As a Pre-K thou articulation witl school was not magnet school, one high school fed into; school concern about t options availabl students.

Table 5

Case Study Research Area #2C:
Design and Implementation of the Reform at the Elementary Grades

LEP Student Program

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTI
Use of L1	The school had the capacity for bilingual instruction through grade 6. Students developed literacy in L1 in the early grades. Beginning in grade 4, most instruction was in English except for new arrivals.	Children were taught in L1 in the early grades; there was very little capacity for L1 instruction after grade 3.	Spanish-speaking LEP students had language arts instruction in Spanish (2.25 hrs.) until they achieved literacy, at which point they transitioned to English during language arts and had social studies instruction in Spanish (45 min.). Upon redesignation, they received all instruction in English. Hmong, Vietnamese, and Laotian LEP students received social studies instruction in L1 until they were redesignated.	80% of th through I English v gradually maintena compone program Instructio was split English a
Use of ESL	ESL instruction was offered daily during Enrichment Time (45 minutes).	ESL was used in conjunction with L1 instruction in the early grades. In the later grades, ESL was used for recent arrivals or for those students who needed extra support in English.	Pre-transition Spanish-speaking LEP students received ESL instruction during social studies using the district's social studies-based ESL curriculum. During transition, they received ESL instruction during language arts. Non-Spanish-speaking LEP students had ESL instruction during language arts.	LEP stud instructio blocks).

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-A
Integration of LEP with EO/FEP students	There was little instructional integration between LEP and EO students until 5th grade, at which time the classes became integrated. FEP students typically remained in the bilingual program, so there was LEP-FEP interaction.	LEP students were integrated with EO students primarily through team teaching and the mixing of students for non-academic activities.	LEP students were integrated with bilingual and EO students, as well as with students from different language backgrounds during the mathematics and afternoon rotations (from 11:15 until 2:20).	All classes ach between Englis Spanish-domir
Assessment and Placement Practices	Students who spoke a language other than English at home were assessed annually using LAS. LEF student placement and redesignation was based on the recommendation of the school Language Proficiency Assessment Committee (LPAC). Redesignated LEP students often remained in the bilingual program.	Students who spoke a language other than English at home were assessed annually using IPT. LEP student placement and redesignation was based on the recommendation of the school Language Proficiency Assessment Committee (LPAC).	Students were assessed and placed in classes according to their language arts "growth records" which are benchmarked against defined standards. Students are designated LEP and redesignated FEP based on district procedures.	Students are fi LEP based on FLA; all LEP annually on L LEP students on ITBS. Stu classes to achi English- and students.
Exit Criteria	The school LPAC— composed of two bilingual teachers, a parent, and the vice principal—made redesignation decisions that were informed by test scores and teacher recommendations.	The school LPAC— composed of the site bilingual coordinator, a teacher, and the principal —reviewed LEP student records for reclassification. Exit criteria included a "fluent" assessment on the IPT and 40th percentile rankings in reading, writing, and mathematics on the SRA.	The district required 40th percentile rankings on the ASAT, a "fluent" assessment on the IPT, a teacher recommendation, and a parent consultation.	The district re or 5 on the IT Reclassified st the program a

Table 5, cont.

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTE
Approach to Transition	At the early grades, instruction was primarily in Spanish with the proportion of instruction in English increasing as students progressed through the grades. Students learned to read first in Spanish and transitioned to English reading at about grade 3. By grade 4, the bilingual classes were primarily in English with support for students who were new to the country and for LEP students who were having difficulty in English.	Students were exposed to oral English in pre-K through grade 1; English reading and writing were introduced in grade 2; students made the full transition to English in grade 3. In continuum classes, students received Spanish maintenance instruction beyond grade 3; in these cases, the teachers were able to individualize instruction based on each students developmental readiness.	Students were placed in classes designated "transition" before they entered regular English classes. Spanish-speaking students transitioned from classes in which the medium of instruction was Spanish and non-Spanish-speaking students transition from sheltered English classes. Spanish-speaking students were placed into transition classes once they achieved a specified level of literacy in Spanish *and* met a specified English language standard. Non-Spanish-speaking students were transitioned once they achieved a specified level of English literacy. In some cases transitioning Spanish-speaking and non-Spanish-speaking students were integrated for transition classes.	Transition gradual an maintenan Instruction was predo with an ES middle gra divided eq languages maintaine remaining

CHARACTERISTIC	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER-A
Program Design for Recent Immigrants	Students were placed into classes with continuing LEP students and provided with intensive ESL, as well as Spanish instruction to help them understand concepts and for clarification. In class, they were often paired with bilingual students.		Spanish-speaking newcomers were placed into Bilingual language arts classes. Non-Spanish-speaking students who entered in the primary level were placed into sheltered English language arts classes for students with very little English proficiency. Middle and upper grade level non-Spanish-speaking newcomers were placed into the "Entry" class, serving grades 2-6. They were transitioned into sheltered classes within the appropriate wing once they learned a minimal level of English.	Newcomer stud into continuing later grades, th approximately English/Spanis students receiv support.
Cultural Validation	Students' culture was validated primarily by the high value placed on bilingualism. Also, the staff, teachers, and administrators [illegible] predominantly La..no, reflecting the student population.	The office staff was bilingual; materials were printed in English and Spanish; and parents and families were welcome at the school. Cultural inclusion in the classroom varied by teacher.	Student cultures were validated primarily through the use of students' primary languages and the incorporation of the cultures and traditions of their home countries into the social studies curriculum.	The value pla bilingualism, focus on the diverse staff student popul most obvious school valida cultures.

