

A National Study of School Effectiveness for Language Minority Students' Long-Term Academic Achievement

Findings from an Inner City Research Site in the Northwest U.S.

The Regional Social Context

Schools in the northwest U.S. have in the recent past experienced a different type of homogeneous community than that described in the northeast U.S. francophone context along the Canadian border. Until the 1980s, or in some cases 1990s, many school districts in the states of Washington, Oregon, and Idaho served mostly students of European-American descent. Many whites in this region are descendants of the pioneers who crossed the country in the great waves of emigration from the eastern U.S. states, during the middle 1800s. In addition, Seattle has a significant Asian-American population, with its bustling international trade with countries around the Pacific Rim. Asian-Americans increased in number with the end of the Vietnam war and Indochinese refugees' relocation in all parts of the U.S. including the Northwest. Native American groups in this region live mostly in isolated rural areas.

Before the 1980s, Hispanics served by the schools were mostly from families of migrant workers serving as seasonal laborers who returned to Mexico after the crops were harvested. However, beginning in the 1980s and especially during the 1990s, a new demographic pattern gradually emerged in these three states of the Northwest. Hispanics started to settle in larger and larger numbers in permanent communities, no longer returning to their mother country. Economic hardship, war in El Salvador, and political repression in various regions of Mexico and Central America, as well as the political climate in California (where several anti-immigrant initiatives were passed by voters in the 1990s), have driven many Hispanic families to seek work in other regions of the U.S., leading to increasing numbers of Hispanics settling and seeking permanent

residency in the Northwest. Hispanics of Mexican and Central American descent now represent the largest minority group in many Northwest communities, and schools are struggling to provide appropriate and meaningful curricular assistance for these new arrivals. Since this phenomenon is the recent experience of many small towns and cities across the U.S., we thought it appropriate to include in our "story" of schools across the U.S. the example of one school in the northwest region that has chosen to respond to this challenge in some unique ways.

Initially, the school district in which this school is located had planned to participate in our study. But because of a new computer system and other technical difficulties with archival data retrieval under the old system, it was decided that there was not sufficient available data to provide a meaningful longitudinal analysis at that point in time. However, one of the schools with a large number of Hispanic students had collected a sufficient amount of data in computer-readable form, so that we can include the student achievement results from this school in this report. This school was also the district's early adopter and successful implementer of innovative strategies for educating language minority students.

Grant Community School is a public inner city school located in the heart of Salem, Oregon (population 107,800), near the state capitol buildings as well as the state prison. This is a high-needs school, designated as such by the school district because lower incomes, higher crime rates, fewer two-parent households, and multicultural diversity characterize its neighborhood. The school currently serves a student population of whom 93.6 percent are from families in poverty (on free and reduced lunch), with a 71 percent annual mobility rate among students. The highest mobility is mainly among white families, due to family circumstances in which one family member may be incarcerated and housing is temporary while the family lives near the prison. This is the situation for approximately 34 percent of the students attending Grant Community School, according to the principal. Students also come from the Women's Crisis Center and the Salvation Army Homeless Shelter. The two largest Section 8 apartment housing projects for the

city of Salem are located within Grant Community School's attendance area.

Spanish speakers are the largest language group entering the school district, with average annual increases of 16-20 percent in recent years. In the school year 2000-2001, the total number of students in the school district was 33,783. Of this number, 3,360, or 9.9 percent, were classified as limited in English proficiency. Grant Community School has experienced an even greater increase each year in the proportion of Spanish speakers than that of the school district as a whole. As an example of this steady growth in the Hispanic population, in 1987-88, the Grant student population for Grades K-6 consisted of only 17 Hispanics (5 percent of the total) and 310 students of Euro-American descent, with 60 percent of the students on free (53%) or reduced (7%) lunch. By 2000-2001, Grant had expanded its grade levels served to Grades PK-8, with a total student population of 608, 42 percent of whom are of Spanish-speaking background, with 87 percent of the students on free or reduced lunch.

Statewide Context for the Innovation

Since increasing numbers of immigrants settling in Oregon is a phenomenon of recent years, school programs to serve newly arrived students with little or no proficiency in English are also relatively new, having been developed over the past one or two decades. Bilingual schooling for migrant workers' children are the longest established education services in the state for linguistically and culturally diverse students.

