How Do Linguistically Diverse Students Fare in Full- and Half-Day Kindergarten? Examining Academic Achievement, Instructional Quality, and Attendance

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Research Findings: This study investigated the effects of full- and half-day kindergarten programs on classroom instructional quality and children’s academic achievement. Considerations were given for how the length of the school day, language status (English language learner [ELL] and non-ELL), and children’s attendance patterns influenced achievement. Quantitative and qualitative data were collected concurrently and were interpreted to note the convergence (or lack thereof) of the findings. Quantitative results revealed no difference in the quality of instruction being offered in full- and half-day classrooms. Additionally, full-day kindergarten positively impacted children’s academic achievement in literacy but not in mathematics, regardless of children’s language status. In regard to language development, ELL children benefited more from full-day kindergarten than did their English-speaking peers, whereas all (ELL and non-ELL) children enrolled in full-day kinder-
garten made greater language gains when they missed fewer than 10 school days.

*Practice or Policy:* Findings from this study have significant policy and practice implications related to the overall quality, availability, and cultural and developmental appropriateness of kindergarten programming in the United States.

Recent education reform initiatives place increasing pressure on schools to demonstrate child growth and achievement in the areas of literacy and mathematics. Given previous research suggesting that children’s achievement trajectories are often set during their first few years in school (Alexander & Entwisle, 1988; Snow, Burns, & Griffin, 1998), many school districts have turned to early childhood programs to help improve children’s developmental outcomes before or at the beginning of formal schooling (Bowman, Donovan, & Burns, 2001; Snow et al., 1998). Most notably, one of the most popular ways that school districts have tried to meet the diverse academic needs of young children has been the adoption of full-day kindergarten programs (Lee, Burkam, Ready, Honigman, & Meisels, 2006; National Center for Education Statistics, 2000).

**AVAILABILITY OF FULL-DAY KINDERGARTEN: CURRENT U.S. TRENDS**

Full-day kindergarten programs have grown in prevalence in the last 20 years. Patterns of access to full-day kindergarten show that more than half of U.S. public schools offer full-day programs (Lee et al., 2006), with a higher percentage in private settings (Kauerz, 2005). Access also appears to be far less prevalent in the western United States and, in general, is more common among schools with high percentages of minority children and children who live in poverty (Lee et al., 2006; National Center for Educational Statistics, 2004). In fact, full-day programs are frequently targeted toward minority children, particularly those with second language status, as a way to ameliorate the “learning curve” often associated with the first years of formal schooling (Vecchiotti, 2003). Hence, in many cases, the lengthening of the school day is seen as a compensatory program for children at risk for early school failure and is designed to lessen the performance gap between non-minority and minority students that is still present in public schools (Lee et al., 2006; National Center for Education Statistics, 2004; Vecchiotti, 2003).

**BENEFITS OF FULL-DAY PROGRAMS**

Research examining the efficacy of full-day and half-day kindergarten experiences on children’s academic outcomes has demonstrated that children in full-day set-
tings fare better on measures of vocabulary, literacy, and math achievement (Baskett, Bryant, White, & Rhoads, 2005; Cryan, Sheehan, Wiechel, & Bandy-Hedden, 1992; Puleo, 1988; Yan & Lin, 2005). For example, in a representative sample of kindergarten children in the United States, Lee and colleagues (2006) found that children in full-day programs outperformed children in half-day programs in the areas of literacy and mathematics. Moreover, such gains persisted even when the researchers took into account the structural, social, and academic features of the children and schools (i.e., location, rural/urban, school socioeconomic background). These findings are typical in both large- and small-scale studies.

Positive effects of full-day kindergarten programs on children’s development are also found in areas outside the cognitive realm. For example, Elicker and Mathur (1997) found that children who attended full-day programs were rated as having slightly more positive affect and better work habit scores than children attending half-day programs. Cryan and colleagues (1992) found similar results, with children in full-day programs being rated as having more positive classroom behaviors (i.e., independent learning, classroom involvement, working well with peers) as well as fewer negative behaviors (i.e., failure, anxiety, withdrawn behavior). In addition to positive findings in the realm of social skills, children who attend full-day kindergarten are less likely to be retained than their peers who attend half-day kindergarten programs (Cryan et al., 1992; Gullo, 2000).

Although the positive effects of full-day kindergarten are encouraging, questions still exist regarding its effectiveness for children who are second language learners. Are their gains equal or greater to those of their English-only peers? Unfortunately, to date, few research studies examining the impact of full-day and half-day programs on young children’s development have considered how children from diverse ethnic or linguistic backgrounds fare in such settings. For example, in their study of children in full-day, alternative-day, and half-day programs in Ohio, Cryan and colleagues (1992) considered the role that child characteristics may play in moderating the effect that length of day has on children’s literacy and math achievement. Child characteristics that they accounted for included the child’s age at kindergarten entry, the child’s gender, and previous preschool experience. They failed to examine how children’s ethnic group or language status related to achievement. Similarly, in a more recent study examining the effect of length of day on children’s academic achievement over time, Gullo (2000) failed to examine whether or not children’s ethnic or linguistic backgrounds related to variation in their academic performance in full-day and half-day programs. Such oversights are problematic given the number of full-day programs that are targeted at children with second language status (National Center for Education Statistics, 2004; Vecchiotti, 2003) and given recent research suggesting that children from diverse backgrounds may experience the effects of full-day experiences differently than those in half-day (Lee et al., 2006). Clearly, additional research is needed to
examine how different kindergarten experiences impact children from diverse backgrounds.

**BEYOND LENGTH OF DAY: INSTRUCTIONAL QUALITY AND ATTENDANCE PATTERNS**

Although many researchers have suggested that children in full-day programs make greater academic gains than their peers in half-day programs, few have examined whether these effects are simply a result of lengthening the school day or whether they have to do with other important variables such as instructional quality and children’s attendance patterns. Simply, lengthening the school day may not facilitate changes in the type and quality of instruction for young children. Thus, a child’s participation in a full-day kindergarten program, depending upon the quality, may or may not improve his or her kindergarten experience or better prepare the child for the increasing demands of later schooling. Similarly, little attention has been given to children’s attendance patterns in both types of programs (full- and half-day) and the impact that attendance may have on children’s academic performance.