Table 6

Case Study Research Area #3:
Role of Research-based Information at the Elementary Grades

AREA OF RESEARCH	DEL NORTE	HOLLIBROOK	LINDA VISTA	INTER
Restructuring	Research informed the movement towards site-based management as well as the school's exploration of alternative assessment.	The school involvement in Accelerated Schools was initiated after a former principal read an article by Dr. Henry Levin. The school's emphasis on parent involvement was also informed by research.	Research and interaction with researchers significantly impacted the development of the schoolwide assessment system based on standards. In addition, the governance structure relies on an inclusive committee process that was informed by research. Strategies to allow all students access to the curriculum were informed by research.	The school's portfolio ass initiated and result of res information
Curriculum and Instruction	The following approaches/ strategies were implemented as a result of research-based information: Whole Language, Cooperative Learning, Writer's Workshop, Accelerated Reading, previewing, math across the curriculum, the use of manipulatives, and the focus on critical thinking skills.	The following approaches/ strategies were implemented as a result of research-based information: Continuum classes, Writer's Workshop, Reader's Workshop, Cooperative Learning, and Accelerated Schools' enrichment philosophy.	The following approaches/ strategies were implemented as a result of research-based information: the integration of technology into the curriculum, the implementation of a literature-based language arts curriculum, and the use of Cooperative Learning.	The followi strategies v a result of information instruction Writer's W Learning.
Language Acquisition	Research informed their decision to develop students' literacy in Spanish and to allow adequate time for English language acquisition.		Research on language acquisition and bilingual teaching informed their program.	Inter-Ame heavily on bilingualis

Table 7

Case Study Research Question #4:
Sources of Financial Support for the Reform at the Elementary Grades

SOURCE	DEL NORTE	HOLLIBROOK	LINDA VISTA	INT
Federal	• Schoolwide Chapter I	• Schoolwide Chapter I ($200,000/annually) • Two districtwide Title VII grants	• Schoolwide Chapter I	• Schoo
State	General appropriation, plus: • approxinately $200/LEP student	General appropriation, plus: • approximately $200/LEP student	General appropriation, plus: • SB 1274 Restructuring Demonstration Grant • SIP, GATE, EIA/LEP	General • suppo teach conte • state
District	$1000 bilingual teacher stipend	$3000 bilingual teacher stipend	• Academic Enrichment Grant supports counselors, parent liaisons, and a reading recovery teacher as part of district's desegregation consent decree. • As a Leadership and Accountability Demonstration (LAD) school, Linda Vista receives some support for staff development and planning time.	
External Partner	(in-kind staff development, coaching from UTEP)		Support from the NASDC-funded National Alliance for Restructuring Education and from Apple Classrooms of Tomorrow for training and equipment.	

Table 8

Case Study Research Area #5:
Impact of the Reform at the Elementary Grades

IMPACT AREA	DEL NORTE	HOLLIBROOK	INTER-AMERICAN	LIND
Student Achievement and Learning Outcomes	"highest performing" on TAAS		as seen through the student portfolios	as seen throug portfolios
Attendance	very high attendance rates	high attendance rates	high attendance rates	very high atte
Strengths	High expectations; emphasis on language skills; multiple support structures • "Lots of learning goes on here...creative teaching goes on...the kids are enjoying it...they're really getting in it. Everybody takes pride in what they do." *Students:* • "Learning two languages is fun;" reading *Parents:* • Development of literacy in two languages; Accelerated Reading program ("they read everywhere, all the time"); school is responsive to concerns of parents.	Continuum classes; team teaching; parent involvement due to Parent Center, social workers, and continuum teachers; language (reading and writing) emphasis • Principal is good at resources, parent involvement, and relationships with the wider community. *Parents:* • Bilingual teachers and formal education in both languages, lots of reading, presence of parents on site	Parental support; shared vision of/commitment to bilingualism; inclusive decision-making; *Parents:* • Spanish maintenance; bilingual teachers allow for good home-school communication. *Students:* • Maintaining Spanish and learning about different cultures	Schoolwide ir students; focu development; staff; "lots of isolated teach very open, ev everybody els *Students:* • PM rotatio language s we don't f

IMPACT AREA	DEL NORTE	HOLLIBROOK	INTER-AMERICAN	LIN
Weaknesses	• Polanco identified parent involvement. • Salinas identified increased integrated services (e.g., mental health services, and "preventative parenting classes"). • Students said that they wished they could continue to develop their Spanish literacy.	• Rift in school approach to teaching and learning with some teachers using traditional methods without making modifications for LEP students; lack of coherent LEP student program design, particularly re: timing of transition to English • Principal not instructional leader	• Students, teachers, and administrators all cited the facility (or lack of funding to make repairs) and the food service. • lack of home reinforcement of bilingualism • Behind in technology	• "not enou between v • "is there fluff?"

Table 9

Case Study Research Area #1A: The Context for Reform
Demographic Conditions at the Middle Grades

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	W
Community Context	Magnet school in urban, but not impoverished, setting	Low income, agricultural and service-oriented economy, high unemployment, gangs	Inner-city magnet school—mostly low income with growing middle income population	Port of entry, mostly low in
Grade Span	K-8	7-8	6-8	
Total Enrollment	365	860	650	
Ethnicities (%)	White (46%) Black (45%) Hispanic (5%) Asian (4%)	Hispanic (56%) White (26%) Asian (11%) African American (5%)	Hispanic (38%) White (20%) Chinese (14%) African American (9%) Filipino (6%)	Hispanic (89 White (10%)
% LEP	17%	29%	24%	
Languages (% of LEP Students)	Haitian Creole (100%)	Spanish (79%) Cambodian (10%) Lao (5%) Hmong (3%)	Spanish (63%) Cantonese (23%) Other Chinese (7%)	Spanish (10
% Eligible for Free or Reduced-Fee Lunch	35%	94%	15% (Free Lunch only)	(Economic

