

Mexicans in California
*Transformations and
Challenges*

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3. Understanding and Addressing the California Latino Achievement Gap in Early Elementary School

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AND BRENDA D. ARELLANO

One of the most pressing problems in California is improving student academic performance. This is especially true for the state's Latino students, who now represent the largest ethnic group in the state,¹ but who generally have much lower achievement levels than white or Asian students.² If California is going to maintain its economic competitiveness in the global economy in the twenty-first century, it is going to have to effectively educate its increasingly diverse student population, and particularly its rapidly increasing population of Latino students.

Historically, policy makers have attempted to improve academic achievement for all students irrespective of their ethnicity or other characteristics. But in 2001 the federal government enacted the *No Child Left Behind* (NCLB) Act, which requires states to document progress in eliminating the achievement differences among students who differ by poverty status, race, ethnicity, disability, and limited English proficiency (U.S. Department of Education, National Center for Education Statistics, 2006). These differences are sometimes referred to as the *achievement gap*.

Because of NCLB and an increase in state accountability systems (Fuhrman and Elmore, 2004), there is a growing interest among scholars, educators, and policy makers to better understand and address the achievement gap. This paper examines the extent of the achievement gap between California Latino and non-Latino white students in early elementary school; the individual, family, and school characteristics that account for those differences; and some educational policies that could help close the gap.³

Explaining Disparities in Achievement

Researchers have long sought to understand and explain the vast racial and ethnic disparities in achievement that have always existed in the United States (Coleman et al., 1966; Jencks et al., 1972; Jencks and Phillips, 1998; Lee, 2002; Ogbu, 1992; Rothstein, 2004; Steinberg, Dornbusch, and Brown, 1992; Thernstrom and Thernstrom, 2003). Although numerous investigations have been undertaken, there is no consensus about the primary cause of these disparities. Rather, researchers have identified a wide range of factors that contribute to educational achievement and have tried to determine the extent to which differences in the amount or effects of these factors explain differences in achievement. These factors vary along two primary dimensions.

First, they vary with respect to whether they focus on the attributes of individual students or the attributes of the three primary settings in which they live: families, schools, and communities. Although student achievement is clearly the result of individual attitudes, behaviors, and experiences, these individual attributes are shaped by the institutional settings where people live (National Research Council and Institute of Medicine, 2000). One challenge, therefore, is to determine the extent to which attributes of individuals explain educational outcomes versus the attributes of institutional settings. Addressing this challenge is important not only to better understand achievement differences, but also to help determine where policy interventions should be targeted. If educational outcomes can largely be explained by individual attributes, such as ability and motivation, then policies should largely focus on altering the attributes of individual students and their families. If, however, educational outcomes can largely be explained by attributes of schools, such as the quality of the teachers and educational programs, then policies should largely focus on altering the attributes of schools.

Addressing this challenge has also generated considerable controversy among scholars and researchers. The controversy began with the publication of the landmark "Coleman Report" in 1966. In the largest study of school effectiveness ever undertaken, Coleman found that schools only accounted for 5 percent to 38 percent of the total variation in student test scores among different grade levels, ethnic groups, and regions of the country (Coleman, 1990, p. 77). Since that time, virtually every study of school effectiveness has confirmed that most of the variation in student achievement is attributable to differences between students (and their families) rather than differences between schools (Lee and Bryk, 1989; Rumberger and Palardy, 2005; Reardon, 2003). Yet despite the common interpretation that the Coleman Report and subsequent studies show—that "schools don't make a difference"—research

clearly demonstrates that schools can still have a powerful effect on student achievement. For example, one recent study found that students learn twice as much in some high schools as in other high schools (Rumberger and Palardy, 2005). A more reasonable conclusion from existing research is that student achievement results both from the actions and attributes of individuals and from the actions and attributes of their families, schools, and communities.

Second, the factors that contribute to educational achievement vary with respect to the types of attributes they identify. Although a wide array of specific attributes has been identified, they primarily are of two types. The first type concerns material resources. Many researchers have argued that the major factor that explains differences in student achievement has to do with disparities in material resources and conditions that exist among students, their families, and their schools (Armor, 2003; Rothstein, 2004). In the case of Latino students, for example, one critical resource is language. Students whose first language is not English have substantially lower levels of educational achievement than students from English-only backgrounds (Gandara, Rumberger, Maxwell-Jolly, and Callahan, 2003). Because more than half of elementary-age Latino students in California come from non-English-only households (Rumberger and Gándara, 2000:table 1), this may help explain achievement differences between Latino and white students. But to what extent the relationship between language background and achievement owes to characteristics and practices of families (for example socioeconomic status [SES], literacy practices) and to schools (qualified teachers, language of instruction, proper assessments) is less clear (August and Shanahan, 2006; Rumberger and Larson, 1998).