**Instructional Quality**

Research has suggested that kindergarten is a “highly variable experience” (Pianta, La Paro, Payne, Cox, & Bradley, 2002, p. 236) with a wide range of variability in terms of curriculum, instruction, and environment. However, there is one area of agreement which is the importance of instructional quality and its potential impact on child outcomes (Early & Winton, 2001; National Association for the Education of Young Children, 2005a, 2005b, 2006). Even with this agreement, researchers and policymakers still need to come to a clearer determination of the indicators of instructional methods and quality that will most likely ensure that all children receive a high-quality kindergarten experience regardless of length of day. Most recently, Pianta and colleagues have suggested characteristics of social climate, management of time and activities, and instructional support (La Paro, Pianta, & Stuhlman, 2004; Pianta, 2003; Pianta et al., 2002) as critical indicators of instructional quality. For example, in early childhood classrooms where children manifest positive outcomes, teachers engage in high levels of “confirming feedback” (Meyer, Wardrop, Hastings, & Linn, 1993, p. 159), are familiar with children’s academic needs, and show sensitivity toward individual children. Teachers in quality early childhood settings use proactive approaches to discipline and promote children’s success through appropriate questioning and feedback, scaffolding, and other approaches to instructional support (Rimm-Kaufman, La Paro, Downer, & Pianta, 2005).
In reference to full- and half-day kindergarten, previous research has shown that teachers in full-day classrooms may approach instruction differently (e.g., type of instruction—small vs. large group, amount of formal instruction) than those in half-day programs (Elicker & Mathur, 1997; Lee et al., 2006). Despite these few studies examining the amount and type of instruction that occurs in full-day and half-day programs, little research has examined the differences in the overall quality of instruction. For example, it is unclear whether or not levels of productivity and engagement differ among full- and half-day programs or whether or not teachers in full-day programs offer more in-depth feedback as a result of the increased amount of time available for instructional activities. Additional research is needed to examine the nature of instruction that is occurring in full-day and half-day kindergarten programs, including the particular variables that ensure high-quality instruction in kindergarten, regardless of the length of the day.

Attendance Patterns

In addition to instructional quality, there is some interest in the relationship between children’s participation in a full- or half-day program and their attendance patterns. This is an important policy issue because kindergarten is not mandated in many parts of the United States (Vecchiotti, 2003), and therefore not all children are expected to attend. Although few studies have examined the impact of full- and half-day kindergarten programs on children’s attendance patterns (e.g., Gullo, 2000), initial evidence suggests that children in full-day programs attend more days than children in half-day settings. Thus, when talking about the impact of length of day (i.e., full-day) on children’s development, one should also consider the number of days children actually attend kindergarten. For example, some argue that the additional time in kindergarten is what impacts children’s academic achievement. Although this may be true, it may not be necessary to move to a full-day program to increase a child’s time in kindergarten. Simply requiring children to attend kindergarten, even in a half-day program, may positively impact children’s development. These are questions that, to date, have not been addressed and yet have significant policy ramifications and implications for funding. This is especially true in states where many are still debating the importance of early childhood programming and making critical decisions about how to move forward with the implementation of full-day kindergarten.

PURPOSE

The purpose of this study was twofold: to examine (a) the effects of full-day kindergarten programming on instructional quality; and (b) the impact of the length of day (full- vs. half-day), language status (English language learner [ELL] vs.
non-ELL), and attendance (fewer than 10 absences vs. 10 or more absences) on children’s academic achievement. Qualitative data were collected to further understand which factors, as perceived by teachers and administrators, influence instructional quality and academic achievement.

In the state of Utah, where this study took place, children have little, if any, access to full-day kindergarten programs. Similarly, Utah does not provide state-funded pre-kindergarten programming for young children and does not mandate kindergarten (Kauerz, 2005). As a result, children are not required to attend kindergarten, and kindergarten experiences are not funded in the same manner as other grades (Vecchiotti, 2003). However, in recent years the governor’s office has proposed legislation that would dramatically increase the availability of full-day kindergarten programs for children who are at risk for school failure (Utah Legislature, 2007). This political climate, similar to that found in other western states, requires local studies that further validate the value of full-day kindergarten. These studies, even when they mimic national findings, may be more compelling for local leaders and policymakers. Furthermore, these policies have important implications for children and families, making it especially critical to examine local opinions and experiences of stakeholders from multiple perspectives. The perceptions of these stakeholders are especially critical in promoting greater understanding and compelling evidence for policies that will promote early childhood programs that are beneficial to all children, regardless of their language status. Furthermore, the results from this study may have implications for other areas in which educators are advocating for policy changes and additional funds to promote quality early childhood programming for all children.

**METHOD**

Given the social and political context, the current literature on full- and half-day kindergarten, and the importance of instructional quality, the major foci of this study were to examine (a) instructional quality, (b) children’s academic achievement (with particular concentration on linguistically diverse students and children’s attendance patterns), and (c) teachers’ and administrators’ perceptions of full- and half-day kindergarten.

**Participants**

The study was conducted at two schools located in the same school district. The treatment school volunteered to participate in the district’s pilot full-day kindergarten program and was one of the first public schools to implement full-day kindergarten in the state of Utah. The control school was selected because it offered a half-day kindergarten program and was, of the other schools in the district, the
most similar to the treatment school in terms of demographics. At the time of data collection, the treatment school had 622 students enrolled, with 112 kindergarten students. Sixty-three percent ($n = 390$) of the total student population were classified as ELLs, with 69% ($n = 77$) of the 112 kindergarten students classified as ELLs. The control school had a total student population of 470, with 80 kindergarten students. Twenty-six percent of the total student population ($n = 123$) and 26% of the kindergartners ($n = 21$) in the control school were classified as ELLs. See Table 1 for a description of school and kindergarten classroom demographics.

A total of eight kindergarten classrooms were used—four full-day classrooms (four teachers with four full-day sessions) and four half-day classrooms (two teachers with two morning and two afternoon sessions). The four kindergarten classrooms from the treatment school were in their first year of implementing a full-day kindergarten pilot program. The pilot program had approved funding for a 3-year period. Children in these classrooms were living within the school boundaries when the school decided to implement a full-day program. If parents did not wish for their children to attend a full-day program, they were allowed to move their children to another neighborhood school where their children could attend a half-day program. The school administrators indicated that during this particular school year none of the parents chose to move their children, although they did have a few requests for special placement from parents of children who did not live within the school boundaries so that their children could attend full-day kindergarten. The four control classrooms were implementing a half-day kindergarten program as usual. There was no option for these children to attend a full-day program.

### Table 1
Demographics of Schools and Kindergarten Classrooms

<table>
<thead>
<tr>
<th>Variable</th>
<th>Treatment</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total enrollment, $n$</td>
<td>622</td>
<td>470</td>
</tr>
<tr>
<td>Students classified as ELL/LEP, % ($n$)</td>
<td>63 (390)</td>
<td>26 (123)</td>
</tr>
<tr>
<td>Ethnicity, % ($n$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>21 (130)</td>
<td>56 (261)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>74 (459)</td>
<td>35 (166)</td>
</tr>
<tr>
<td>Black</td>
<td>1 (8)</td>
<td>2 (9)</td>
</tr>
<tr>
<td>Native American</td>
<td>3 (18)</td>
<td>3 (13)</td>
</tr>
<tr>
<td>Asian</td>
<td>&lt;1 (3)</td>
<td>1 (4)</td>
</tr>
<tr>
<td>Polynesian</td>
<td>&lt;1 (3)</td>
<td>1 (6)</td>
</tr>
<tr>
<td>Other</td>
<td>&lt;1 (3)</td>
<td>2 (11)</td>
</tr>
<tr>
<td>Students receiving free or reduced lunch, % ($n$)</td>
<td>90 (562)</td>
<td>74 (346)</td>
</tr>
</tbody>
</table>

*Note: ELL = English language learner; LEP = limited English proficient.*
At the beginning of the year, 118 (64 treatment, 54 control) children in the eight classes received parental consent to participate in the study. Over the course of the school year, 22 children (7 treatment, 15 control; 8 ELL, 14 non-ELL across both treatment and control) moved away and were no longer part of the study. All analyses were conducted with the 96 children (57 treatment, 39 control; 52 ELL, 44 non-ELL) who attended school for the full year in their respective classrooms. The 52 ELL students who participated in this study all spoke Spanish as their primary language. See Table 2 for a description of student participant demographics.