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Background of LEP Students	Political refugees from Haiti	Mostly immigrants, some born in US; many children of migrant workers	Mostly immigrants from Mexico, Central America, and China; some born in US	Immigrants may have b
Attendance	96.0%	93.4%	95.6%	
Transiency/Mobility	Stable, except for new Haitian immigrants	High mobility	Very stable, trickle of new immigrants enter during the year	Medium m immigrants year

Table 10

Case Study Research Area #1B: The Context for Reform
Factors Affecting Implementation at the Middle Grades

FACTOR	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Time in Operation	The school evolved under the direction of the long-standing principal.	The school opened in 1991 as a "restructured" school with houses.	The school was reconstituted in 1984 after a court-ordered consent decree; restructuring into families, etc. began in 1990.	The schoo 1987. It school in the first i opened a school wi
Impetus for Reform		The school was designed to respond to the community—the school was created to engage students in ways that are relevant to their reality.	Chronic low performance led to court-ordered consent decree reconstitution. A former principal led the subsequent restructuring effort.	The foun initiated the first
Role of District	The Haitian Creole bilingual program was placed at Graham and Parks as part of the district's desegregation plan. The district has supported the development of the bilingual program by recruiting qualified staff and providing professional development.	The district selected the principal to open the school and supported developing the school around the middle school model. The district also supported primary language instruction (i.e., hiring bilingual teachers, using primary language textbooks) and an additional period of instruction for LEP students.	The district consent decree allowed the school to be reconstituted, to draw students from all over the city, and to receive supplemental funds. The reconstitution permitted the new principal to hand-pick the staff.	The distr implemn school c district w grade LE district p resource with the

FACTOR	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Principal Leadership	At the school for 20 years and with a deep understanding of teahing and learning, the principal was the driving force behind the vision of the school.	The principal was critical to development of school program. He spent a year planning the school program and recruiting school faculty; much of the time was spent getting input from parents and others in the community.	The principals who led the reconstitution and restructuring were very strong leaders. Since then, there has been a lot of turnover (three principals in the four years), resulting in inconsistent leadership.	The school' the school middle sch
Staff Role in Reform	Program staff were fully supportive of reform effort.	The staff were hand-picked by the principal and embraced the vision of a restructured school and an inclusive decision-making process with increased accountability.	Teachers were originally hired because they shared the principal's vision of high expectations and increased accountability. The school is currently governed by faculty committee.	Teachers e structure a parent inv their invol governam broad ran
School Climate	There was a positive school climate but the Haitian-Creole students were stressed from war and immigration.	There was an emphasis on respect for cultural diversity and on empowering individuals.	The climate of the school was one in which cultural diversity was valued and there were high expectations for all students.	The schoo student di culture an
Community Involvement	The school took advantage of the community's rich educational resources by establishing partnerships that helped shape implementation of the reforms.	The community provided significant input before the school opened and community members remained involved in school operations.	The community's involvement in implementing the reforms was limited.	Communi involved activities, implemer university significar and impl

Table 10, cont.

FACTOR	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Staff Qualifications	Teachers of LEP students were all orally fluent in Creole. Some were biliterate and some were Haitian.	Many teachers had Language Development Specialist—or Bilingual—*and* content area credentials.	Almost half of the teachers in the school were bilingual; many either had a Language Development Specialist credential or were in the process of getting it. There were Spanish- and Cantonese-speaking paraprofessionals.	Teachers and shelte Teachers Spanish v math teac content a addition t
Administrator Background	The principal had been at the school for 19 years.	The principal's previous experiences were primarily in alternative school settings.	The prinicpal had been the vice principal since the school's reconstitution. The vice principal was a former bilingual teacher.	The princ and vice
State Policies	A state school reform bill required site-based management with elected representatives of teachers and parents.	The state framework for education in the middle grades served as a basis of the school's design. The school's curriculum was largely driven by the state curriculum frameworks. Teachers participated in state-run, subject-specific professional development institutes (i.e., Math and Writing Projects).	The school received a state Restructuring Demonstration Grant which supported the implementation of reforms.	The scho statewid based ma implemr school c impacte accounta increase and hold student the state
Federal Policies	Chapter 1	Chapter 1	Chapter 1	Chapter

FACTOR	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Desegregation Policies	The school is affected by the districtwide school choice system that came out of the district's desegregation plan.	No impact.	A 1984 court-ordered consent decree led to the districtwide open enrollment policy and the reconstitution of Horace Mann school. The consent decree mandates that no one ethnic group can constitute more than 40% of a school population.	No impact.
External Partner(s)	The school's relationship with TERC (a non-profit firm with federal NSF funding) was critical to the design and implementation of their science program. The school engaged in other partnerships with local business and universities as well.	The school was involved in an intensive partnership with Susan Kovalik & Associates (a paid consultant). The partnership had a profound impact on the school's instruction and curriculum.	The school's partnership with San Francisco Project 2061 significantly contributed to the schoolwide development and implementation of a curriculum model that focuses on enhancing science literacy. Involvement with the Project also led to a schoolwide increase in the use of authentic assessment tools. The school is also part of university-run consortia that focus on curriculum and assessment development and implementation.	Wiggs' pa UTEP's S supported technolog curriculu

Table 11

Case Study Research Area #2A:
DESIGN AND IMPLEMENTATION OF THE REFORM AT THE MIDDLE GRADES