Material resources within families and schools also matter. Research has consistently found that parental socioeconomic status, most commonly measured by parental education and income, is a powerful predictor of student achievement for students from all racial and ethnic backgrounds (Betts, Rueben, and Danenberg, 2000; Entwisle, Alexander, and Olson, 1997; Guo and Harris, 2000; Lee, 2002). Because parental education and family income, including poverty, vary greatly between whites and blacks and Latinos,⁴ these differences contribute to differences in educational achievement at school entry, during the school year, and over the summer (Duncan and Magnuson, 2005; Entwisle and Alexander, 1995; Lee, 2002; Roscigno, 2000). Differences in family income also contribute to differences in access to preschool, which has been shown to impact school readiness and may contribute to differences in early school achievement (Barnett, 1995; Magnuson and Waldfogel, 2005). School resources have also been shown to affect student achievement (Betts et al., 2000; Darling-Hammond, Berry, and Thoreson, 2001), although there

is considerable controversy over whether financial resources matter or simply human resources, such as the quality of teachers (Hanushek, 1997; Hedges, Laine, and Greenwald, 1994). Because ethnic and language minority students are more likely to attend schools with fewer resources, including qualified teachers, these differences also contribute to differences in student achievement (Betts et al., 2000; Rouse and Barrow, 2006; Gandara et al., 2003).

The second category of attributes that contribute to student achievement are attitudes and behaviors of students, families, and school personnel. At the student level, research has shown positive attitudes and engagement toward learning, as well as prosocial and attentive behavior, promote learning in early elementary school for all students, regardless of their socioeconomic status and racial backgrounds (Alexander, Entwisle, and Dauber, 1993; Burchinal, Peisner-Feinberg, Pianta, and Howes, 2002; Finn, Pannozzo, and Voelkl, 1995; McClelland, Morrison, and Holmes, 2000). Relatively little research has documented any marked racial differences in school attitudes and behaviors in early childhood. One recent study found that black students had poorer teacher-assessed learning behaviors in kindergarten compared to white and Latino students (Xue and Meisels, 2004). Yet to what extent these differences can explain observed differences in achievement among ethnic and racial groups in early elementary school is unclear.

Differences in parental beliefs and practices may also contribute to differences in student achievement. Among adolescents, research has found that parenting styles, such as communication patterns and supervision between parents and their children, impact academic achievement (Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh, 1987; Sui-Chu and Willms, 1996). Yet while research has also found racial and ethnic differences in parenting practices, these differences do not appear to explain differences in adolescent achievement (Sui-Chu and Willms, 1996). Similarly, among young children research has demonstrated that parental beliefs and parenting practices, particularly literacy practices, contribute to early academic achievement for all children (Bennet, Weigel, and Martin, 2002; Guo and Harris, 2000; Burchinal et al., 2002; Snow, Barnes, Chandler, Goodman, and Hemphill, 1991). Research has also demonstrated that these beliefs and practices are related to both socioeconomic factors, such as income and parental education, and cultural factors (Brooks-Gunn and Markman, 2005; Gallimore and Goldenberg, 2001; Guo and Harris, 2000). For example, one longitudinal study of 121 Latino families found that Latino parents were more likely to practice a cultural model that emphasized moral development rather than literacy development (Reese and Gallimore, 2000). Research has also demonstrated that differences in parental beliefs and practices can explain between 25 and 50 percent of the racial and ethnic achievement gap (Brooks-Gunn and Markman, 2005).

Finally, a number of school practices have been shown to affect student achievement, such as teacher beliefs, instructional practices, and social interactions with students (Ashton and Webb, 1986; Schacter and Thum, 2004; Pianta and Stuhlman, 2004; Xue and Meisels, 2004) and parental involvement (Domina, 2005; Griffith, 1998). There is also evidence that some of these practices, including instructional practices within classrooms and parent involvement practices within schools, vary by the racial and socioeconomic composition of the student body, which could also lead to differences in student achievement among racial and ethnic groups (Stipek, 2004; Griffith, 1998).