The large majority of school districts have hired certified English as a Second Language (ESL) teachers to serve the new immigrants, because until recently the number of students of each language group were not sufficient to offer bilingual instruction. Some of these ESL programs provide mostly ESL pullout services, and others in schools with larger numbers of immigrant students offer ESL content classes. During the 1990s, some school districts across the state of Oregon hired increasing numbers of certified bilingual teachers, to provide instruction for students

in their primary language. Most of the services provided by the bilingual staff are transitional bilingual programs, providing support for 1-2 years for students to develop basic literacy in first language (L1) and to provide some content instruction (math, science, social studies) in L1 while students work on English acquisition. But the main focus in transitional programs is to acquire English and move the students into all-English instruction as soon as possible.

A few schools in Oregon decided that they needed to do still more. In each case, it took a committed principal to develop the innovation and to make sure that the innovation was sustained. The two-way dual language model was pioneered by Grant school, beginning in 1994-95, and it has become the showcase for the state, for those principals who are ready to create this model for school reform. Grant Community School regularly receives visitors who are preparing to implement this model, many of whom are educators in the Northwest region.

Implementation of the School Innovation

In the late 1980s, before there were larger numbers of Hispanic students attending what was then Grant Elementary School (K-6), many issues needed to be addressed at this school serving mostly low-income families, according to surveys of students, parents, and staff. Students (23 percent) expressed concerns that they did not feel safe on the playground, and 49 percent felt that students at Grant School didn't care about each other. Student/staff relations needed improvement according to the surveys; 28 percent of students in the primary grades felt that adults at Grant School did not like them, and 35 percent of students in the intermediate grades sometimes felt "put down" by the Grant staff. In 1990, Grade 4, 5, and 6 students scored at the 27th, 14th, and 32nd percentiles respectively in reading achievement on the Iowa Tests of Basic Skills. First-offense disciplinary infractions increased from 44 to 75 incidents of student fighting between years 1985 and 1989. The school community wanted a change.

School-community partnerships. Beginning in 1989, Grant Elementary School began what became a decade-long effort that continues to this day, to enhance relationships among staff and students, and to foster closer home-school partnerships. Staff inservice training first focused on conflict resolution, positive action, cooperative learning, and consistent implementation of building-wide rules. Teachers have taken ongoing courses to improve students' reading, writing, science, social studies, and math development and teachers' use of authentic assessment. Over the past decade, teachers have also worked together regularly to develop integrated thematic units for mixed-age classes, and an instructional resource center houses the instructional artifacts to support the thematic units developed, using community knowledge and resources.

Parents come to school for "Lunch Bunch" as well as after school hours for a community/ parent nurturing program, volunteer reading partners, a parent literacy project, a parent video and resource library, family nights, parenting classes, family health fair, and the child health initiative. The number of programs and services taking place in the school building after school hours and on weekends make the building accessible to the whole community for lifelong learning. Business partners have been cultivated to provide extra support for materials and resources. A preschool program was added to the school in 1995-96 to address needs of the younger children of the community.

Two-way dual-language enrichment schooling. By the early 1990s, increasing numbers of Spanish-speaking children were enrolling at Grant School. The staff began to recognize that they needed to provide some services in Spanish. As the principal sought help with what types of services might be provided, by attending national conferences sponsored by the U.S. Department of Education and professional organizations, he became convinced that his school had the

appropriate demographics to implement a two-way model of bilingual education. He wanted a positive school environment, for every child at the school to experience success in learning. In 1992,

we designed and developed the engines of governance for an inclusive dual language two-way immersion program in which all students become bilingual and biliterate. There are many rationales that support this growing movement advocating the creation of inclusionary schools. If we are to become a neighborhood known by the school it keeps, we must become a nurturing community. That is to say, categorical segregation of any subgroup of people is simply a violation of civil rights and the principle of 'equal citizenship.'

(Foster, 1999, p. 1)

The vision became a passion. By including the Spanish speakers in their curricular plan, thus using the bilingual and bicultural resources and knowledge of the community in all classes, they ended up creating a curriculum that extended the English speakers' knowledge as well, and thus stimulated higher academic achievement for all, especially important in a high-poverty school with student achievement in the lowest third of the rankings on nationally normed tests.

Initially, only a few teachers were involved in the experiment. In 1994-95, the school began offering bilingual classes in Spanish-English for Grades K-1, following a 50-50 model for instructional time in each language. With the help of Title VII U.S. Department of Education funding the following year, the program then became a comprehensive school model, adding one grade each year until all grades and all classes K-6 were taught bilingually. With Spanish-speakers' enrollment increasing each year, the 50-50 balance of English speakers and Spanish speakers in each class that is suggested as a research "ideal" (Lindholm-Leary, 2001) has become closer and closer to being a reality. As of school year 2000-2001, Spanish speakers represented 42 percent

of Grant Community School's population, providing same-age peers for all grades for the process of enhancing second language acquisition. In other words, English-speaking students serve as peer teachers during the instructional time conducted in English, and Spanish-speaking students are peer teachers for the instructional time in Spanish.