School Restructuring

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
School Climate	The school climate is best captured by the students' eagerness to learn and their exhibition of exuberant and joyful attitudes toward life.	There was a schoolwide emphasis on validation of cultural diversity and individual empowerment. The schoolwide promotion of "life skills" was also evident in the school climate.	The school climate was one in which cultural diversity was valued and there were high expectations for all students.	The schoo which the backgrou staff were with stude had a stro and colleg
Leadership	At the school for 20 years and with a deep understanding of teaching and learning, the principal was the driving force behind the vision of the school.	The principal was critical to development of school program. He spent a year planning the school program and recruiting school faculty; much of the time was spent getting input from parents and others in the community. Within the house structure, faculty took on more of a leadership role.	The principals who led the reconstitution and restructuring were very strong leaders. Since then, there has been a lot of turnover (three principals in the four years), resulting in inconsistent leadership. Faculty played a very powerful leadership role.	The schoo led the sc a middle
Use of Time	They used block scheduling (a two hour social studies and language arts block, and a two hour math and science block). After-school support for students transitioning to mainstream classes was provided.	They used block scheduling for their integrated core courses (math/science and language arts/social studies). Within each family, teachers had 45 minutes of common planning time daily. They extended the day for transitioning students with after-school tutoring.	There are two blocks (one hour and 45 minutes) for academic classes each day. Each academic class meets every other day. Within each family, teachers have 45 minutes of common planning time daily; two days per week, family teachers have two contiguous common preps. After-school programs are offered.	Teachers planning meetings an indivi can use f conferen students. is offere

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Student Grouping	LEP students were placed into designated bilingual classes which span two to four grade levels. As students were deemed ready, they were partially, and then fully, transitioned into mainstream classes. Mainstream classes had designated ability levels.	All classes were untracked but LEP students were placed into core classes according to their English language fluency and home language. Within classes, teachers used heterogeneous grouping strategies.	All classes were untracked, with student populations ranging from resource to gifted. Within that context, Spanish-speaking LEP students and non-Spanish speaking LEP students were clustered into designated families. Within classes, teachers used heterogeneous grouping strategies.	LEP student according t ability (thre appropriate students we they were p fully, transi mainstrean Mainstrean designated
Integrated Services	A Student Support Team took a case approach to referred students; individual and group counseling services were provided by the mediation specialist and the Haitian social worker; referrals were made, if necessary, to community organizations with who relationships had been established.	The comprehensive Family Resource Center—funded by a California Healthy Start grant and operating through cooperative agreements with local service providers—offered health (medical, mental, dental) and social services to the families of the students attending the school.	Horace Mann has recently hired a Social Services Coordinator to conduct a needs assessment. In addition, she offered group "rap" sessions, established relationships with local social service agencies and referred students, and she researched integrated services models in place at other schools. She was paid with funds from the schools' restructuring demonstration grant (SB 1274).	The school in meeting established community care provi meet the n poor famil resources clothing. Teachers counselor their Advi referred st additional
Parental Involvement	There was a bilingual parent coordinator/liaison to facilitate communication, but there was not a significant amount of Haitian parent involvement, as there was for other parent groups.	The school provided services to parents via the Family Resource Center, ESL classes that were taught by an adult education instructor, and parenting seminars. Parents were able to share their ideas re: school improvement and other decisions by participating in school meetings. Child care was provided at all school meetings.	Parent actively participated in school governance via the Parent and Community Councils, but parents of LEP students tended to be less involved. All home-school communication was trilingual. There was a Spanish bilingual home liaison, as well as bilingual front offic staff.	Parents pl parent or of LEP st be involv activities. establish students' family st

Table 11, cont.

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Governance Structure	Parents and teachers shared in decision-making via committees.	House leaders and department chairs made up the faculty governance. Teachers had broad decision-making responsibility, including adopting the school budget.	Many governance decisions were made within the family structure; schoolwide decisions were made by the Staff and Curriculum Development Committee (faculty) and the Community Council (parents, teachers, and students). These committees made decisions about the spending of grant money and other supplemental funding, general governance, and staff development activities.	This was th official site governanc by the Can Committee range of sc
Organization of Teaching	In the bilingual program, the 5th-8th grade class was team taught.	Teachers worked as teams within the house structure. Core teachers had adjoining classes which facilitated collaboration. Within each house, teachers had 45 minutes of common planning time daily.	Teachers coordinated curricula and activities within the family structure. Teachers had one to two common prep periods each day.	Teachers and activ families. time was meetings

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Staff Development	There was considerable internal professional development activities for faculty on educational concepts; opportunities for professional development were also provided by the district.	Professional development primarily occurred with Kovalik Associates. Engaged in a long-term partnership, teachers attended annual summer institutes and periodic in-services and worked intensively with a Kovalik coach. The focus of the professional development activities was to help teachers develop year-long curricular themes, implement a "life-skills" curriculum, and create a school climate conducive to maximum student learning.	Professional development activities were selected by the faculty Staff and Curriculum Development Committee in response to schoolwide needs. Funding for much of the professional development activities and teacher release time was provided by the school's Restructuring Grant (SB 1274). The professional development focus was on math across the curriculum and alternative assessment. In previous years, it had been on writing across the curriculum, bicultural awareness, and language acquisition.	Teachers p professiona activities t Mentor Sc Teachers a activities t and the Ur El Paso, a level. Mo implement elements c model." C developm of instruct strengther curriculur

Table 12

Case Study Research Area #2B:
DESIGN AND IMPLEMENTATION OF THE REFORM AT THE MIDDLE GRADES