**Design**

Concurrent triangulation strategy, a mixed method model, was used as the study design (Creswell, 2003). The quantitative and qualitative data were collected concurrently and were interpreted to note the convergence (or lack thereof) of the findings. It is often ideal that the quantitative and qualitative data have equal priority; however, it is more common that greater priority is given to one or the other (Creswell, 2003). In the current study, greater priority was given to the quantitative data, and the qualitative data were used to further explain and give depth to the quantitative findings.

**Measures**

Both quantitative and qualitative measures were used to examine different aspects of this study. Quantitative measures were used to examine instructional quality and academic achievement (math and literacy). Qualitative data were used to examine teacher and administrator perceptions of full- and half-day programs.

**Instructional quality.** To date, many of the studies of full- and half-day kindergarten have not considered the importance of instructional quality. However,
early childhood programming, regardless of length of day, is dependent upon quality environments and instruction (Fromberg, 1986; Herman, 1984; Naron, 1981). As such, instructional quality for each of the eight classrooms was assessed using the Classroom Assessment Scoring System (CLASS; La Paro et al., 2004). The CLASS is an observational instrument designed to assess instructional quality in preschool through third-grade classrooms and is based on the interactions of teachers and students in the classroom, not on the presence of materials, the physical environment, or the use of a specific curriculum. The CLASS measures classroom instructional quality based on three domains. The first domain is socioemotional climate and includes the constructs of positive climate, negative climate, and teacher sensitivity. The second domain is classroom management and includes the constructs of regard for students’ perspectives, behavior management, and productivity. The third domain is instructional support and includes the constructs of concept development, instructional learning formats, quality feedback, and student engagement.

Before using the CLASS, all users must be trained by a certified CLASS trainer and meet reliability criteria, which involves watching and coding six video segments with at least 80% reliability. All three of the authors participated in the CLASS training and met the reliability criteria (80% or better). In addition to this training, the authors also established inter-rater reliability, for the specific purpose of this study, by conducting the first four observations in pairs. A comparison of the independently scored observations indicated a high level of reliability (97%) among all three raters.

All procedures for using the CLASS, as laid out by the certified CLASS trainer, were followed during each of the observations. A CLASS observation involves a 30-min cycle that includes a 20-min observation of both structured and unstructured classroom activities, making notes regarding the 10 CLASS constructs, and paying particular attention to the teacher’s instructional behaviors and interactions. This is followed by a 10-min coding segment in which the observer scores each construct on a scale of 1 to 7 (1, 2 = low frequency; 3, 4, 5 = mid frequency; 6, 7 = high frequency). It is recommended that a minimum of four segments be obtained per classroom to establish one observation. During data collection, each of the eight classrooms was observed three times throughout the year (beginning, middle, and end of the school year). Each observation session was composed of a series of four to five 30-min observation segments (which included a 10-min scoring segment), for a total of twelve to fifteen 20-min observation segments for each teacher across the course of the school year. Observations took place during both the morning and afternoon.

**Academic achievement.** Children’s academic achievement was assessed at the beginning and end of the school year using the following measures: the Peabody Picture Vocabulary Test–III (PPVT-III; Dunn & Dunn, 1997), the Phonologi-
cal Awareness Literacy Screening (PALS-K: Rhyming, Alphabet Knowledge, Letter Sounds, Spelling, and Word Recognition; Invernizzi, Sullivan, & Meier, 2001), and the Roswell–Chall Auditory Blending Test (Roswell & Chall, 1997). In addition to these literacy measures, the Applied Problems subtest of the Woodcock–Johnson III (Woodcock, McGrew, & Mather, 2001) was administered to assess general math achievement.

**Teacher and administrator perceptions.** Teacher/administrator perceptions of full- and half-day kindergarten were collected during a semistructured interview at the end of the school year. Interviews were conducted with each of the four full-day kindergarten teachers and their Title I facilitator and principal, and the two half-day kindergarten teachers and their principal. Several questions were asked during the interviews that focused on (a) perceptions of full- and half-day kindergarten (What are the benefits of full-day kindergarten? What are the benefits of half-day kindergarten?), (b) opinions about the success of their kindergarten program during the year in which the study was conducted (What do you feel were your greatest successes this year?), and (c) views of the children’s (ELL and non-ELL) academic progress during the school year (How has full-day [or half-day] kindergarten helped your students? What impact has full-day [or half-day] kindergarten had on (1) ELL students’ literacy skills, (2) overall academic achievement?).

**Data Analysis**

Quantitative data were analyzed to determine the impact of full-day kindergarten (length of day) on instructional quality and academic achievement (literacy and math). Analyses also examined the impact of language status (ELL vs. non-ELL) and attendance (fewer than 10 absences vs. 10 or more absences) on academic achievement. Qualitative data were analyzed to determine teacher/administrator perceptions of full- and half-day kindergarten and their beliefs about the impact of full-day kindergarten on ELL and non-ELL students’ academic performance. Data were analyzed separately, and then results were interpreted to identify areas of convergence (Creswell, 2003).

**Quantitative analyses.** Quantitative analyses (univariate and multivariate analyses) were conducted on CLASS observation data and child academic achievement data (PPVT-III, PALS-K, Woodcock–Johnson III, Roswell–Chall Auditory Blending Test). Each of the analyses is described in more detail below.

Classroom instructional quality was analyzed using a multivariate analysis of variance (MANOVA). The independent variable was length of day (full- and half-day), and the dependent variables were the three subscales of the CLASS Observa-
tion: Socio-Emotional Climate, Management, and Instructional Support (La Paro et al., 2004).

Child academic achievement data were analyzed using both multivariate and univariate analyses. It should also be noted that child achievement data were analyzed on the child level (rather than the classroom level) using gain scores. Data were analyzed on the child level because there was not a significant difference among any of the eight classrooms in instructional quality as measured by the CLASS (see “Results”). This allowed us to assume that children in either group, regardless of their classroom, were receiving comparable instruction. Gain scores were used because analyses for child academic achievement pretest data revealed that the two groups (full- and half-day) were not equal at the outset of the study (Rachor & Cizek, 1996). A MANOVA on children’s pretest scores for the subtests of the PALS-K showed that children in the half-day program outperformed children in the full-day program on Rhyming, Alphabet Knowledge, and Spelling Subtests. There was no difference between the two groups on the Letter Sounds and Word Recognition subtests. Other univariate analyses of variance (ANOVAs) on the PPVT-III, the Roswell–Chall Auditory Blending Test, and the Woodcock–Johnson III revealed that children in half-day programs scored significantly higher on the PPVT-III and Woodcock–Johnson III at the pretest. There was no difference on the Roswell–Chall Auditory Blending Test. The differences on the PPVT-III (half-day > full-day) may have been, in large measure, related to the larger number of ELL students in the full-day program. In other words, there were fewer ELL children in the half-day program, and thus their scores were, on average, higher on the PPVT-III than those of the children in the full-day program. See Table 3 for mean scores and standard deviations on pretest measures.