Differences in the relative importance of material resources versus attitudes and behaviors also have important implications for policy. If material resources are most important in affecting student achievement, then policies should be aimed at improving the material resources of students and the settings in which they live: their families, schools, and communities. If, however, attitudes and behaviors matter most, then policies should be aimed at improving the attributes and behaviors of students, their parents, and school personnel.

The Present Study

The present study investigates the achievement gap during the first two years of elementary school in California. The study was conducted using data from a large, ongoing federal study known as the Early Childhood Longitudinal Study of the Kindergarten Class of 1998–99 (ECLS-K) (U.S. Department of Education, National Center for Education Statistics, 2000). ECLS-K is a longitudinal study of a sample of about twenty thousand kindergartners who were enrolled in about one thousand public and private schools in the fall of 1998. The present study is based on a subsample of 1,612 California students in 127 schools from the larger study who were followed through first grade and for whom comprehensive student, parent, teacher, and school data are available.⁵ Comparisons with available California State Department of Education data show that the subsample is quite representative of the state's population of kindergartners (see Rumberger and Arellano, 2004, table A1).

The study examined two measures of educational achievement: reading and mathematics. The ECLS-K reading assessment measured basic skills (print familiarity, letter recognition, beginning and ending sounds, rhyming sounds, word recognition), vocabulary (receptive vocabulary), and comprehension (listening comprehension, words in context); the math assessment measured skills in conceptual knowledge, procedural knowledge, and problem solving.⁶ Each assessment was administered up to four times: in the fall and spring of kindergarten and in the fall and spring of first grade.⁷

Students identified by their schools or teachers as coming from a non-English background were given an English language proficiency test to see if they were able to understand and respond to the assessment items in English. At the time of each assessment, children who passed the language screener received the full ECLS-K direct assessment battery. Children who did not pass the language screener, but who spoke Spanish, were administered a Spanish-translated form of the mathematics assessment. Other language minority children received a reduced version of the ECLS-K assessments.⁸ The present study used scale scores for reading and math in order to examine changes over time.⁹

A series of independent or predictor variables was created from the ECLS-K data to measure characteristics of students, their families, and their schools, identified in the literature review as important predictors of student achievement for this study.¹⁰

Because students in the ECLS-K data are nested within classrooms and schools, hierarchical linear modeling (HLM) was used in this study (Raudenbush and Bryk, 2002, chapter 6). In the current study, we tested a series of statistical models with different sets of predictor variables to estimate initial achievement in reading and math upon entry to kindergarten, and achievement growth in reading and math during three distinct periods: kindergarten, first grade, and the summer in between (see Rumberger and Arellano, 2004).

The Size of the Achievement Gap

We first examined the size of the achievement gap by comparing differences in estimated achievement between Latino and non-Latino white students during the first two years of elementary school.¹¹ Differences in reading achievement are illustrated in Figure 3.1. They show that Latinos scored 3.2 points lower than whites on the reading assessment upon entry to kindergarten, and by the end of first grade the gap had grown to 4.2 points.

But how big of an achievement gap does this represent?

One way to answer this question is to compare the size of the achievement gap with how much the average student learns during kindergarten, which can tell us how far behind Latino students are when they start kindergarten, compared to white students. We estimated that students increased their reading scores by about 1.7 points per month, which means that Latino students began kindergarten almost 2 months behind their white peers.

Another way to measure the size of the achievement gap is to represent the difference in achievement test scores as a fraction of a standard deviation

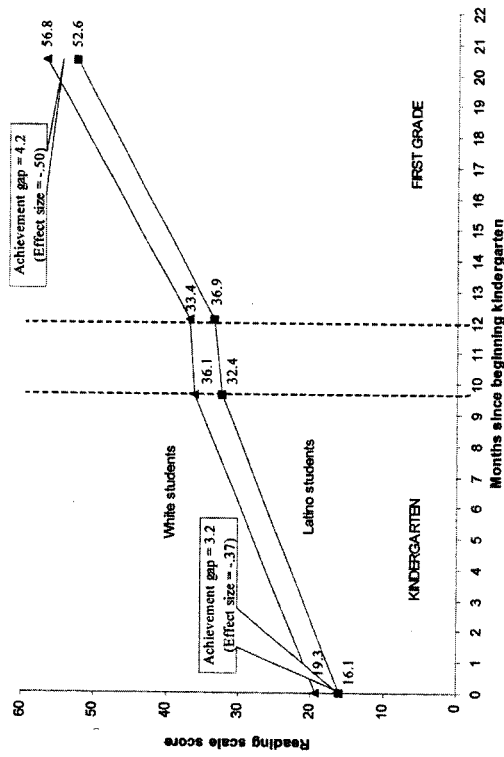


Figure 3.1. Estimated reading achievement for Latinos and whites from kindergarten through first grade, fall 1998 to spring 2000. Source: ECLS-K California sub-sample ($n = 1612$) weighted (Y2COMW0).