As students in the lower grades built increasing proficiency in their second language and the program was extended grade by grade, the feeder middle school did not express interest in developing a continuation of the program. With total support from the community and school board, Grant School was given funding to build a new wing (completed in 2001) to house the middle school continuation of curricular modules taught through both Spanish and English, so that the school now houses Grades PK-8, with all classes taught through a dual language model of schooling. This is a somewhat unique neighborhood two-way bilingual school, serving its own geographic community that surrounds the school; most other two-way bilingual schools in the region are magnet schools.

Balance of the two languages of instruction. To carry out the goal of 50 percent of the instruction in each language, all grades and blends (2 grade levels covered by one team of teachers for two years) are team taught by one English-speaking and one Spanish-speaking teacher. The teachers are organized into "families" that include bilingual instructional assistants, with each family consisting of the teachers who teach adjacent grade levels and need to plan carefully together. Spanish and English instruction are always kept separate, allowing for maximum concentration in the language of instruction. The teacher rarely translates or code-switches. Two teachers who are teaming might share two classes of 30 students each (approximately half of whom are English speakers and half Spanish speakers), alternating the time to work with each class.

For first and second grade students, immersion in the second language occurs every other day.

For students in Grades 3, 4, and 5, all instruction is in English for one week followed by a week of instruction in Spanish. The middle school Grades 6, 7, and 8 alternate the two languages by block scheduling, with equal time devoted to each language of instruction. Blocks consist of science/math, language arts/social studies, and visual/performing arts, with technology integrated throughout the curriculum, all taught through integrated thematic units. The kindergarten teachers have gradually increased time in Spanish with each succeeding year of implementation of the program, moving towards more of a 90-10 model for that grade, since the teachers all agree that students need more work in Spanish at the start of the program, to build students' strong proficiency in each language. English, the dominant language, is strongly supported outside of school, so the minority language, Spanish, needs more support during the school day, especially when students first begin the program.

A third language for middle school students. A new initiative that began during the 2000-2001 school year added development of a third language for the students at middle school level who were ready to tackle this challenge. The language choices to be offered will be German and Japanese. German was introduced this past year, and Japanese will be taught through a partnership with Tokyo International University, which houses a branch of the university in Salem, Oregon. The new teacher, who is a native speaker from Germany, commented, "It is amazing to see how easily these bilingual students acquire German. I enjoy their ability to pronounce words almost like native Germans."

Teacher credentials. The staff hired by the principal of Grant Community School are highly trained for their task, all having completed much more than the coursework required for mainstream teachers. All 14 teachers have mainstream teacher certification to teach the grade levels they are teaching. In addition, 11 have completed bilingual teacher certification and 9 have completed ESL teacher certification. Some of the English-speaking team teachers have completed a Spanish endorsement, to add to their knowledge and use of Spanish with the children and

parents in social contexts outside of the classroom.

Many of the added resource staff of the school as well as the school secretaries are proficiently bilingual in Spanish/English. Six of the teachers and several of the support staff and instructional aides are Hispanic, making ethnicity of the school staff comparable to the proportion of Hispanic students. Nine of the teachers are deeply proficient in both Spanish and English and capable of providing instruction for their grade level in either language. The whole school has created an additive bilingual environment where both languages are celebrated and affirmed.

The principal of the school has strong Native American ancestry, of Chickasaw, Chiricahua Apache, and Cherokee roots, as well as some German and Irish ancestry. His own experiences growing up in an inner city and his doctoral coursework in education heavily influence his dedicated style of school leadership. His strong empathy and caring for every student in the school as well as all staff and the students' families are evident in the long hours he spends at the school, there to meet all needs. What is most unusual about this school is the camaraderie that is present among the teaching staff. The principal and several teachers and their families live in the school neighborhood and participate actively in school and community events. The teachers support each other in many ways, professionally and socially. Weekly staff planning time is built into the schedule, and teachers take seriously the extensive planning that must take place for teaming to work.