### TABLE 3
Mean (SD) Scores on Pretest Measures for Full- and Half-Day Students

<table>
<thead>
<tr>
<th>Measure</th>
<th>Full-Day</th>
<th>Half-Day</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>PALS-K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhyming</td>
<td>4.75 (3.02)</td>
<td>9.67 (0.577)</td>
<td>7.59*</td>
</tr>
<tr>
<td>Alphabet Knowledge</td>
<td>8.75 (8.92)</td>
<td>23.00 (1.00)</td>
<td>7.34*</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td>4.50 (7.21)</td>
<td>12.67 (10.12)</td>
<td>3.06</td>
</tr>
<tr>
<td>Spelling</td>
<td>2.05 (4.03)</td>
<td>15.00 (5.19)</td>
<td>25.13***</td>
</tr>
<tr>
<td>Word Recognition</td>
<td>5.60 (8.06)</td>
<td>3.33 (1.52)</td>
<td>0.23</td>
</tr>
<tr>
<td>Roswell–Chall Auditory</td>
<td>3.59 (7.23)</td>
<td>5.21 (7.65)</td>
<td>1.09</td>
</tr>
<tr>
<td>Blending Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPVT-III</td>
<td>43.26 (39.31)</td>
<td>90.69 (15.49)</td>
<td>47.58***</td>
</tr>
<tr>
<td>Woodcock–Johnson III</td>
<td>11.56 (4.72)</td>
<td>15.53 (4.29)</td>
<td>16.69***</td>
</tr>
</tbody>
</table>

*Note: PALS-K = Phonological Awareness Literacy Screening; PPVT-III = Peabody Picture Vocabulary Test–III.  
*p < .05. ***p < .001.
Two MANOVAs were conducted using the PALS-K gain scores as the dependent variables. The subtests on the PALS-K were separated for the analyses to examine the development of early skills (rhyming and letter naming) separate from that of more advanced skills (letter sounds, spelling, and word recognition). The first MANOVA included length of day (full- and half-day), language status (ELL and non-ELL), and attendance (fewer than 10 absences and 10 or more absences) as the independent variables and gain scores (posttest scores minus pretest scores) for the Rhyming and Alphabet Knowledge subtests of the PALS-K (Invernizzi et al., 2001) as the dependent variables. The second MANOVA included the same independent variables—length of day (full- and half-day), language status (ELL and non-ELL), and attendance (fewer than 10 absences and 10 or more absences)—and gain scores (posttest scores minus pretest scores) for the Letter Sounds, Spelling, and Word Recognition subtests of the PALS-K (Invernizzi et al., 2001). Three univariate ANOVAs were conducted with length of day (full- and half-day), language status (ELL and non-ELL), and attendance (fewer than 10 absences and 10 or more absences) as the independent variables and with the following dependent variables: (a) gain scores (posttest minus pretest) for the PPVT-III (Dunn & Dunn, 1997), (b) gain scores (posttest minus pretest) for the Roswell–Chall Auditory Blending Test (Roswell & Chall, 1997), and (c) gain scores (posttest minus pretest) for the Applied Problems subtest of the Woodcock–Johnson III (Woodcock et al., 2001).

Qualitative analysis. Teachers and administrators from both schools were interviewed at the end of the school year using the same interview protocol. Interview transcriptions were analyzed inductively by two of the three authors. The two authors independently read all of the interview transcriptions and coded each separate idea generated by the teachers and administrators into categories. The two authors then collapsed the categories into meaningful groups or themes. The authors then met and worked to consensus on the common themes/categories (Bogdan & Biklen, 1998). Six categories emerged from the data: academic progress, curriculum, discipline, relationships, parental support, and logistics.

In terms of academic progress, full-day teachers commented that a full-day program allowed them to see more progress in their students, especially ELL students. Several teachers and administrators indicated that the additional time in school would help children be more prepared for the academic demands of school. In contrast, the half-day teachers expressed the concern of a full-day program having too much focus on academics.

In comments related to curriculum, full-day teachers acknowledged the ability to address and organize curriculum in a more meaningful and age-appropriate manner. That is, the curriculum could be addressed at a more in-depth and compre-
hensive level. Half-day teachers again expressed the concern of full-day programs overemphasizing academics and not allowing sufficient time to play.

Discipline was a common theme addressed by both full-day and half-day teachers. Both indicated that the longer day may result in a greater number of behavior problems. Full-day teachers also felt that through proactive planning, such discipline problems could be decreased. The half-day teachers were less optimistic in terms of overcoming these difficulties.

The development of relationships was another common theme. Because there was more time to interact one-on-one with the students, full-day teachers felt they were able to get to know them better, which allowed them to make better decisions regarding the students’ developmental needs. A few of the full-day teachers also commented that a full-day program also allowed them more time to establish a stronger collaborative relationship with the other kindergarten teachers. Half-day teachers commented that a half-day program allowed children more time to make friends at home or out of the context of school. Full-day teachers did not make reference to children’s friendships in or out of school.

Both full- and half-day teachers addressed the issue of parental support and the negative impact the lack of parental support had on students’ success and development. Both groups of teachers also expressed the concern that parents would use a full-day program as a “babysitting service” and not provide the necessary level of parental support and involvement. However, the full-day teachers also commented that a full-day program could, in some ways, help make up for a deficit in parental support. In addition, full-day teachers reported opportunities to develop better relationships with the children’s parents because they had half the number of children compared to half-day teachers, who taught two sessions of kindergarten.

The interviews with the school administrators primarily focused on the logistics of implementing and coordinating a full-day program. Logistical concerns involved both financial and physical facilities as well as the day-to-day impact. These included the issue of servicing fewer children in a full-day program, and the lack of physical space. The day-to-day logistics, such as lunch time, also presented some concern as administrators reflected on the difficulties associated with helping young children become familiar with lunchroom routines and procedures (e.g., remembering the child’s identification code, cleanliness, safety/supervision). Finally, administrators brought up staffing concerns, that is, the difficulty of having to hire additional teachers when there is already a shortage of qualified candidates.

All of the six categories offered interesting insights into teachers’ and administrators’ beliefs about full-day kindergarten. However, three of the six categories (i.e., academic progress, curriculum, and parental support) further illuminated the quantitative findings and are used here in the interpretation of the study results.
RESULTS

Instructional Quality—CLASS Observations

In terms of classroom instruction, multivariate analysis (MANOVA) was used to analyze CLASS data (socio-emotional climate, management, and instructional support (La Paro et al., 2004). Results indicated that there was also no difference between full- and half-day classrooms in terms of instructional quality as measured by the CLASS (Wilks’ $\Lambda = .93$), $F(3, 6) = 1.59, p = .20$. See Table 4 for mean scores and standard deviations on CLASS observations for full- and half-day classrooms.