(SD), which is known as an effect size (Cohen, 1988).¹² One of the benefits of using effect size (ES) is that it facilitates comparisons between different variables of interest within the same study, and between different studies, through the use of a common metric. It also facilitates comparisons between achievement differences and interventions that could be used to overcome them.¹³ The achievement gap in initial reading scores between Latinos and whites represents an effect size of $-.37$, which can be considered small.¹⁴ However, by the end of first grade, the achievement gap increases to a moderate size of $-.50$. In math, Latinos begin kindergarten more than 2 months behind white students, which represents an achievement gap of $-.48$. By the end of first grade, the achievement gap in math grew to $-.63$.

What accounts for this achievement gap? To address this question, we first estimated a statistical model to identify how much of the variation in achievement was because of differences among students and how much owed to differences among the schools they attended. We found that between 72 and 88 percent of the variation owed to differences among students, and 12 to 28 percent owed to differences among the schools they attended (see Rumberger and Arellano, 2004: tables 4 and 5). In other words, as virtually all previous studies have shown, most of the variation in student achievement can be explained by differences in the attributes of students and their fami-

lies, rather than by differences in attributes of their schools.¹⁵ Nonetheless, differences in schools still contribute to differences in student outcomes.

Next, we estimated a series of statistical models in order to identify which factors predicted achievement in reading and math, and the extent to which the Latino-white achievement gap was reduced after controlling for those factors. We focused first on achievement differences upon entry to kindergarten and then on differences in achievement growth during kindergarten, first grade, and the summer in between.

Differences in Initial Achievement

Our analysis revealed that differences in initial achievement in reading and math could be explained largely by two demographic factors: SES and language background. As shown in Table 3.1, Latino and white students vary widely with respect to these two factors. For example, mean SES for Latino students is about .94 points lower than for white students, which represents an effect size of -1.06 (or more than one standard deviation). And half of all Latino kindergartners in our sample come from non-English backgrounds, compared to only 4 percent for white students.¹⁶ In order to determine the effects of language background on Latino achievement, we compared Latinos from English backgrounds with Latinos from non-English (Spanish) backgrounds.

We found that both SES and language background have significant effects on initial achievement. The effect size of SES is $.40$ on initial reading achievement and $.39$ on initial math achievement (see Figure 3.2). The effect size of coming from a home where English is not the dominant language is $-.45$ on initial reading and $-.37$ on initial math. This means that non-English background Latino children begin kindergarten at a sizable disadvantage compared to English background Latino children.

After controlling for the effects of SES and home language, the Latino-white achievement gap in reading is reduced to $-.061$, or by more than 80 percent,

Table 3.1. Differences in background characteristics of Latino and White kindergarten students

	Latino	White	Difference (Effect size)
Mean SES	-.44	.50	-1.13
Percent non-English background	.50	.04	.98

Note: Differences in values between Latino and White are all statistically significant at .1 level (ANOVA).