One of the innovations to provide more planning time for the teachers was created by the staff and community. By adding extra time to the school day on Monday through Thursday of each week, the school celebrates Fantastic Fridays, when students experience special planned events, sponsored by parents and community members. On Friday afternoons, elective classes are provided by 30-35 community volunteers, with a wide variety of choices for students, such as use of computers, games, sports, drama, puppeteering, Ballet Folklórico, and various arts. This

gives teachers planning time on Friday afternoons to map out their plans for the following week, developed in their "family" units. Fantastic Fridays won an award as Outstanding Volunteer Program of the Year from the school district in 1998.

Teaching style. Our survey of teaching practices revealed the following patterns among the teaching staff of Grant school. All of the teachers except one stated that they adhere very strictly to the principle that they conduct all instruction only in one language; no translation takes place in the conversation from teacher to student. At the same time, all teachers (except one at the middle school level) allow students to use both languages as needed. This practice is deemed necessary because of the unusually high mobility rate of the students, especially among the English speakers. As students leave and return to the school, they miss important instruction in Spanish and thus they need their peers to assist them with the lessons, to catch up again.

A crucial principle of this school, confirmed by the teacher surveys, is that all students are integrated together all day every day. There is never any time when one group of students is pulled out of the classroom for special remedial instruction. ESL is not taught as a separate subject. Instead, Spanish speakers and English speakers are working together, acquiring the curriculum through their two languages. This is a very strong inclusion model.

Almost all of the teachers (13 of the 14) stated that they make major use of their jointly planned thematic units, implemented through cooperative learning, whole language, multicultural literature, hands-on instructional materials, discovery learning, authentic assessment, stimulation of multiple intelligences, and use of art, music, and drama. One of the teachers is a bilingual songwriter and musician who develops new songs for each thematic unit, written in all the varying musical styles of the U.S. and Latin America. The teachers also acknowledged that they all work hard to connect the curriculum to students' life experiences as well as their bilingual/bicultural knowledge, and sometimes make use of community and parents' knowledge as

a resource for student learning. Seven of the teachers working with older students say that they use critical pedagogy in their curricular explorations with students.

Several teachers and resource staff are working with extracurricular activities attended by many students. The school's Ballet Folklórico (35 students) has performed traditional Mexican dances at numerous school and civic events. The school soccer teams have competed and sometimes won in regional tournaments. El Club Chapulín has provided additional assistance to Spanish speakers entering the upper grades who have had little prior education, as well as additional Spanish instruction for late-enrolling English speakers. Sister relationships with schools in Mexico have led to trips to Baja California, for students, parents, and staff to visit Spanish-speaking contexts for continuing bilingual/bicultural family exchanges and knowledge acquisition. Parents participate in numerous bilingual/bicultural school events, such as literacy fairs, family literacy nights (at which parents have shared their "Living Stories–Cuentos Vivientes"), ESL/SSL nights for parents to teach each other their mutual languages, classes for improving parent skills with homework assistance, and family enrichment nights.

Summary of Social Context and Implementation Findings

Grant Community School, through the vision of the staff and the community, has created a unique, innovative public school "that encourages students, staff, parents and other community members to be creative, lifelong learners" (Grant School Vision Statement). The two-way bilingual program has become integral to the whole school, Grades PK-8, and serves the needs of the community at all levels and for all ages. The school has full community support and school board support at the school district level.

The following guiding principles for this school have evolved in staff meetings, as the principal and teachers working together have gradually shaped an enrichment bilingual school, and as they affirm what they see happening to students in their school:

- The degree of children's native language proficiency is a strong predictor of their English language development.
- The knowledge that children get through their first language helps make the English they hear and read more comprehensible, which results in increased English acquisition.
- Literacy development in the native language transfers to the second language.
- Development of academic/subject matter proficiency in a second language takes from four to seven years. The more education a student has in his/her native language, the faster and better he/she will be able to acquire academic English.
- Second language acquisition is a complex process that is not only linguistic and cognitive, but is also affected by cultural factors.
- The primary goal for language-diverse students is the acquisition of English.
- The student's first language is valued as a resource in the learning process, and fluency and literacy in the student's first language is a priority.
- All students can benefit from the acquisition of a second language.
- Staff who work with language-diverse students must be knowledgeable regarding best research practices in the areas of language acquisition and second language teaching strategies.
- Language-diverse students are provided with equal opportunities to learn and have equal access to materials through the application of high standards for success.
- Programs for language-diverse students support District student goals to achieve measurable standards.
- Programs for language-diverse students reflect the needs, resources, demographics, school and family priorities, and best practices within the context of each school.
- The cultural and linguistic heritage of all students is nurtured and respected throughout their public school experience.
- All students can successfully complete high school. Language-diverse students will be

supported by programs and services that ensure success.