These results indicated that simply lengthening the day did not automatically result in higher instructional quality. In fact, these data suggested that these two full- and half-day programs had similar instructional quality. The CLASS scores (see Table 4) further demonstrated that both the full- and half-day teachers provided a generally warm classroom climate (5.41 and 5.18 on a 7-point scale) with moderate levels of management and instructional support (4.25–4.82 on a 7-point scale).

Several of the teachers’ comments from the interviews that had been categorized as curriculum corroborated the results of the MANOVA, suggesting that there was no difference in instructional quality between the two groups (full- and half-day). Teachers in both full- and half-day programs indicated that full-day programs offer additional time to “go more in-depth” or to “spend more time with hands-on things … [to] enhance science units … and the arts.” However, they also indicated that there is still much to do to include more “student-directed, in-depth exploration” in their instruction. In essence, both groups of teachers expressed the fact that more time in the school day could provide an opportunity for deeper, more meaningful instruction. However, it seems that there are several difficulties associated with these ideals. For example, teachers in full-day programs indicated that it was difficult to keep high levels of productivity throughout the entire day: “In the morning we do our big literacy [push], and math games and all of our centers … We tried to mellow it out a little bit more in the afternoon.” It should also be noted

<table>
<thead>
<tr>
<th>CLASS Observation</th>
<th>Full Day</th>
<th>Half Day</th>
<th>$F$</th>
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<tbody>
<tr>
<td>Socio-Emotional Climate</td>
<td>5.41 (0.50)</td>
<td>5.18 (0.57)</td>
<td>3.04</td>
</tr>
<tr>
<td>Management</td>
<td>4.82 (0.81)</td>
<td>4.77 (0.83)</td>
<td>0.05</td>
</tr>
<tr>
<td>Instructional Support</td>
<td>4.44 (0.87)</td>
<td>4.25 (0.65)</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Note: CLASS = Classroom Assessment Scoring System.
that the teachers were in the first year of implementing full-day kindergarten and were still facing some of the difficulties associated with making the necessary instructional and procedural shifts. In sum, it appears that the kindergarten teachers participating in this study were still grappling with the best methods and procedures for creating high-quality kindergarten experiences for all children.

### Academic Performance: Literacy and Mathematics

The first MANOVA on children’s gain scores for the Rhyming and Alphabet Knowledge subtests of the PALS-K revealed a main effect for length of day (full- and half-day), with children in full-day programs making greater gains than their peers in half-day programs (Wilks’ $\lambda = .792$), $F(2, 87) = 11.41, p = .000$. Follow-up univariate analysis showed that children in full-day kindergarten programs made significantly greater gains when compared to children attending half-day programs on both of the measures: Rhyming, $F(1, 88) = 7.88, p = .006$; and Alphabet Knowledge, $F(1, 88) = 20.17, p = .000$. There was also a main effect for language status (Wilks’ $\lambda = .935$), $F(2, 87) = 3.02, p = .054$, with ELL students making greater gains than non-ELL students. Follow-up univariate analysis showed that children who were ELLs made significantly greater gains on Alphabet Knowledge, $F(1, 88) = 6.06, p = .016$. There was no difference on Rhyming, $F(1, 88) = 0.73, p = .394$. There was no main effect for attendance (Wilks’ $\lambda = .981$), $F(2, 87) = 0.83, p = .441$. There were no significant interactions: Length of Day $\times$ Language Status (Wilks’ $\lambda = .988$), $F(2, 87) = 0.51, p = .603$; Length of Day $\times$ Attendance (Wilks’ $\lambda = .964$), $F(2, 87) = 1.64, p = .200$; Language Status $\times$ Attendance (Wilks’ $\lambda = .992$), $F(2, 87) = 0.34, p = .713$; Length of Day $\times$ Language Status $\times$ Attendance (Wilks’ $\lambda = .981$), $F(2, 87) = 0.83, p = .441$. See Table 5 for mean gain scores and standard deviations on the Rhyming and Alphabet Knowledge subtests.

### Table 5

Mean (SD) Gain Scores and Standard Deviations on Rhyming and Alphabet Knowledge Subtests (PALS-K) for Length of Day, Language Status, and Attendance

<table>
<thead>
<tr>
<th>Measure</th>
<th>Length of Day</th>
<th>Language Status</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Day</td>
<td>Half Day</td>
<td>ELL</td>
</tr>
<tr>
<td>Rhyming</td>
<td>3.71 (3.03)</td>
<td>1.58 (2.20)</td>
<td>3.44 (2.99)</td>
</tr>
<tr>
<td>Alphabet Knowledge</td>
<td>17.92 (7.80)</td>
<td>8.95 (7.82)</td>
<td>17.82 (8.08)</td>
</tr>
</tbody>
</table>

*Note:* PALS-K = Phonological Awareness Literacy Screening; ELL = English language learner.

*p < .05. **p < .01. ***p < .001.
bet Knowledge subtests of the PALS-K (Length of Day, Language Status, and Attendance).

The second MANOVA on children’s gain scores for the Letter Sounds, Spelling, and Word Recognition subtests of the PALS-K revealed a main effect for length of day, with children in full-day programs making greater gains than their peers in half-day programs (Wilks’ $\Lambda = .682$), $F(3, 86) = 13.37, p = .000$. Follow-up univariate analysis showed that children in full-day kindergarten programs made significantly greater gains when compared to children attending half-day programs on all of the measures: Letter Sounds, $F(1, 88) = 27.70, p = .000$; Spelling, $F(1, 88) = 31.90, p = .000$; and Word Recognition, $F(1, 88) = 6.20, p = .015$. There were no main effects for language status (Wilks’ $\Lambda = .959$), $F(3, 86) = 1.23, p = .302$; or attendance (Wilks’ $\Lambda = .978$), $F(3, 86) = 0.69, p = .592$. There were also no significant interactions: Length of Day × Language Status (Wilks’ $\Lambda = .981$), $F(3, 86) = 0.55, p = .651$; Length of Day × Attendance (Wilks’ $\Lambda = .993$), $F(3, 86) = 0.21, p = .889$; Language Status × Attendance (Wilks’ $\Lambda = .923$), $F(3, 86) = 2.39, p = .074$; Length of Day × Language Status × Attendance (Wilks’ $\Lambda = .993$), $F(3, 86) = 0.19, p = .902$. See Table 6 for mean gain scores and standard deviations on the Letter Sounds, Spelling, and Word Recognition subtests of the PALS-K (Length of Day, Language Status, and Attendance).