Curriculum and Instruction

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Curricular Strategies	The science curriculum focused on depth of understanding over breadth of coverage. The curriculum relied on a hands-on and observation-based approach. English was taught using Whole Language strategies (e.g., oral language, writing, creating books, composing poems). Language arts and social studies were integrated.	The curriculum was based on the state curriculum frameworks and was delivered within the context of year-long interdisciplinary themes. To accomodate interdisciplinary instruction, core classes (language art/social studies and math/science) were integrated. Teachers were committed to delivering a "meaning-centered" curriculum that builds on student experiences. Meaningful content is a feature of "brain compatible learning." The curriculum also included "life skills."	Curriculum was integrated across content areas through the use of thematic units and projects; the curriculum content was made meaningful to students by applying it to real life situations (i.e., environmental and social issues) and to the diverse experiences of the students. In an effort to enhance student understanding of mathematical concepts, math was integrated across all curricular areas.	Within th teachers make cur across co develop t covered t survey th curriculu curriculu textbook referenc adaptati to incor real life

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Instructional Strategies	Science instruction relied on the use of the "inquiry method." which promotes instructional conversations based on students' science observations. Students often worked in cooperative groups and teachers worked as a team.	Features of "brain compatible learning" were translated into instructional strategies; these features include absence of threat, choices, adequate time, enriched environment, collaboration, immediate feedback, and mastery. Teachers designed instruction to elicit active learning. As a result, hands-on, activity-oriented lessons predominated. Teachers promoted problem solving, rather than arriving at a single correct answer. Expectations were high for all students.	Teachers emphasized active, cooperative learning. Students learned from one another through the use of heterogeneous grouping strategies (there was no tracking at Horace Mann). The presentation of curricula was multifaceted, allowing all students— regardless of their strengths, interests, and experiences—to contribute. Teachers used problem-solving strategies in math and science instruction.	All conten LEP stude on Englis developme level class oral Engli strategies, contact wi total physi speaking were empl classes. C was also u problem-s discovery was emph
Instructional Discourse/Role of Teacher and Student	Teachers acted as facilitators of student learning. Using the inquiry method, teachers asked open-ended questions, encouraging students to formulate answers and pose additional questions. Teachers focused on generating more student talk and less teacher-dominated talk. The lessons stressed the importance of students generating questions and then finding answers to those questions. Students frequently directed discussions.	Teachers played a facilitative role while students work in partners or cooperative groups; the teachers do not unduly direct student learning. Teachers ask open-ended questions to stimulate student thinking and expression; students do much of the talking and are encouraged to introduce new, related ideas to discussion. Students are encouraged to use other students as learning resources.	Teachers play facilitative role in student discussions; these discussions help to strengthen students' understanding of math and science concepts, as well as to develop language. This type of teacher role is most prevalent in cooperative learning settings.	Teachers encouragi questions knowledg

Table 12, cont.

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Use of Instructional Technology		Computers, TVs, VCRs in each classroom	Some skill and drill, word processing; there is a required "elective" called computer literacy that takes place in the 1274-funded, Mac-stocked computer lab.	There are every clas participat is a comp Macs and teachers technolo they wor training instructi These te III comp drives, a and two teachers technolo theses c classroo integrat meanin

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	V
Assessment Strategies			The assessment system is based on students' performance, with an emphasis on the portfolios, as they progress toward specific school-wide learning outcomes. Based on the premise that meaningful assessment of student progress and achievement is integral to the educational process, staff use assessment tools (cooperative performance, oral presentations, substantive dialogue, essays, exhibitions, journals, etc.) to measure students' ability to construct and apply knowledge, not reproduce it	
Articulation with High School			As a magnet school, it feeds into a number of different high schools. Counselors from the high schools visit the school in the Spring to discuss programs and options with 8th graders. Schoolwide outcomes are set based on skills needed for success in high school.	The focus a students wi English so in an all-E the current VP at El Pa school is a restructuri some tensi regarding t the middle the traditio

Table 13

Case Study Research Area #2C:
DESIGN AND IMPLEMENTATION OF THE REFORM AT THE MIDDLE GRADES

LEP Student Program

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Use of L1	Creole is used along with English throughout the day. Even as students are mainstreamed, they receive academic support after school in homework center staffed by Creole-speaking staff. While literacy in Creole is supported to some extent, the main goal is transition to English literacy.	LEP students whose comprehension of English is very limited and who speak Spanish are placed in Spanish core classes for math/science and language arts/social sciences. They are transitioned to sheltered classes as their English language ability develops.	Spanish-speaking LEP students receive science and social studies instruction in Spanish; development and maintenance of Spanish literacy is promoted. Chinese newcomer students receive instruction in their L1; transition to all-English classes is the goal.	LEP stud in the LA (relative one class language instructi (Most of come fro have hac so they a in Spani
Use of ESL		LEP students take ESL in place of an elective. (This is in addition to the language arts/social studies block.)	Newcomer students from all home languages are pulled out for schoolwide beginning ESL instruction. Intermediate and advanced ESL instruction varies on a family by family basis: some families incorporate it into language arts instruction (in which cases, students are grouped by English language level); in other cases, ESL is a "family elective."	ESL is t content LAMP intensiv class th languag are tau languag

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	W
Integration of LEP with EO/FEP students	Some students who are closer to transition are partially mainstreamed; other students do not integrate with EO/FEP students.	LEP students are integrated with EO/FEP students during PE and electives. Beginning and intermediate level LEP students are in core classes wit other students at the same English language level. Advanced LEP students are integrated with EO/FEP students during content classes: when LEP students are ready to be transitioned to mainstream classes, they are clustered together in core classes taught in English by teachers trained in second language acquisition.	LEP students are integrated with EO/FEP students within the family structure. Because Spanish maintenance is promoted, many of the students in the Spanish Bilingual Program are FEP; there are English-dominant students in the program as well (from Buena Vista). In the strands for non-Spanish-speaking students, there is also integration with EO/FEP students. Student placement procedures vary by family, and time of integration varies (i.e., whether students stay with their strand for all core classes; whether students get re-grouped by English level for language arts, etc.) All students are integrated for electives and PE.	Beginning L have minim non-LEP stu electives an Intermediat are partiall so they're i classes as v LEP studer mainstrean return to L ESL instru language a

Table 13, cont.

