

# Effectiveness of Kindergarten Scheduling

Early findings from Pasco, Washington, School District's comparison of half-day, full-day, and full-day alternate programs show no significant differences among the three in children's achievement, classroom behavior, study habits, or social skills.

*When our school district first considered changing from half-day kindergartens to an alternate-day program, I was so opposed to it philosophically that my wife and I considered moving out of the district.*

*However, the school board committed the district to a two-year trial period to compare the two schedules; one year half-day, the other alternate-day.*

*As it happened, our son was scheduled for the alternate-day program. We went along with it, reluctantly.*

*I have to admit that our son took to school like gangbusters. He had absolutely no difficulty with an alternate-day schedule. As far as we could see, none of the problems we had worried about materialized.*

Those were the words of a Wisconsin school administrator whom we talked to while Pasco School District was studying the merits and drawbacks of half-day vs. full-day kindergartens. When a neighboring district changed to an alternate-day schedule a few years ago, many of us in the district were pessimistic about its chances for success. Pasco had always had traditional half-day kindergartens. But the sky didn't fall.

Next, a principal in Pasco requested that her school change to a full-day alternate-day schedule on a trial basis. At the end of the trial year, the teachers, the principal, and most of the parents seemed very much in favor of the change.

The teachers favored the change in schedule because it gave them the

equivalent of an extra half day each week of learning time. They found that:

- they were able to teach a concept and provide reinforcement activities all on the same day,
- field trips were easier to schedule,
- the day was more relaxed as they didn't have to clear away a morning activity to make way for the afternoon group,
- the children liked going to the lunchroom, and
- parents appreciated having younger children accompanied on the bus by older siblings.

*Photographs by Mike Lafferty*



*Pasco teachers favored the full-day alternate-day schedule because they could teach children a concept in the morning and provide reinforcement activities—all on the same day.*

The praises rang out, and a second school in the district requested to change to a full-day alternate-day kindergarten.

At the same time, the bilingual program coordinator won board approval for a full-day every-day kindergarten to be introduced in another school to serve minority and other at-risk children.

Fearing that the camel's nose was in the tent, the forces of opposition began gearing up. Teachers favoring a half-day program published a list of concerns. They felt the half-day program was more in keeping with the five-year-old's developmental needs. Quality of learning time would be lower in the second half of an all-day program because of children's fatigue than it would be in two half-day programs. The lack of continuity would affect learning retention, making it necessary to use extra time for review. Confusion for parents and children resulting from intermittent attendance would lead to insecurity and absences. The district was soon divided into two camps. Both sides had unassailable arguments supporting the merits of their preferred schedule and disputing the opposition's viewpoint.

## Comparing Kindergarten Schedules

There is a sweeping trend nationally to change half-day kindergartens to full-day programs. In 1969, less than 10 percent of kindergarten children were in full-day programs; by 1982, this figure had risen to 31 percent. A 1984 survey by Humphrey reported that in



*Observers found little difference between half-day and alternate-day in the average time spent in academic activities that promoted child conversation, but alternate-day programs averaged over 25 percent more time in nonacademic activities that provide conversational opportunities.*

Hawaii and North Carolina 100 percent of the children are in full-day programs, that in 11 states more than 50 percent are, and that in 10 states 25 percent or more attend full-day kindergartens. Most of these programs meet daily; however, the alternate-day model predominates in eight states.

In an attempt to view the issues more objectively, Pasco School District is conducting a major study of the three kindergarten schedules (full-day every-day, full-day alternate-day, and half-day every-day) in the district. In comparing our first-year findings to those of other districts that have done similar studies, we note certain concerns that will probably emerge whenever the issue is being debated. Study findings also seem to follow a common pattern.

For instance, possible fatigue and stress from an all-day program always seems to be an issue, at least according to parents interviewed in the studies. In our study, a team of 14 observers recorded actual behavior throughout the day in classrooms following the full-day or half-day schedules. Each observer was assigned one or more full-day classrooms and two or more of the half-day classrooms, including

both morning and afternoon sessions. They then made comparisons based on actual observed behavior in these classrooms on a number of different issues, such as whether children showed more fatigue in one schedule than another and whether any parts of the day appeared to be less productive for learning.

None of our observers found evidence of greater fatigue experienced by children in full-day than in half-day classrooms. A sample comment was that children "wilted briefly after lunch but were soon off and running in the afternoon program." The observers also unanimously found that the full-day schedule did not appear to result in less productive learning time than the half-day schedule.

Our parent survey confirmed these findings. If parents mentioned fatigue at all, the most common response was to say that their child had a little difficulty adjusting to the schedule at the beginning of the year but that this lasted only a few weeks.

Similar findings came from other studies. Smith (1980) reported that "fatigue experienced by the all-day children quickly subsided as the children adjusted to their new routine"

and "[the full-day program] satisfactorily meets the energy level of children and does not make excessive demands on their energy resources." Cleminshaw (1979) found "no serious disadvantages to a child's energy level [in a full-day program]." Anderson (1985) concluded that "fatigue was not a significant factor in either the full-day or half-day classrooms."

Another common area of concern is how different classroom schedules affect classroom behavior, study habits, and socialization skills. The Wisconsin school district study (Slaney 1984) seemed the most creative in seeking sources of data on child behavior patterns indicating adjustment to school and work habits. They:

- asked school bus drivers to keep records on children's bus behaviors for the two years the different kindergarten schedules were being tried,
- videotaped children on the playground, looking for hidden aggression or differences in socialization patterns,
- analyzed the extensive report card data on child study habits,
- interviewed students, and
- asked teachers to keep an observational checklist.