Three univariate ANOVAs were conducted for the PPVT-III, the Roswell–Chall Auditory Blending Test, and the Woodcock–Johnson III Applied Problems subtest. Results for the Roswell–Chall Auditory Blending Test indicated that the children who attended full-day kindergarten made significantly greater gains than

### TABLE 6

<table>
<thead>
<tr>
<th>Measure</th>
<th>Length of Day</th>
<th>Language Status</th>
<th>Attendance</th>
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<tbody>
<tr>
<td></td>
<td>Full Day</td>
<td>Half Day</td>
<td>F</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td>20.46</td>
<td>12.28</td>
<td>27.70***</td>
</tr>
<tr>
<td></td>
<td>(5.79)</td>
<td>(6.87)</td>
<td></td>
</tr>
<tr>
<td>Spelling</td>
<td>14.31</td>
<td>6.28</td>
<td>31.90***</td>
</tr>
<tr>
<td></td>
<td>(5.56)</td>
<td>(5.89)</td>
<td></td>
</tr>
<tr>
<td>Word Recognition</td>
<td>16.05</td>
<td>9.33</td>
<td>6.20*</td>
</tr>
<tr>
<td></td>
<td>(15.03)</td>
<td>(10.59)</td>
<td></td>
</tr>
</tbody>
</table>

Note: PALS-K = Phonological Awareness Literacy Screening; ELL = English language learner.

*p < .05. ***p < .001.
the children who attended half-day kindergarten, $F(1, 88) = 14.09, p = .000$. There was no difference between ELL and non-ELL students, $F(1, 88) = 0.416, p = .521$; and no difference between children who were absent fewer than 10 days and those who were absent 10 or more days, $F(1, 88) = 1.35, p = .249$. There were no significant interactions: Length of Day $\times$ Language Status, $F(1, 88) = 0.11, p = .739$; Length of Day $\times$ Attendance, $F(1, 88) = 0.000, p = .983$; Language Status $\times$ Attendance, $F(1, 88) = 0.002, p = .962$; and Length of Day $\times$ Language Status $\times$ Attendance, $F(1, 88) = 0.54, p = .466$.

Results for the PPVT-III indicated that there was a main effect for length of day, language status, and attendance. More specifically, children who attended full-day kindergarten made significantly greater gains than children who attended half-day kindergarten, $F(1, 88) = 42.17, p = .000$; ELL students made greater gains than non-ELL students, $F(1, 88) = 6.29, p = .014$; and children who had fewer than 10 absences outgained children with 10 or more absences, $F(1, 88) = 4.43, p = .038$. There were also two significant interactions: Length of Day $\times$ Language Status, $F(1, 88) = 6.32, p = .014$; and Length of Day $\times$ Attendance, $F(1, 88) = 5.43, p = .022$. See Figures 1 and 2 for an illustration of the interaction effect for PPVT-III gain scores (Length of Day $\times$ Language Status and Length of Day $\times$ Attendance, respectively).

The Woodcock–Johnson III Applied Problems subtest gain scores indicated that there was no significant difference between the two groups (full and half-day), $F(1, 88) = 1.02, p = .316$; no significant difference for language status, $F(1, 88) = 0.984, p = .324$; and no significant difference for attendance, $F(1, 88) = 0.001, p = .974$; and no interactions: Length of Day $\times$ Language Status, $F(1, 88) = 0.456, p = .501$; Length of Day $\times$ Attendance, $F(1, 88) = 2.14, p = .147$; Language Status $\times$ Full and Half-Day Kindergarten
Attendance, $F(1, 88) = 0.389, p = .534$; Length of Day × Language Status × Attendance, $F(1, 88) = 1.66, p = .201$. See Table 7 for mean gain scores and standard deviations for the Roswell–Chall Auditory Blending Test, the PPVT-III, and the Woodcock–Johnson III Applied Problems subtest (Length of Day, Language Status, and Attendance).

In terms of academic achievement, it is clear that the children who participated in full-day kindergarten outgained their peers in the half-day program on most of the academic measures. There were also two significant interaction effects (Length of Day × Language Status and Length of Day × Attendance) for the PPVT-III, suggesting that ELL students in the full-day program made greater gains in oral language (receptive vocabulary) than (a) their non-ELL peers who also attended full-day kindergarten as well as (b) the ELL and non-ELL students who attended the half-day program. In regard to absences, ELL students who had fewer absences made greater gains in oral language (receptive vocabulary) than their peers who missed more days of kindergarten in either full- or half-day programs.

Teacher interviews corroborated the quantitative findings, as they further suggested that academic progress was one of the most significant factors related to full-day kindergarten. All of the full-day kindergarten teachers made reference to the specific emphasis on literacy during full-day kindergarten: “The entire morning was spent focusing on reading and phonics skills ...” Other comments were related to full-day teachers’ overall confidence in the children’s literacy progress: “I think every one of my students can tell you all the ABCs and all the sounds. I’ve taught kindergarten for five years and I think this is the first year I can say that about every student.” Similarly, another full-day teacher reported that “most of
[the children] are ready for first grade … only a few are still struggling … the rest of the class knows the letters and sounds and how to put words together.” Half-day teachers also expressed success related to literacy achievement; however, their comments expressed much less optimism: “A good majority of them are reading although they’re not reading on level.” Half-day teachers also did not emphasize the amount of time, when compared to other areas of the curriculum, they spent teaching literacy. Thus, we see a qualitative difference in the time teachers reported spending teaching literacy and their overall feelings related to children’s literacy achievement.

In terms of math achievement, there was an overall absence of comments from the teachers, both full- and half-day, related to mathematics instruction and/or student achievement. One full-day teacher made reference to her desire to adjust her instruction next year to emphasize mathematics: “I want to figure out a block in the morning when I can do math.” Another full-day teacher indicated that they spent time in the morning focusing on literacy and mathematics. The half-day teachers made no specific reference to instruction or achievement in mathematics. The sheer absence of teacher comments suggests one possible explanation for the fact that children’s mathematics achievement did not differ when comparing full- and half-day programs. It is perhaps the emphasis on literacy, and the limited use of the

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<tbody>
<tr>
<td>Measure</td>
<td>Length of Day</td>
</tr>
<tr>
<td></td>
<td>Full Day</td>
</tr>
<tr>
<td>Roswell–Chall Auditory Blending Test</td>
<td>19.14 (11.20)</td>
</tr>
<tr>
<td>PPVT-III</td>
<td>39.91 (32.73)</td>
</tr>
<tr>
<td>Woodcock–Johnson III Applied Problems</td>
<td>5.54 (3.33)</td>
</tr>
</tbody>
</table>

Note: PPVT-III = Peabody Picture Vocabulary Test–III; ELL = English language learner.

* $p < .05$. ** $p < .01$. *** $p < .001$. 

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afternoon, that leaves full-day teachers with little time to focus on other areas of the curriculum, such as mathematics.

Teachers made several comments specifically related to ELL students and their academic progress. The majority of these comments were related to the idea that full-day kindergarten gives children “a lot more time to learn English” and/or “time to play with English.” This confirmed the interaction effect that was found for the PPVT-III. That is, ELL students in full-day kindergarten had significantly higher scores on the PPVT-III, a measure of oral language. The only reference to ELL students by the half-day teachers was a reference to the difficulties associated with adapting instruction to meet the unique needs of ELL students in a short school day. In sum, the full-day teachers emphasized the opportunities for children to hear and use English, and half-day teachers indicated the difficulties associated with meeting the needs of children who come from linguistically diverse backgrounds.