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Assessment and Placement Practices	The district plays a strong role in the assessment and reclassification of LEP students: the district assesses all students upon entry and counsels parents on their program choices. Students are reassessed annually for oral fluency, reading, and writing. Each year a representative of the district helps site-based committees review each LEP student's progress towards reclassification and mainstreaming.	Assessment and reclassification is done by district assessment staff. The district assessment staff review CTBS scores to identify students potentially ready to transition. A review of their SOLOM scores, grades and writing sample follows. The Assessment Center also uses the LAS. There are five specified levels of English proficiency levels: levels 1-3 are determined primarily by LAS and SOLOM; levels 4-4 are determined by LAS, SOLOM, and CTBS.	Students are assessed annually according to district classification procedures. All Spanish-speaking LEP students are placed in the Spanish Bilingual Program. Chinese newcomer students are placed in the self-contained class; they are partially and then fully mainstreamed. For racial balance purposes, FEP Latino students are often placed in the families with non-Spanish-speaking LEP students and FEP Asian students are often placed in families with the Spanish Bilingual strand.	Students v language on their H the Secon Language (SLEP). above 50; reading a subtests c test (ITB score bel percentile LEP; in t placed by review of and pare obtained appropri educatio LPAC re status an

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Exit Criteria	Once a student has been in the program for LEP students for three years, there is a January placement meeting at each school. The ESL teacher, primary language teacher, bilingual education department representative from the district, and principal review LEP students' progress. Both developmental and chronological age assessments are done. The bilingual department assist schools with mainstreaming strategies and with academic support for LEP students entering English classrooms. Each year, the district must submit an end-of-year report to the state Department of Education. After three years they must give a reason for continuing a LEP student in a LEP program. Common reasons include no prior schooling or absenteeism. In practice, it is not unusual for LEP students to spend a fourth year in the program.	The exit criteria are set at the 35th Percentile Rank on CTBS reading, math, and language arts, and a passing score on an English writing sample.	Exit criteria are based on the district requirements: 36% or better on CTBS; Cs or better; satisfactory performance on district writing assessment; a score of 4 or 5 on the oral test (IPT); and parent permission. Spanish-speaking students can stay in the program with parent permission; parents are encouraged to keep their children in the program. Chinese students exit the self-contained program long before they are reclassified. Once they are reclassified, they are no longer placed in the strand for non-Spanish-speaking LEP students.	Exit criteri to the Texa 40th percer reading an subtests of test or mas version of oral langua score of 5(SLEP); an promotion level. The parents of programs. continue t students f determine student is successful is based o and passir who are n successful recommer the bilingu compensa another p addresses

Table 13, cont.

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Approach to Transition	The teachers try to focus language development on students' experiences; drawing on their own experiences, students generate stories and develop vocabulary lists. Students with minimal English skills are placed in the self-contained class all day; as students acquire English, they are partially and then fully transitioned. Mainstreamed students receive support from Creole-speaking staff through the after-school homework program.	The progression of classes to meet the needs of the various levels of LEP students (from primary language to sheltered to mainstream with teachers trained in language acquisition) provides the structural support for transition. The early level classes prepare students for transition; the trained mainstream teachers support the transition process. After-school tutoring was identified by students as critical to their transition to mainstream classes.	Teacher training—most have LDS or bilingual credentials—and the familiarity of the family structure help to facilitate language development, including transition. There is no programmatic change for Spanish-speaking LEP students, except advancing ESL levels. Chinese students progress from the self-contained class, to partial mainstream, to full mainstream.	Students English f but the L well defi courses: taking al (includin arts) fro trained i and cont as well a then stu mainstre and scie are enro ESL/lan
Program Design for Recent Immigrants	Recent Haitian immigrants are placed directly into the bilingual class at the age-appropriate level.	Recent immigrants are likely to be level ones in terms of English language proficiency. If they are Spanish speaking, they are placed in Spanish content area classes. If they are non-Spanish-speaking, they are placed in level one sheltered classes. In both cases, they are placed at the age-appropriate grade level and in the first level ESL class.	Newcomer Spanish-speaking students are placed in the Spanish Bilingual Program; Newcomer Chinese students are placed in the self-contained class.	Newcor English beginni within t family.

CHARACTERISTIC	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Cultural Validation	Teachers and counseling staff are able to speak to parents in Creole; there are ample displays throughout the schools on Haitian geography, history, language and current events. Student writing is published in Creole, as well as in English. The school sponsored a Haitian family day.	They honor the Spanish language by having Spanish-speaking classified staff in the front office and other offices that deal with parents and families; by organizing multicultural events like a "World Fair;" or by using bilingual Family Resource Center staff to provide health, dental and social services. Faculty convey respect for the primary language of students by teaching core content in Spanish to Spanish-speaking LEP students. The school is currently attempting to add language resources for students who speak Southeast Asian languages.	Teachers teach respect for diversity throughout the curriculum, particularly during Awareness Month. The development and maintenance of Spanish literacy shows respect for the home language of the students.	33% of the school are the studen home scho is bilingua very bicul make an e curricula the studer

Table 14

Case Study Research Area #3:
ROLE OF RESEARCH-BASED INFORMATION AT THE MIDDLE GRADES