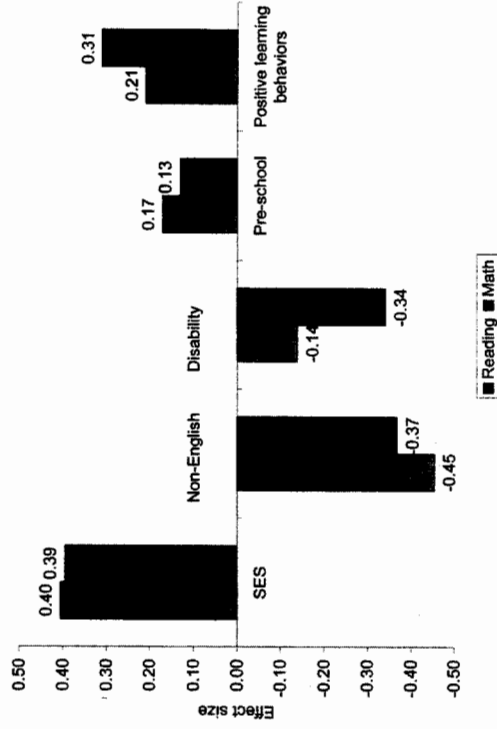


Figure 3.2. Effect sizes for selected predictors of initial reading and math achievement. Effect size represents the predicted change in reading or math performance, expressed in standard-deviation units, associated with a one unit (for dichotomous variables) or one standard deviation (for continuous variables) change in the predictor variable. The effects of SES and non-English were estimated only controlling for those variables; the effects of the other variables were estimated controlling for a larger set of predictors (see Rumberger and Arellano, 2004, table A4).

and is no longer statistically significant (see Figure 3.3). This means that Latino and white students with the same SES and language backgrounds would essentially have the same reading levels upon entry to kindergarten. Controlling for the effects of SES and home language reduces the achievement gap in math from $-.48$ to $-.16$, or by two-thirds, rendering it marginally insignificant.

Next we estimated the effects of a large number of additional predictors. We found a number of these factors had significant effects on initial reading and math achievement. Some of the more powerful factors are illustrated in Figure 3.2.¹⁷ Students with disabilities had lower initial reading ($ES = -.14$) and math ($ES = -.34$) than students without disabilities; students who participated in preschool (excluding Head Start) had higher initial reading ($ES = .17$) and math ($ES = .13$) than students who did not participate in preschool. Finally, prolearning behaviors (for example attentiveness, eagerness, independence) had positive effects on initial reading ($ES = .21$) and math ($ES = .31$). Controlling for all these factors completely eliminated the initial achievement gap between Latino and white students in reading, and reduced the achievement gap in math by more than 80 percent.

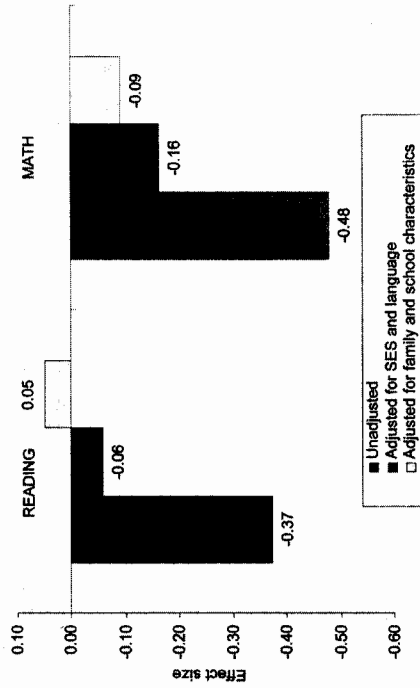


Figure 3.3. The Latino-white achievement gap in initial reading and math achievement. Effect size represents the predicted change in reading or math performance, expressed in standard-deviation units, associated with a one unit or one standard deviation change in the predictor variable.

After examining differences in initial achievement, we then examined differences in student learning during kindergarten and first grade. We found that there were no significant differences in student learning between Latinos and non-Latino whites during kindergarten, first grade, or the summer in between. In other words, although Latinos begin kindergarten with significantly lower achievement levels than non-Latino white students, their achievement increases at essentially the same rate during the first two years of school. Nonetheless, as shown in Figure 1, by the end of first grade, the achievement gap has increased slightly. This suggests that schools neither increase nor decrease the achievement gap during the first two years of elementary school.

Our analysis did identify a number of factors that predict student learning during each of these periods. During kindergarten, we found: (1) prolearning behaviors increased student learning in reading ($ES = .19$) and in math ($ES = .12$); (2) second-time kindergartners learned less than other students in reading ($ES = -.40$) and in math ($ES = -.47$); and (3) students with disabilities learned less than nondisabled students in reading ($ES = -.28$), but not in math.

During the summer between kindergarten and first grade, we did not find any significant predictors of student learning.