From all of these data sources they

**“The majority of parents who responded to our survey indicated that whichever model their child was in would be their ‘first choice’ for another child entering kindergarten.”**

concluded that “the students attending the full-day alternate-day program adjusted to school as well as or slightly better than the students attending the half-day every-day program” and that “students attending the full-day alternate-day program developed as good as or slightly better work habits than students in the half-day every-day program.”

All the studies compared cognitive gains and language development. In our study we used 13 different measures of academic achievement and receptive and expressive language skills. Only one of these tests, the Peabody Picture Vocabulary Test, showed a significant difference for a matched sample of children drawn from half-day and alternate-day programs. On this test, results favored the alternate-day schedule. The remainder of the tests showed no significant differences between the two models.

This pattern of test scores also reflects the most common finding in nine other studies reviewed that made a total of 62 statistical comparisons between achievement of children in half-day and alternate-day programs. Out of these, 31 reported no significant difference between half-day and alternate-day. Of the remainder, 24 favored the alternate-day model and 7 the half-day program.

### **No Significant Difference**

Adding the 13 test comparisons from our study to the above 62, we note that the most common finding (57 percent) in examining these two models is “no significant difference.” Where a significant difference did exist, there was a slight edge in favor of the alternate-day schedule (33 percent favored alternate-day compared to 9 percent that favored half-day). Since the two models represent approximately equal amounts of school time, the overall finding that children learn about as well in one as the other is probably not too surprising.

In comparing half-day with full-day every-day programs, a different picture emerges, highly favoring the full-day programs. We located another nine studies that compared half-day every-day and full-day every-day kindergartens. These studies made a total of 64 comparisons using different test instruments. Forty (64 percent) favored the full-day every-day kindergarten, and the other 24 (37 percent) showed no significant differences. None of the studies found half-day programs to produce greater achievement gains than full-day every-day.

During the first year of our study we collected and analyzed data from our full-day every-day kindergarten program and found no significant differences on any of the 13 tests between the half-day and full-day every-day children. However, the composition of the full-day every-day class was so weighted by poor and minority children that an appropriately matched sample could not be made. (There were 81 percent poor and 81 percent minority children in this model, which was approximately twice the proportion of poor or minority children enrolled in either of the other kindergarten models.) A second-year study with a more balanced group of children in the full-day model is in progress and should produce more definitive data.

### **What About Poor and Minority Children?**

We were also interested in knowing which kindergarten schedule was most advantageous for minority and poor children since these groups represent a growing proportion of the student body in Pasco School District (minority enrollment jumped from 19 percent in 1974 to 34 percent in 1984, and more than half the district chil-

dren now qualify for free or reduced lunch).

We compared a matched sample of children from the half-day and the alternate-day programs that had the same proportion of poor/nonpoor and minority/nonminority children. Poor children (defined as eligible for free or reduced lunch) fared better in the alternate-day schedule on 10 of the 13 tests, including six tests of language skills (three measuring receptive skills and three expressive language). Nonpoor children also scored higher in the alternate-day program on 9 of the 13 tests, including all 6 of the language tests. However, none of the differences were large enough to be statistically significant for nonpoor children, and only one difference (receptive vocabulary) was statistically significant for the poor children.

Minority children also had higher scores in the alternate-day program for all six language tests. This superiority was only statistically significant on one test, again the test of receptive vocabulary. However, in the other seven tests (two on reading skills, three in math, one handwriting, and one recognition of colors) minority children scored higher in the half-day program. In two of these (both in math skills) the differences were statistically significant.

Nonminority children had an opposite pattern of test scores. They scored higher in the alternate-day program in math (none significant) and higher in the half-day program in three of the six language tests (one significant)



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with an equal mean score in two other of the language tests.

Our observational data suggested a possible explanation for the consistent finding that poor and minority children made greater gains in language in the alternate-day program. Classroom observers reported the number of minutes in each classroom spent in activities that permitted child-initiated conversation and interaction. These included academic activities such as center time (small-group activities), "sharing time," "language experience," field trips, or cooking activities, and so forth, as well as nonacademic activities such as snack periods, lunch, recess, and cleanup periods after art or center activities.

The observers found very little difference between half-day and alternate-day in the average time spent in academic activities that promoted child conversation or in time spent in language arts instruction. However, alternate-day programs averaged over 25 percent more time in nonacademic activities providing opportunity for child conversation. The amount of language learning that takes place over lunch and on the playground is not to be underestimated. It would follow, as our test data indicate, that the longer day in school in the alternate-day schedule would make more difference to the child from a poor home environment or one in which little English is used, than it would to children from an enriched home environment or whose home language is English.

### Change Inevitable but Painless

With all of these forces at work, it seems inevitable that the traditional kindergarten pattern will undergo many changes. We noted with interest that over 85 percent of the parents of children enrolled in each of the three kindergarten schedules in Pasco School District last year reported that their children's schedule had "worked well." And the majority of parents who responded to our survey indicated that whichever model their child was in would be their "first choice" for another child entering kindergarten.

Like our colleague in Wisconsin describing his reaction to sending his son to an alternate-day kindergarten, we believe that the anticipation of change can often be more traumatic than the change itself. □

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