As the principal of Grant Community School says,

We are not perfect and we are not yet done. At times it feels as if we have just begun. Our success is not because we hit on the right formula at first shot, but because the participants have examined well researched effective instructional practices, engaged in dialogue, thought things out, and believed it to be so. When students and families experience success, it isn't because of any one person's efforts, but because we are all working together for mutual benefit. (Foster, 1999, p. 1)

The following sections present the quantitative results of our data analyses to date. Grant School has collected some measures of student academic achievement in both Spanish and English.

Results in Student Academic Achievement

We have chosen this high-mobility, low-income neighborhood school to illustrate the process that school staff go through in curricular and assessment decisions, when working with a highly at-risk, diverse student population. The high rate of student mobility, especially among the English-speaking students, has made it very difficult to measure the long-term impact of the program, but the commitment of the staff and community to their dual-language model has gradually led to higher student achievement in comparison to the school's achievement levels of a decade ago, before the program began.

Oral language development. In order to measure students' ongoing development of listening and speaking modes in second language, the teaching staff decided that they wanted to use a performance measure for oral language development of both Spanish and English. The teachers of Grant Community School chose the Student Oral Language Observation Matrix (SOLOM) and

were trained in conducting assessments using the matrix for this instrument. The SOLOM measures development of comprehension, fluency, vocabulary, pronunciation, and grammar, using a five-point graduated scale for each category of language development, with a maximum score of 25. Given the variability in student background, the teachers decided to assess both primary language and second language of all students every year, so that they would have ongoing records of student growth in oral use of their two languages.

The results of this assessment show steady growth in development of each of the languages of instruction, with each additional year that students attended the two-way dual-language immersion program. Figure D-1 and Tables D-1 through D-4 present the results of the analyses of the SOLOM data. Native-Spanish speakers made the greatest gains, both in English and in Spanish. When they first enrolled in Grant school, some of the Spanish speakers who had experienced interrupted schooling in home country were behind on vocabulary development for their grade level. By the second year in the program, their Spanish development was closer to grade level and remained there with added years in the program, at a score of 23 to 24.

In English development, the Spanish speakers far outperformed their English-speaking peers in acquisition of their second language. By the end of the first year in the program, Spanish speakers had reached a mid-range in development of oral English, scoring slightly above level 13 and they made steady progress with each additional year in the program, reaching level 20 after five years of schooling. Native-English speakers were assessed as close to grade level in oral English, but they struggled much more with Spanish acquisition. After three years in the program, their oral Spanish began to improve significantly, and after five years of exposure to Spanish half of the instructional time, the native-English speakers had made it to just above level 14 on this performance assessment.

This pattern is very similar to datasets from many other research studies examining bilingual

schooling in the U.S. (for a review, see Lindholm-Leary, 2001). It illustrates the difficulty of acquiring the minority language, especially when the majority language—English—has such high status. English is dominant outside of the school setting, as well as inside the school, despite the best efforts of bilingual teachers to equalize the status and instructional time of the two languages. The 90-10 models of bilingual schooling that have been increasingly implemented in the states of California and Texas were first developed to deal with this problem. By increasing the amount of time that both English- and Spanish-speaking students are schooled through the minority language in the early childhood years of Grades K-2, students are better able to work at grade level in both languages when they reach the upper elementary grades and beyond. As seen in our analyses of the findings from the two school districts of Northern Maine and the Houston Independent School District, 90-10 bilingual models of schooling are highly desired, when the ultimate goal is full proficiency in both of the languages of instruction. However, this particular decision to implement a 90-10 rather than a 50-50 bilingual program would not significantly raise Spanish proficiency development levels at Grant School until the school's English-speaking student population becomes less mobile. The bilingual teachers reported that the English speakers who have remained at Grant School throughout their elementary school years have reached very high levels of proficiency in Spanish.

Academic Spanish development. The next assessment decision that the Grant teaching staff needed to make was how they would measure written language development for both of the instructional languages. When the program first started, they tried several instruments that involved extensive staff time to assess students individually. As the program grew and numbers of students in the school increased, almost doubling in size from just one decade ago from 327 to 608 students, the staff chose to use the standardized assessments required by the state for their English measures of written language and academic development.