During first grade, we found: (1) second-time kindergartners learned less than other students in reading ($ES = -.26$), but not in math; (2) students

attending schools with a higher proportion of second-time kindergartners learned less than other students in reading ($ES = -.12$), but not in math; (3) students attending schools with a higher proportion of minority students learned less in reading ($ES = -.18$), but not in math; (4) students attending large schools (750 students or more) learned less in reading ($ES = -.23$), but not in math; and (5) students in private schools learned less than students in public schools in math ($ES = -.34$), but not in reading. This last finding is probably because twice as many students attending public schools had teachers who taught math more than sixty minutes a day (40 percent versus 20 percent). The emphasis on math in public schools could be a direct result of California's accountability system that measures math and reading performance beginning in second grade.

Summary and Policy Implications

This study examined the achievement gap between California Latino and white students in the first two years of elementary school. Because the data used in this study assessed students' performance in reading and math at the beginning and end of both kindergarten and first grade, it was possible to examine the extent of the achievement gap when students first began school, the achievement gap in learning during kindergarten and first grade, and the achievement gap in summer learning between kindergarten and first grade.

The analysis revealed that in California, Latino students begin kindergarten at a significant disadvantage to non-Latino white students: In the fall of 1998 the achievement gap at the beginning of kindergarten, as measured by the difference in average test scores, was $-.37$ of a standard deviation in reading and $-.48$ of a standard deviation in math. The analysis also revealed that the achievement gap changes very little over the first two years of school. By the end of first grade, the achievement gap grew to $-.50$ of a standard deviation in reading and to $-.63$ of a standard deviation in math. These results suggest that schools do little to either widen or close the sizable achievement gap that exists among students when they walk in the door.

Achievement data from other sources suggest that the achievement gap widens as students progress through school. For example, an analysis of data from the National Assessment of Educational Progress for California students in the fourth grade shows an achievement gap of $-.84$ in 1998 reading scores and $-.85$ in 2000 math scores.¹⁸ Comparing those figures with the present findings suggests that about half of the achievement gap in fourth grade exists when students walk in the door at kindergarten. This means that efforts

to close the gap must focus not just on schools, but also on opportunities outside of school, particularly before students begin school.

The analysis also revealed that most, but not all, of the initial achievement gap can be explained by two demographic characteristics of Latino students—socioeconomic status and language background. That is, Latinos as a group are disadvantaged in two ways, one related to language background and one related to socioeconomic background. As we suggest below, it is important to distinguish between these two disadvantages in formulating strategies to close the achievement gap. At the same time, the analysis suggests that English-background, middle-class Latino students are not disadvantaged relative to white students.

The study not only revealed the extent of the achievement gap, but also a number of factors that contribute to promote or impede the achievement of all students. Some of these factors reflect the practices of students and their families. Students who attended center-based preschool began kindergarten at a considerable advantage to students who attended Head Start or did not attend any preschool. Yet white students were twice as likely to participate in center-based preschool programs than Latino students. On the other hand, Latino students were more likely to participate in Head Start, the federally funded preschool program for disadvantaged students. Although earlier studies have found a positive benefit to students from participating in Head Start, including Latinos (Currie and Duncan, 1995; Currie and Thomas, 1999), the present study found no overall benefit to California students participating in Head Start.¹⁹ Students with positive learning behaviors (for example attentiveness, eagerness, independence) learned more in school. Both parents and schools can encourage these behaviors that enhance learning.

Other factors reflect the policies and practices of schools. Retention had a large negative impact on learning. Not only did retained students learn less than other students the year they were retained, they also learned less the year after. This suggests that retention, by itself, is not an effective practice to overcome whatever difficulties students have that lead them to be retained in the first place.²⁰ Instead, parents and schools should address those difficulties before students are retained (Grisson and Shepard, 1989).

The social composition of schools also appears to affect learning. In particular, students experience slower reading development during first grade in schools with high concentrations of second-time kindergartners and high concentrations of minority students. Because the socioeconomic composition of schools and a number of school resource measures were not related to learning, this suggests that students improve their reading by being exposed

to higher-achieving peers. Other research, including a recent study in San Diego, also demonstrates that student learning is affected by the achievement level of their classmates (Betts et al., 2000; Hanushek, Kain, Markman, and Rivkin, 2003; Rivkin, 2001; Ryan, 2000). Because California students are highly segregated by race, social class, and language (Betts et al., 2000:figure 3.1), all of which are related to student achievement, then segregation in California is probably contributing to the growth of the achievement gap.