Overall, teachers emphasized a focus on academic progress for both ELL and non-ELL students. Although this set of responses confirmed the quantitative findings, it is also important to note a few of the teachers’ comments related to their concern that there is an overemphasis on academics in kindergarten at the expense of other areas (i.e., social, emotional, physical). These comments were primarily made by the half-day teachers, although nearly all of the teachers made reference to making kindergarten a place where teachers can focus on the development of the whole child and not just academics.

Although absences was not a category that emerged from the qualitative data, it is interesting to note that the number of days children were absent was only a concern for the half-day teachers. The full-day kindergarten teachers made no reference to children’s attendance patterns. In contrast, the half-day teachers referred to absences as one of the “biggest hindrances to progress.” It is clear from both the quantitative and qualitative data that children in half-day programs were more frequently absent compared to their peers in full-day programs.

**DISCUSSION**

Research examining the efficacy of full- and half-day kindergarten experiences on children’s academic outcomes demonstrates that children in full-day settings fare better on measures of language, literacy, and math achievement (Baskett et al., 2005; Cryan et al., 1992; Puleo, 1988; Yan & Lin, 2005). Despite such research, and the prevalence of programs targeted toward linguistically and economically diverse populations, relatively little attention has been given to the impact that these programs have on second language learners. Given such limitations, the current research study contributes to the research literature on full- and half-day kindergarten in a number of important ways.
First, we found that, regardless of child language status, full-day kindergarten positively impacted children’s literacy performance on measures of rhyming, alphabet knowledge, letter sound associations, spelling, word recognition, blending, and oral language (receptive vocabulary). This benefit was clearly recognized by teachers implementing full-day programs. For example, full-day kindergarten teachers articulated how having more time with the children improved their ability to delve “deeply” into the literacy curriculum and also contributed positively to their excitement and confidence in children’s literacy knowledge and development. Although the teachers in half-day settings also commented on children’s developing literacy skills, they expressed less confidence in their students’ skills and greater concern about how many children were still considered below grade level. For the full-day teachers, the lengthening of the school day appeared to help them focus their instruction more on meeting the individual needs of children (in literacy) and allowed them to spend more time on curriculum that they valued.

In addition, it is interesting to note that, although ELL students did not appear to benefit more from full-day kindergarten in regard to overall literacy development than their non-ELL peers or the ELL students in the half-day setting, they did appear to benefit more in the area of language development (receptive vocabulary). This is perhaps not surprising given that ELL children in full-day settings potentially had more experience than ELL children in half-day settings hearing and speaking English. In fact, full-day teachers commented on how the full-day program benefited their ELL students by allowing them more time to learn and play with English. This language exposure was clearly evident in children’s gains in oral language skills. In contrast, half-day teachers did not emphasize the impact that their curriculum was having on ELL students’ language growth. Rather, teachers commented on the difficulty they experienced in adapting instruction to meet their children’s diverse language needs. Such views appear to reflect the limited time that half-day kindergarten teachers felt they had to meet the needs of ELL students and may also reflect their general frustrations with the challenge of meeting the needs of linguistically diverse children within the time constraints of a half-day kindergarten program (approximately 3.5 hr).

Our finding that children in full-day settings are significantly advantaged in regard to literacy growth over their peers in half-day settings is supported by previous research (Baskett et al., 2005; Cryan et al., 1992; Yan & Lin, 2005). Unlike previous research, however, we considered what impact such programs have on both ELL and non-ELL children’s literacy, and language skills. What is particularly interesting about our results is that both ELL and non-ELL children in full-day programs benefited more significantly in regard to literacy skills than their peers in half-day settings, and ELL children in full-day settings experienced significantly larger gains in oral language development than all other children. These findings are important because of research demonstrating the way that full-day programs are being used in many schools as a compensatory program aimed at in-
creasing minority children’s academic achievement, particularly those with diverse language backgrounds. The positive literacy gains experienced by students suggest that teachers in the full-day program are finding success in teaching reading skills to all children regardless of their language background.

Despite literacy and language gains, there was no difference between children in full- and half-day settings on math achievement. In fact, children's scores, regardless of program, on the math measure employed for this study, evidenced little growth. One reason for this finding may be explained through teachers’ statements regarding the limited focus in their curriculum on math skills. For example, teachers in full-day settings acknowledged that did not feel as successful in math instruction and primarily focused on math concepts in the afternoon when children were more tired. In contrast, half-day teachers did not make any comments regarding their teaching of, or their children’s development of, math knowledge. Our findings suggest that teachers were not attuned or focused in their teaching toward helping their children acquire math skills. Although previous research has documented positive effects for full-day kindergarten programs on children’s development of math knowledge (Cryan et al., 1992; Yan & Lin, 2005), our findings suggest that children in full-day programs did not outgain their half-day peers. This is most likely an indication of the instructional focus of schools or teachers on the need to guarantee that all children begin first-grade reading “at grade level.” Such a conjecture is supported by teachers’ comments about the need to focus on literacy skills as well as a general consensus in the field of education about the extreme importance of helping children develop the necessary reading and writing foundation before first grade (Alexander & Entwisle, 1988; Snow et al., 1998). One concern raised by this finding is that in order to meet accountability pressures, teachers may be ignoring large portions of the curriculum that are important to promoting the development of the whole child (Bowman et al., 2001).

Second, our data contribute to the larger literature on the effects of full-day kindergarten programs on children’s academic achievement by focusing on the impact that children’s attendance patterns have on achievement. Surprisingly, we found few relationships between children’s attendance patterns in kindergarten and their achievement, with one exception. Students who missed fewer than 10 days of school in full-day programs performed significantly better on oral language development than children in full-day programs who missed more than 10 days. It appears that children who had more absences from full-day kindergarten also missed out on important language experiences. Our finding appears to complement research examining the impact of early childhood environments on ELL children’s language development (Swanson, Saez, & Gerber, 2006) and to speak to the importance of kindergarten classrooms as a place where young children have significant opportunities to hear and participate with peers and teachers in language experiences (Bowman et al., 2001; Lesaux, Rupp, & Siegel, 2007). What is odd about our finding is that we did not find that attendance patterns impacted lit-
eracy or math gains. Given the policy implications that are associated with attendance in kindergarten programs, additional research should continue to examine this association and explore the impact of attendance on outcomes.

One criticism of previous kindergarten research is that few studies have considered the differences between full- and half-day programs in terms of instructional quality. Given previous research documenting the impact of early childhood experiences on children’s growth and development (Bowman et al., 2001; Burchinal & Cryer, 2003; Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Burchinal et al., 2000), examining the instructional quality of kindergarten environments appears tantamount in understanding whether the effects of full- and half-day programs are a result of a lengthening of the school day or a result of positive improvements to instruction. In this study, full-day and half-day settings did not differ on measures of instructional quality. This finding suggests that it was the length of time that children spent in full-day settings that positively contributed to their literacy development. Hence, for these full-day kindergarten teachers, the positive effects seen on children’s early literacy skills appear to be a result of having more time to instruct children in early literacy skills, not a result of an overall improvement in the quality of instruction compared with half-day programs. Teacher interviews suggested that teachers in full-day programs felt that the extra time in kindergarten allowed them to delve deeper into the curriculum and help students attain important literacy skills. In contrast, the half-day teachers expressed concern that the overemphasis on academics took away from a more developmentally appropriate approach to instruction and was not congruent with their views of quality kindergarten instruction.