The bilingual staff chose the Spanish Assessment of Basic Education (SABE), a nationally norm-

referenced test, for their academic measure of Spanish and subject knowledge. However, the high mobility of the English-speaking student population meant that few of these students stayed in the program for enough years to reach a level of proficiency in Spanish for the SABE assessments to be meaningful. Since new Spanish-speaking students arrive each year, at all ages and grade levels, the teachers then chose to use the SABE assessment for the newly-arriving Spanish speakers, to measure their grade-level performance across the curriculum. This measure has become an important means of demonstrating that the Spanish-speaking students remain on grade level in academic knowledge while they are acquiring the English language to the level where they can demonstrate what they know through English as well as through Spanish.

Figure D-2 and Tables D-5 and D-6 present the analyses of native-Spanish speakers' performance on the SABE. As can be seen, the Hispanic students who took this test in 1999 and 2000 scored exceptionally high on the reading measure given at 4th, 5th, and 6th grade levels, at the 68th NCE (80th percentile). As stated before, in this report we have chosen the reading subtest in each norm-referenced test as the ultimate level of attainment, because it measures language usage across the curriculum. To do well on this difficult test, students have to be able to apply their knowledge of math, science, social studies, language arts, and literature in problem-solving tasks. To have scored at this high level, these Hispanic students applied both their knowledge from their home country schooling and the knowledge acquired at Grant School since their arrival.

In 2001, the Spanish-speaking groups being tested at mostly 3rd and 4th grade levels reached the 53rd NCE (55th percentile) on the SABE. This performance slightly above grade level is also laudable. Two new arrivals in fifth grade were at the 36th NCE (see Table D-6), indicating some interrupted schooling in the students' past, as confirmed by their parents. This assessment helped to provide the bilingual teachers with information regarding the academic work needed to eventually catch these students up to grade level.

Academic English development. With the standardized assessments now required by the state of Oregon for third and fifth grades, this school has used these state measures to assess all students' academic achievement in English in these two grades. (See Figures D-3 to D-10 and Tables D-7 to D-19 for Grant School's results on these state measures.) In 1990, before implementation of the two-way dual language immersion program at Grant School, with a student body of 95 percent Euro-American and 5 percent Hispanic background, 60 percent of whom were on free or reduced lunch, the 4th graders scored at the 37th NCE (27th percentile), 5th graders at the 28th NCE (14th percentile), and 6th graders at the 40th NCE (32nd percentile) on the reading subtest of the Iowa Tests of Basic Skills, very low achievement in the bottom quartile and third of the national rankings on this standardized test. By 2001, Grant Community School had enrolled double the number of students of the previous decade, 58 percent of whom were of Euro-American and 42 percent of Hispanic background, and 87 percent of whom were on free and reduced lunch, a student population even more highly "at risk" than a decade before. Yet in 2001, the percent of students who met or exceeded the standards in the Oregon Statewide Assessment in Grades 3 and 5 was significantly high for this student population. As can be seen in Tables D-18 and D-19, 74 percent of the native-English-speaking students met or exceeded the standards in English reading and 58 percent in math. Among the Spanish speakers, 58 percent met or exceeded the standards in English reading and 48 percent in math.

Although there are no test-equating studies to assess the Oregon state tests' comparability with the nationally normed Iowa Tests of Basic Skills, the standards on this state test are quite high, normed on a majority-Euro-American English-speaking student population. Compared to statewide performance overall, presented in Tables D-7 and D-12, on the reading assessment the third grade English-speaking students at Grant School were in the 45th percentile and Spanish-speaking students in the 41st percentile of all students in Oregon; while the fifth graders were in the 29th and 14th percentile groups. On the math assessment, the third grade English-speaking students were in the 40th percentile and Spanish-speaking students in the 25th percentile of all

students in Oregon; while the fifth graders were in the 36th and 24th percentile groups.

At first glance, fifth grade scores appear to be low achievement. However, the fifth grade scores represent a higher percentage of new students than the third grade scores. This school receives new immigrants every year at all grade levels, and within 1-2 years of their entry year, they take these difficult tests in English. The school also receives new white low-income students each year at all grade levels. So the fifth grade scores represent Spanish-speaking students who have been in the U.S. for one year mixed with those here for five years, as well as low-achieving English speakers just arrived. The small number of Hispanic students at each grade level makes it inappropriate to break these scores down by number of years of exposure to English, so that these scores underestimate these students' actual grade-level knowledge, as more appropriately demonstrated in the SABE results. The fifth grade Spanish-speaking students have not yet had enough years of English to demonstrate what they know on a standardized test in English at the more difficult fifth grade level. This is a common problem in program evaluation at the school level, so we present it here for the benefit of evaluators and researchers reading this report.