AREA OF RESEARCH	GRAHAM AND PARKS	HANSHAW	HORACE MANN	W
Restructuring		Based on *Caught in the Middle*—California's blueprint for the middle school model. Many of the ideas are based on research conducted by the principal within the community.	The restructuring was led by a former principal; since we did not interview him, we do not know how much the ideas came from research. The implementation of families, etc. seems to be based on "the middle school concept."	The district i middle schoo of "teams an Assistant Su middle schoo "research sh students into most effectiv of and main with kids, e kids." Wig UTEP helpe with the im middle scho also work w people at th Asst. Sup. changes the research ba

AREA OF RESEARCH	GRAHAM AND PARKS	HAWSHAW	HORACE MANN	
Curriculum and Instruction	TERC's inquiry-based method for teaching science is research based.	The ideas regarding the promotion of an environment where learning can take place (i.e., absence of threat) and using curriculum that is meaningful to students come from "brain research."	Many strategies are in place at Horace Mann that appear to be research-based. Many of these strategies (i.e., cooperative learning) were primarily learned through teacher inservices. San Francisco's Project 2061 is research-based in that the developers attended national retreats, conferences, and summer work sessions. The emphasis on contructivism and a "transdisciplinary" approach to learning illustrate the research base.	It is distric thematicall program.
Language Acquisition	Teachers were knowledgeable about the process of language development.	Teachers in bilingual classes were knowledgeable about the process of language development.	Teachers have sought out training on language acquisition, bicultural awareness, etc. They understand the need to be trained to facilitate the language development of LEP students. Many have LDS and bilingual credentials. LDS courses are offered to teach s on-site.	The LAM designed emphasis through t also made reduced c students)

Table 15

Case Study Research Question #4:
SOURCES OF FINANCIAL SUPPORT FOR THE REFORM AT THE MIDDLE GRADES

SOURCE	GRAHAM AND PARKS	HANSHAW	HORACE MANN	V
Federal	TERC is funded by NSF. Chapter 1	Chapter 1	Project 2061 is nationally funded. Teachers at Horace Mann receive stipends and inservices are supported. The discretionary budget for Horace Mann is $7000; some activities are funded by the local 2061 office outside of this budget.	The district NSF grants. to support th integrated sc models; this partnership
State		State compensatory (EIA)	Horace Mann receives $119,000 annually to implement their restructuring plan; this is a state Restructuring Demonstration Grant (SB1274).	State compe ($750,000) education fu combine wi for reduced pay bilingua a $1000 sti
District	"Cambridge has a high per pupil expenditure."	Funds for extra class period (extended day) as a school that is highly impacted with LEP students	HM receives $480,000 annually in consent decree funds.	Local funds account for cost fundin to reduce cl LAMP pro bilingual a $1000 stip

SOURCE	GRAHAM AND PARKS	HANSHAW	HORACE MANN	V
External Partner	TERC (see federal)	Susan Kovalik and Associates	Project 2061 (see federal)	UTEP provi equipment; this with fu grants (i.e.,
Other	Desegregation funds Technology grants			

Table 16

Case Study Research Area #5:
IMPACT OF THE REFORM AT THE MIDDLE GRADES

IMPACT AREA	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Student Achievement and Learning Outcomes	The large number of recent immigrants poses a challenge to measuring outcomes.	Student mobility and transience pose a challenge to measuring outcomes.	Students at Horace Mann scored second highest in the district on writing in last year's statewide assessment (CLAS).	As a scho performi Teachers who exit among th *Challeng* major pr able to ir allow pr because it's such
LEP Student Redesignations	"Transition to English is accomplished over a four-to-six year period."	The district initiated a systematic review of LEP children in the 1992-93 school year to determine if some students could be reclassified Fluent English Proficient; over 500 FEP students were identified. The following year, the district redesignated 200 or so students. In the first "sweep," Hanshaw had 43 students redesignated as fluent; in the second year 30 students were redesignated.		50% of t kinder e who ente *Challeng* describe challeng easy to only Sp spend th I don't late arri

IMPACT AREA	GRAHAM AND PARKS	HANSHAW	HORACE MANN	V
Strengths	• Support for English language development • Bilingual staff and openness to families • Partnership with TERC • District support for bilingual programs	• Attention to Community Alienation and School Climate • Attention to Language Development • Learning Community	• Organization of students: untracked classes, family structure, cooperative learning • Meaningful curriculum: the curriculum is rich and is made relevant to the students' realities and experiences. • Entrepreneurial staff with shared vision.	• "Wiggs pioneers school c Paso ar • Family • Strong instruct
Weaknesses	Some isolation of the program.	Inadequate support for Southeast Asian LEP students.	• Inconsistent leadership—taking toll on teachers	Need to inc involvemen integrated s

IMPACT AREA	GRAHAM AND PARKS	HANSHAW	HORACE MANN	
Strengths	• Support for English language development • Bilingual staff and openness to families • Partnership with TERC • District support for bilingual programs	• Attention to Community Alienation and School Climate • Attention to Language Development • Learning Community	• Organization of students: untracked classes, family structure, cooperative learning • Meaningful curriculum: the curriculum is rich and is made relevant to the students' realities and experiences. • Entrepreneurial staff with shared vision.	• "Wiggs pioneer school c Paso ar • Family • Strong instruct
Weaknesses	Some isolation of the program.	Inadequate support for Southeast Asian LEP students.	Inconsistent leadership—taking toll on teachers	Need to inc involvemen integrated s

GLOSSARY

1. Student Designations

LM (language minority): Defined in the 1990 U.S. Census as households in which one or more people speak languages other than English. More than one in five school-age children and youth in the U.S. live in language minority households.