This finding may be viewed as being at odds with other studies that have examined instruction in full- and half-day settings. For example, Elicker and Mathur (1997) found that children in full-day kindergarten programs tend to spend more time in child-directed, individual work and free-play activities than children in half-day settings. Although documenting how children spend their time in full- and half-day settings is important, our measurement of instructional quality related less to time spent in activities and more to the teachers’ management style, emotional climate, and instructional support. In other words, one reason we may have found no difference between half- and full-day settings relates to how it was measured. As the CLASS is an observational instrument that rates instruction, it may not be finely tuned enough to capture variation in instructional formats (i.e., time spent in different types of activities, such as child-directed vs. teacher-directed formats). It is possible that distinct differences existed between full- and half-day teachers but that we failed to capture those with the CLASS observation.

Although it is possible that the CLASS failed to document ways in which the full- and half-day classrooms differed as a result of the measure, an alternative explanation for finding no difference between full- and half-day programs may be a result of teachers simply using the full-day setting to participate in “more of the
same” types of instruction. This explanation seems quite possible, particularly when one considers that teachers were implementing full-day kindergarten for the first time. Full-day kindergarten teachers’ articulation regarding their curriculum focus appears to support this assertion. For example, teachers’ comments suggested that they were grateful for the extra time that the lengthening of the school day gave them to teach literacy skills and gave them more time to go in-depth and be more comprehensive with their curriculum. Despite such comments, teachers failed to articulate how the lengthening of the school day allowed them to dramatically change or improve the quality or nature of their instruction. For example, the full-day allowed teachers more time to help children build a strong literacy foundation, as evidenced by their comments about their literacy curriculum and children’s literacy scores, but they did not seem to use the time to focus on other areas of development or learning. This assertion also appears to be supported by the evidence that children’s math scores did not differ by program.

Finally, with regard to instructional quality, it should be noted that the quality of all of the kindergarten classrooms was certainly adequate by CLASS standards, but not necessarily high (Pianta & La Paro, 2003). Rather, our findings, which echo the results of recent national research studies (i.e., National Institute of Child Health and Human Development, 2002; Pianta et al., 2002) suggest that many early childhood classrooms are often high in emotional support but may lack intentionality of teaching. In other words, most early childhood classrooms provide happy, comfortable learning environments but lack instruction that is sufficiently systematic and/or explicit. Pianta and La Paro suggested that improving the quality of such “academically passive” classrooms should be the main priority of policymakers and other educational stakeholders (p. 28). We echo this suggestion by contending that examining the quality of early childhood classrooms (regardless of the length of day) is a much-needed educational priority, particularly in light of the fact that such programs are often targeted toward linguistically diverse children, and, to date, our understanding of how these children fare in such settings is still limited (Tabors & Snow, 2001). In fact, examinations of teacher interviews revealed that, beyond giving them more time to focus on literacy skills, teachers had very little to say about how the length of the school day helped their instruction become more culturally or developmentally responsive to children’s diverse needs.

Limitations

Although the demographics demonstrated a diverse sample, the sample size of this study was small, which limited the researchers in evaluating interactions and effect sizes. In connection with the sample size, there was also a sizable attrition rate among students, especially in the half-day program. These limitations affect the generalizability of the findings. Additionally, teachers in full-day programs were in their first year of implementation, which may have influenced their instruction
and overall feelings about their full-day kindergarten programs. However, this may also add to the value of the study, as policymakers need to carefully consider the support teachers and administrators will need as they begin full-day kindergarten programs to ensure immediate success, particularly as it pertains to instructional quality and ELL students’ academic achievement.

Policy and Practice

The prevalence of full-day kindergarten programs has greatly increased during the past 20 years, with new programs being increasingly targeted toward minority children who live in poverty and who are diverse language learners (Lee et al., 2006; Vecchiotti, 2003). In the current study, teachers and administrators viewed the full-day kindergarten program as a way to level the playing field for second language learners by providing them with the language and literacy experiences to help lessen the performance gap between ELL and non-ELL children. Although calls to view kindergarten as an important public policy opportunity are not new (Vecchiotti, 2003), the growing prevalence of kindergarten programs being used as early intervention environments, in part to meet the accountability pressures of the No Child Left Behind legislation, is unexplored. Furthermore, additional research related to the relationship between instructional quality and children’s academic achievement, regardless of language status, is needed to make informed policy and practice recommendations.

Ultimately, we must improve the quality of kindergarten programs for all children while remaining aware of the critical need to address the quality and appropriateness of programs that are being provided as early intervention services for ELL students. Given that teachers in this study who implemented full-day kindergarten did not talk about how they were making their instruction culturally responsive to diverse learners, beyond discussions of how it allows children extra time to experience English and strengthen their literacy skills, the need for additional professional development opportunities for teachers in these programs appears great. Because kindergarten is not currently mandated in the majority of U.S. states (Vecchiotti, 2003), there is more variability in children’s attendance patterns for kindergarten than for upper elementary grades. This not only has funding implications, but also, as the findings from this study suggest, may impact children’s academic achievement—particularly in relation to language development. We do, however, make this recommendation cautiously, as we cannot have our whole focus in kindergarten on children’s academic development. Rather, as others in the field suggest (National Association for the Education of Young Children, 2005a, 2005b, 2006), we advocate for kindergarten programs that espouse curriculum that meets the cultural and developmental needs of all children in U.S. schools by promoting the development of the whole child—particularly the social and emotional development. Because previous research documents the importance of these skills
to children’s later development (see Raver, 2002, for a review), we must continue to work to create kindergarten programs (both full- and half-day) that meet the needs of all children and that are not focused solely on academics. In sum, this requires adequate funding, well-prepared teachers, culturally sensitive pedagogy, and additional time with children.

Future Research

Although the findings from this study are encouraging, the limitations mentioned above raise questions regarding the effectiveness of full-day kindergarten on children’s developmental outcomes, particularly those of children with second language backgrounds. In addition, more research is needed to determine the long-term effects of full-day kindergarten on children’s academic achievement. This requires longitudinal studies that track children’s progress as they move into the primary grades. This research should pay particular attention to the contribution that such programs have on linguistically and economically diverse children’s development after the termination of such programs. In addition, more research is needed to examine how teachers in full-day classrooms are spending instructional time and how they may or may not be adapting pedagogy to meet the needs of diverse learners. To date, very few studies have examined how teachers plan and implement curriculum in full-day kindergarten settings and how their choices impact children’s academic and social development, particularly for children who are learning a second language. Finally, given the concerns of the teachers in this sample regarding the academic demands of full-day settings on young learners, additional research is needed to compare full-day programs with one another to determine which components of a full-day program lead to positive outcomes in children’s development of social skills and academics. Such studies would allow educators and policymakers to better understand the components that are most important to children’s overall growth and help them make appropriate decisions about developing and funding high-quality kindergarten programs.

REFERENCES