Table D-17 presents Grant students' performance, with appropriate comparisons to their comparison groups that met or exceeded state standards in 2001, broken down by ethnic background. Hispanic 3rd graders at Grant reached a significantly higher level of achievement than Hispanic 3rd graders in the school district and state in both reading and math. The fifth grade Hispanic students were below their comparison groups at the school district and state level, but these comparison groups include a larger percentage of settled Hispanics with more proficiency in English, while Grant School has a higher than average mobility rate.

Students of white ethnic background attending Grant School are somewhat lower achieving in both 3rd and 5th grades in comparison to the school district and state averages for their ethnic group (see Table D-17). But even given this group's "at risk" characteristics from low-income

families, half of whom have one family member incarcerated in the state prison, approximately two-thirds met or exceeded the state standards on these difficult reading and math tests. This is substantial improvement of this ethnic group's performance at this school in comparison to a decade before. Receiving schooling through two languages in a warm and caring instructional context has resulted in these white low-income students' higher academic achievement, more consistent attendance, greatly reduced number of disciplinary infractions, and increased participation in school events and extracurricular activities, according to interviews with the principal and teachers.

Figures D-3 through D-10 and the accompanying Tables D-8 to D-11 and D-13 to D-16 present the actual scores that individual students at Grant Community School achieved on the Oregon Statewide Assessments in Spring, 2001. These tables and figures are presented by grade, by subject tested, and by student ethnic background. The "cutoff" score is chosen by the state as the level at which a student is deemed to have met state standards for that subject area and that grade level. Grade 3 cutoff score in reading and math is 201 and Grade 5 cutoff score for the two assessments is 215.

In Grade 3 reading, Figures D-3 and D-4 visually demonstrate the very high achievement of both the English- and Spanish-speaking students. Those below the cutoff clustered near the cutoff score, with two exceptions among the English-speaking students, and only three Spanish-speaking students scored below the cutoff. For Grade 5 reading scores, presented in Figures D-5 and D-6, five English-speaking and five Spanish-speaking students were significantly below the cutoff. The others clustered near, at, or above the standards for this state test.

Similar patterns are present in the math scores. For Grade 3 math (Figures D-7 and D-8), the 10 English-speaking students who did not reach the cutoff were very close to that score, with two exceptions. Half of the Spanish-speaking students were below the cutoff, nine of whom were

more than five points below. For Grade 5 math scores (Figures D-9 and D-10), four English-speaking and six Spanish-speaking students were more than five points below the cutoff score. These patterns of achievement demonstrate that overall the students of Grant Community School are working towards grade-level performance and reaching higher levels of achievement than that of students attending this school a decade ago.

Hierarchical stepwise regression analyses: Influence of socioeconomic status. Using hierarchical stepwise regression, as described by Cohen and Cohen (1975), we assessed the effects of student socioeconomic status (SES) and years of program exposure on the available measures of student achievement, including the SOLOM (in English and Spanish) and the Oregon Statewide Assessment (in Reading and Mathematics). In this process, each predictor was entered into the regression equation first, and then also entered last in another regression equation. We then noted the change in R^2 as each predictor entered either first (with the presumed maximum effect on R^2 of that predictor) or last (with the presumed minimum effect of that predictor on the criterion variable). We then noted the minimum and maximum values of the change in R^2 for each predictor as a relative indicator of its importance in influencing student achievement outcomes. In addition, each increment in R^2 was tested for statistical significance. Finally, R^2 increments exceeding 5 percent were considered to be of practical, "real-world" significance in cases where small sample size (and the resulting loss of statistical power) resulted in a likely Type II error.

Tables D-20 and D-21 present a summary of the hierarchical linear regression analyses performed. Since the effects of the predictors on the student achievement outcomes could be expected to be different for students whose first language was Spanish, as opposed to English, we analyzed the native-Spanish speakers and native-English speakers separately. For students whose first language was English, the amount of variance in the achievement outcome variables attributable to student SES ranged from 4.1-4.2 percent ($p < .05$) for the SOLOM-English version, 1.8-2.4 percent for the SOLOM-Spanish version, 7.4-10.6 percent ($p > .05$ but practically

significant) for the Statewide Assessment in Reading, and 6.0-8.1 percent ($p > .05$ but practically significant) for the Statewide Assessment in Math. However, the effect of the number of years of student participation in the program explained varying amounts of achievement variance, depending on the particular achievement measure. For native English speakers, years in the program accounted for less than 1 percent of their achievement on the SOLOM in English, but accounted for 19.5-20.1 percent ($p < .05$) of their achievement on the SOLOM in Spanish. In addition, years in the program accounted for 5.7-8.8 percent ($p < .05$) of achievement variance for the Statewide Assessment in Reading and 1.9-4.1 percent of variance in the Statewide Assessment in Mathematics.