LEP (limited English proficient): A subset of LM—those from language minority households who are not proficient in English. One estimate of the number of LEP students is drawn from Census questions that ask about individual's home language use and spoken English proficiency. Federal programs and school systems may also identify as LEP students those who have difficulty not only in speaking English, but also in reading, writing, or understanding it. The proportion of LM students who are LEP is estimated by various sources as one-fourth,[1] one-third,[2] or as large as one-half to three-fourths.[3]

NEP (non-English proficient): Students who come to school with no or minimal English proficiency.

FEP (fluent English proficient): Formerly LEP students who have achieved a sufficient level of English proficiency.

Newcomer: Students who have recently immigrated; these students tend to have no fluency in English and varied educational backgrounds.

EO (English-only): Monolingual, English-speaking students.

2. Program Models for Language Minority Students[4]

ESL (English as a Second Language)

Teaches English to LEP students; may be used with students with different native languages in the same class. ESL teachers have training in principles of language acquisition and in language teaching methods, but are not fluent in the home languages of their students.

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[1] GAO/HEHS, *Limited English Proficiency: A Growing and Costly Educational Challenge Facing Many School Districts* (Washington, DC: United States General Accounting Office, January 1994).

[2] Stanford Working Group on Federal Education Programs for Limited-English Proficient Students, *A Blueprint for the Second Generation*, Stanford Working Group (Stanford, CA, June 1993).

[3] *Numbers and Needs*, March 1993, Vol. 3. No. 2.

[4] Jeanne Rennie, "ESL and Bilingual Program Models," *ERIC Digest*, ERIC Clearinghouse on Languages and Linguistics/Center for Applied Linguistics (Washington, DC, September 1993).

ESL Pull-out: Pulls (elementary school) students out of the mainstream class for a portion of the day to receive ESL instruction.

ESL Class Period: Provides a regular class period for (middle school) students devoted to ESL instruction.

Bilingual Programs

Uses the students' native language, in addition to English, for instruction. Students are grouped according to their home language, and teachers are proficient in both English and the students' language.

Early-exit Bilingual Programs: Provide initial instruction in the students' home language, with rapid transition into all-English instruction. Students are mainstreamed into English-only classes by the end of first or second grade.

Late-exit Bilingual Programs: Use the students' home language more and longer than early-exit programs. Late-exit programs may use home language instruction 40 percent or more of the time, throughout the elementary school years, and even for students who have been reclassified as fluent English proficient.

Two-way (or Developmental) Bilingual Programs: Use English and another language to provide instruction to classes composed of approximately half language minority students from a single language background and half language majority (English-speaking) students. Both groups of students develop their native language skills while acquiring proficiency in a second language.

Other

Some neither use the students' home language nor direct ESL instruction. Instruction is, however, adapted to meet the needs of students who are not proficient in English.

Sheltered English or Content-based Programs: Use English adapted to the students' level of comprehension, along with gestures and visual aids, to provide content area instruction. This approach is often used for a class of students from varied native language backgrounds.

Structured Immersion Programs: Use English as a medium of instruction for content areas, as in Sheltered English programs. Structured immersion teachers have a bilingual education or ESL credential and understand the students' first language.

3. Pedagogical Terms

Active Learning: This term is used to describe project-based learning in which active student participation in the learning process is promoted; the teacher acts as a facilitator of the student learning experience rather than a one-way provider of information.

Alternative/Authentic Assessment: An assessment system that measures student performance in a way that requires students to demonstrate their understanding.

Cooperative Learning: This term is used to described structured group work in which students work together and direct their own learning; the teacher acts as a facilitator of learning. Students are frequently assigned roles within their group (i.e., chairperson, recorder, manager, reporter, organizer).

Constructivist Learning: Students construct meaning using multiple resources and data sources.

Thematic Instruction/Integrated Curriculum: This term refers to the integration of traditional content areas around instructional themes; the purpose is to present the content area curriculum to students in more meaningful ways.

Whole Language: The use of language in ways that reflect real-world purposes and function authentically related to students' life experiences. Strategies rely on *using* language rather than learning *about* language.

4. Assessment-related Acronyms

ASAT (Abbreviated Stanford Achievement Test): A norm-referenced test used by many districts to assess student achievement.

CLAS (California Learning Assessment System): California's state-mandated, performance-based academic assessment system. (Canceled at the time of this writing.)

CTBS (Comprehensive Test of Basic Skills): A norm-referenced test used by many districts to assess student achievement.

IGAP (Illinois Goals Assessment Program): Illinois' state-mandated academic assessment system; serves as the basis for the state's school accountability system.

IPT (IDEA Oral Language Proficiency Test): The IDEA test is part of a curriculum package that is used in some bilingual programs. The test is appropriate for children in grades K through 6; it contains stimulus pictures which elicit oral language production. Additionally, the child is

asked simple questions, required to repeat sentences, provide information about common aspects of his or her environment, recall and retell parts of a story, and discriminate paired phonemes. It provides six levels of proficiency from no English language ability to an ability level that would correspond with a fluent English speaker.

ITBS (Iowa Test of Basic Skills): A norm-referenced test used by many districts to assess student achievement.

LAS (Language Assessment Survey): This test is divided into two forms, LAS I for grades K through 5, and LAS II for grades 6 through 12. They also assess both English and Spanish proficiency. The test is based on five subtests: oral production, phoneme discrimination and production, vocabulary, and oral comprehension. The combined subtests yield a composite score which is used to classify a children into one of five categories: Fluent, Near Fluent, Limited, Partially Deficient, or non-English.

MEAP (Massachusetts Educational Assessment Program): Massachusetts' state-mandated academic assessment system. (Under revision at the time of this writing.)

TAAS (Texas Assessment of Academic Skills): Texas' state-mandated assessment system; serves as the basis for the state's school accountability system.

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