The study also investigated whether a number of school structural features and resources impacted learning. For the most part, they did not. For instance, neither small schools nor private schools imparted any advantage on learning during the first two years of school (although students in elementary schools with more than 750 students had lower learning levels in reading). In fact, students who attended private schools actually learned less math in first grade than students attending public schools, probably because public schools spend more time teaching math. For the most part, class size also did not predict differences in learning, except in the case of math learning during first grade. This analysis raises questions about whether California's expensive investment in reduced classes during the first four years of elementary school is a worthwhile investment (Hanushek, 1999; Jepsen and Rivkin, 2002; Stecher and Bohrnstedt, 2002).

The achievement gap between Latino and white students in California is large, even in the first couple of years of schooling. In fact, it is sizable as soon as students enter school. Since the achievement gap is largely because of two types of disadvantages—language and socioeconomic status—it is important for educators to correctly identify and address the learning needs of Latino students associated with both disadvantages. That is, Latinos who are English-dominant but economically disadvantaged may have different needs and require different forms of support than Latinos who are from Spanish-speaking households and economically disadvantaged.

In general, the prospects of closing the achievement gap through educational policies alone are limited. Although a number of educational programs have been shown to produce sizable improvements in the educational outcomes of Latino students (Slavin and Calderón, 2001), statewide policies have shown much more modest effects. For example, what some observers consider to be a highly successful statewide school reform program—the Tennessee class size reduction experiment—produced a modest effect size of .25 over four years (Finn and Achilles, 1999). California's class size reduction program has had an even smaller impact (Jepsen and Rivkin, 2002; Stecher and Bohrnstedt, 2002). Even if statewide reform efforts were more

successful at improving student achievement, they would do little to close the achievement gap unless they somehow were able to target Latino students and high-concentration Latino schools.

The present study finds that most of the disparities in achievement between Latino and white students can be traced to factors outside school. Therefore, to close the achievement gap will take concerted efforts not just in the educational arena but also in the larger arena of social policy.

Because Latino students start school behind other students and learn less when school is not in session, policy interventions should focus on closing the gap during these times. For example, the present study and other research document the effectiveness of preschool in improving early student achievement (Gorey, 2001). Because Latino families are less likely than white families to participate in center-based child care, at least in part because of their lower income levels (Liang, Fuller, and Singer, 2000), the provision of subsidized child care would likely reduce disparities in school readiness. Programs to increase the English literacy skills of parents may also be promising. With the passage of Proposition 227, California adopted the Community-Based English Tutoring (CBET) program, which provides \$50 million to local education agencies to set up programs to provide adult English language instruction to parents and other community members, who then are supposed to provide tutoring to English learners.²¹ Although no formal evaluation of the program's effectiveness has been conducted, anecdotal evidence suggests it is having a positive effect on parental involvement in children's schooling (Merickel et al., 2003:IV43-44). Finally, targeted summer programs could also reduce disparities in summer learning (Cooper, Charlton, Valentine, and Muhlenbruck, 2000), although future studies will need to determine which programs are most effective.²²

Yet these efforts, even if they are successful, may not be enough to overcome disparities in family income, employment opportunities, housing, and access to health care that all contribute to the welfare of families and their children (Reyes, 2001). Ultimately, eliminating disparities in educational opportunities and educational outcomes in California is such an immense challenge that it will require concerted efforts to overcome disparities in all areas of social policy.