For students whose first language was Spanish, the variation accounted for by SES was 10.6-11.7 percent ($p < .05$) for the SOLOM in English, 0.2-0.3 percent for the SOLOM in Spanish, 3.0-3.5 percent for the Statewide Assessment in Reading, and 3.4-4.0 percent for the Statewide Assessment in Mathematics. The variable "number of years of program experience" accounted for 14.0-15.1 percent ($p < .05$) of SOLOM (English) variance, 0.8 percent of SOLOM (Spanish) variance, 5.8-6.3 percent ($p > .05$ but practically significant) of the Statewide Assessment in Reading, and 0.7-1.3 percent of the Statewide Assessment in Mathematics.

It is worth noting that the instructional program (as assessed by the number of years of program experience) exerted a powerful and significant effect on SOLOM (English) scores for Spanish speakers, and exceeded the effect of SES for those students. Also, years in the program exerted a powerful and significant effect on SOLOM (Spanish) scores for English speakers, accompanied by a negligible effect of SES. In addition, years in the program affected more than 5 percent of the variation in Statewide Assessment in Reading scores for both Spanish speakers and English speakers, while its effect on Statewide Assessment Math scores tended to be smaller. Taken together, these results indicate that the school's program directly influenced test scores in the second language for both English speakers and Spanish speakers, and also directly influenced

student scores on the Statewide Assessment in Reading to a practically significant degree.

When the effect of socioeconomic status on Statewide Assessment in Reading scores is examined for the entire school population, SES accounts for approximately 14 percent of the observed variation overall. Thus, it appears that the school's program is "reversing" the negative effects of SES in its areas of curricular emphasis, including second language acquisition by English and Spanish speakers and mastery of the curriculum as measured by statewide Reading scores in English. These are large and significant program effects, significantly reducing SES effects for these two groups, as described above.

As well, additional investigation indicated that the relationship between the variable "number of years of student participation in the program" and several outcome measures was consistently under-estimated because of the lack of a linear relationship required by the multiple linear regression technique employed. This means that the actual program effect is likely to be even larger than the statistically and practically significant effect found in these analyses, providing potential evidence for the existence of even stronger program effects. Further analyses at a later time will utilize curvilinear regression to investigate this matter further.

Conclusions

For this high-poverty public school with unusual but compelling "at risk" factors indirectly influencing student achievement, this Spanish-English bilingual school is making a big difference in students' and families' lives. The impact on the community is difficult to capture in the academic achievement findings, but interviews with parents have confirmed their satisfaction and pride in their community school. High attendance at evening and weekend events at the school attest to strong community support. This school appears to be serving the needs of not only the students but also the adults of the community.

Academic achievement is steadily getting better, for both the native-English-speaking and native-Spanish-speaking students. Perhaps the most dramatic finding in our research analyses is the impact of the bilingual program on socioeconomic status. The more years that both the native-English and native-Spanish speakers attend this school, the less influence poverty has on their performance on second language acquisition measures as well as on the academic tests of the Oregon Statewide Assessment. Even though family circumstances make it necessary for many of the English-speaking children to come and go or move to a different region, while they are attending the school, the school achievement data demonstrate that the school has made a big difference in their lives. Working half of the instructional year through the medium of the Spanish language has enhanced the students' academic performance, in comparison to the school's achievement levels one decade ago before the bilingual program began. Acquisition of academic Spanish has stimulated intellectual development, at no cost to these students' English development.

This school provides a good example of the process involved in designing and implementing a school innovation with two languages of instruction. As the principal said, "We are not perfect and we are not yet done." Yet this school has done amazing things to involve the whole community in the change process. They have made instructional decisions thoughtfully, through reading the research that informs the field, through staff development sessions to clarify and reach consensus among teachers, and through revisiting decisions when something does not seem to be working well. The staff recognize that they are still working on improving their assessment practices, to better capture the "magic" that they feel is present in their classes. Both native-Spanish-speaking and native-English-speaking students are happy, excited about the work they do in school, and extremely proud of their school. It is a place where students, staff, and families share many varied and deep learning experiences and openly express their caring for each other.