Notes

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1. Between 1994-95 and 2004-2005, Latino public school enrollment increased more than 50 percent, while white enrollment declined by 8 percent. Between 2001 and 2011, Latino public school enrollment is projected to increase by 18 percent, while white enrollment is projected to decrease by 18 percent (California Department of Finance, 2005).
2. For example, in the 2006 California Standards Tests, only 29 percent of fifth grade Latinos and 25 percent of eighth grade Latinos were proficient in English language arts, compared to 63 percent of fifth grade non-Latino whites and 62 percent of eighth grade non-Latino whites (California Department of Education, 2006).
3. To preserve space, the paper references a larger report that contains additional tables and a technical appendix (Rumberger and Arellano, 2004).
4. For example, poverty rates for children under the age of eighteen in 2004, were 14.4 percent for whites, 32.9 percent for blacks, and 28.6 percent for Latinos (U.S. Department of Education, National Center for Education Statistics, 2006:table 21).
5. For more information on how the sample was selected, see Rumberger and Arellano (2004). While there are a number of K-1 longitudinal weights in the dataset, we selected the sample associated weight, Y2COMW0, which provides child direct assessment data from fall-kindergarten, spring-kindergarten, and spring-first grade, in conjunction with parent and/or teacher data from spring-first grade, and one or more base year rounds of parent and/or teacher data (see U.S. Department of Education, 2002, p. 6).
6. Both outcomes were assessed using a computer-assisted interviewing methodology that included the use of a small easel with pictures, letters of the alphabet, words, short sentences, numbers, or number problems (see NCES, 2001, p. 2-6).
7. Only one-quarter of the students were assessed in the fall of first grade.
8. See U.S. Department of Education (2001), 2-2 to 2-4, for more information.
9. As the ECLS-K user manual points out, gains at different points in the scale have different meanings in that they may connote qualitatively different reading activities (see U.S. Department of Education, 2001, pp. 3-11).
10. See Rumberger and Arellano (2004), table A2, for a complete list of the variables and how they were constructed.
11. Although achievement differences exist among all major ethnic groups, we focused on comparisons with non-Latino white students because, historically, they have constituted the largest and most dominant racial/ethnic group in America.
12. Because the outcome variable in the HLM analysis has two standard deviations, one associated with students and one associated with schools, we estimated effect sizes using the standard deviation in achievement growth at the student level. This tends to overstate the actual effect sizes because it does not include the variance at the school level (Rosenthal, 1994), but we estimate that in this study the overstatement is only about 10 percent.
13. It should be pointed out that the term *effect* does not imply a causal relationship between the predictor and the outcome.
14. Cohen (1988) suggests that effect sizes larger than .8 should be considered as large, those above .5 should be considered as moderate, and those above .2 as small (pp. 24-27).

15. Rowan, Correnti, and Miller (2002) argue that more refined statistical models show the majority of the variability in student learning can be attributed to teachers.
16. The percentage of students from non-English backgrounds in the sample used in the multilevel analysis is somewhat smaller than the percentage in the full ECLS California subsample of 1,874 students (50 versus 56 percent) because non-English students who were not yet proficient in oral English by the end of first grade were not assessed in English reading and were excluded from our analysis.
17. The complete list of predictors is shown in Rumberger and Arellano (2004), tables 3 and 4.
18. Data retrieved February 1, 2003 from the NAEP Web site: <http://nces.ed.gov/nationsreportcard/naepdata/>.
19. A recent national study of preschool also found no overall benefit from students attending Head Start (Rumberger and Tran, 2006).
20. A study of retention among Latinos and whites in a southern California school district also found that kindergarten retention had an adverse effect on first-grade achievement (Cosden, Zimmer, Reyes, and Gutierrez, 1995). A recent review of the research literature found that retention also increases the likelihood of dropping out of high school (Jimerson, Anderson, and Whipple, 2002).
21. For more information, see the California Department of Education Web site: <http://www.cde.ca.gov/sp/el/cb/>.
22. Because only 30 percent of the ECLS participants were surveyed in the fall of first grade, we were unable to examine the impact of summer school and other activities on summer learning. However, another study using a smaller, national sample of the ECLS data found little impact of summer school on summer learning, although the study did find modest effects of home literacy activities (Lee and Burkam, 2003).

4. Reaffirming Affirmative Action An Equal Opportunity Analysis of Advanced Placement Courses and University Admissions

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Introduction

On December 1, 2003, Clark Kerr, the former president of the University of California, passed away. One of the legacies he left was the 1960 California Master Plan for Higher Education. The Master Plan set up California's three-tiered system of higher education that included the University of California admitting the top 12.5 percent of California high school graduates, the California State University system admitting the top 33 percent, and the California Community College system admitting anyone over the age of eighteen, or high school graduates. Despite this legacy of equal opportunity in higher education, in 2002 Clark Kerr expressed sadness about the direction and future of California higher education. In a May 16, 2002, interview with the *UCLA Daily Bruin* (Falcone, 2002), Kerr responded to a question about the future of the California Master Plan, and stated,

The big thing that we were working on in 1960 was equality of opportunity. The big thing that we did—and nobody had done it anywhere else in the world—was to guarantee that there would be a place in higher education for every high school graduate who wanted to attend. That was just absolutely phenomenal. We did that by building up the community colleges, and provided that at the university we reserve half of our upper division places for transfers from the community colleges. We were really trying to build toward equal opportunity as had never been seen before in world history. In the mean time two sad things happened: One was that the good high schools developed advanced placement