

Summary of Research Full-Day Kindergarten

February 2001

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Introduction

Full-day kindergarten is being instituted and studied in school districts across the country. Arguments used by full-day kindergarten advocates include (1) all kindergarten-aged students need a safe and enriching environment for more than 2 ½ hours per day; (2) students who are delayed cognitively, physically, socially, or emotionally benefit from having more time to obtain support and to practice skills in the areas of delay; (3) full-day kindergarten can help level the playing field for those students who were not afforded quality preschool experiences; (4) teachers can individualize instruction better if they are given half as many students for twice as much time; and (5) our society needs its children to acquire important competencies earlier in their school careers. Many kindergarten teachers favor full-day kindergarten because they find it difficult to balance cognitive activities and affective/social activities in the short kindergarten day. Working parents appreciate the benefits of the full-day kindergarten schedule to their work schedule, since it reduces the number of transitions their children experience each day (Housden & Kam, 1992).

There are two major types of full-day kindergarten. Jones et al. (1988) wrote about the benefits of having at-risk children repeat a half-day kindergarten session for a second half-day every day. There were significant improvements in cognitive and physical maturity and some improvements in social and emotional maturity among at-risk students in the Ohio County Schools who received identical kindergarten programs in two half-day kindergarten sessions each day. A study by Oliver (1980) indicated that additional time for cognitive activities was a significant factor in preparing students for reading.

The second type of all-day kindergarten program uses a curriculum that is developed for kindergarten-aged children and plans for 5-6 hours of instruction per day. Morning activities are not repeated in the afternoon session. Instead, more time is devoted to social and enrichment activities. This type of program is usually offered to all kindergarten students.

The practice of scheduling kindergarten students for only half-day has been more a function of economics (less expensive to schedule two groups of children for half-day each) than of early childhood

education concerns. Many kindergarten children who do not attend full-day kindergarten attend a preschool program or are in daycare for the remainder of their day, so full-day kindergarten is not more taxing for them. In 1988, about 23 percent of kindergartners attended full-day kindergarten (Karweit, 1988). In 1993, 55 percent of kindergartners were in full-day programs. Students were more likely to be in full-day programs if they were in high-poverty and/or high-minority schools (Heaviside et al., 1993). State and federal funding for at-risk students often funds or supplements the funding of all-day kindergarten. Policy makers are interested in finding out if full-day kindergarten is the best use of school resources and if some programs are more effective than others.

Early researchers found that disadvantaged children did reap greater short-term benefits from full-day programs than from traditional half-day kindergarten (Chicago Public Schools, 1985; Herman, 1984; Nieman and Gastright, 1981; Karweit, 1988). Findings were less conclusive regarding long-term benefits, although the evidence suggested that full-day kindergarten graduates experienced many of the same benefits as those who attended preschool. Indeed, Neiman and Gastright found that disadvantaged children who attended preschool and full-day kindergarten out-performed their counterparts who did not attend preschool and attended only half-day kindergarten.

Studies have also found some disadvantages of full-day kindergarten programs. First, some teachers and parents think more time with students equates with a more formal, academic curriculum. Such a curriculum is not age appropriate. Second, addition of full-day kindergarten is expensive, and the brain research indicates that the best use of additional education funds may be for preschool programs. Finally, a few longitudinal studies involving at-risk students show that gains made during the kindergarten year are lost by the end of the first grade year (Martinez, 1991).

In the past, problems with full-day kindergarten studies included the following: there was no comparison group, children were not followed past their kindergarten or first grade year, sample sizes were small, and the only outcomes studied were academic outcomes. As more districts add full-day kindergarten, more rigorous, longitudinal studies that include more outcomes are being conducted. Several such studies are referenced in this paper.

As of 1996, twelve states had a policy requiring local education agencies to offer full-day kindergarten (Ohio Legislative Office of Education Oversight, 1997). These states have evidently been convinced by the research that full-day kindergarten does prepare students for success in school and is worth the additional resources.

States That Require Full-day Kindergarten to be Available

Districts Must Offer Full-day Classes	Student Attendance Required?
Alabama	No
Arkansas	Yes
District of Columbia	Yes
Florida	Yes
Georgia	No

Mississippi	No
North Carolina	No
North Dakota	No
South Dakota	No
Texas	No
Vermont	No
Virginia	Yes
West Virginia	Yes

Important Issues Regarding Full-Day Kindergarten

In the last few years, researchers have collected quantitative and qualitative data about full-day kindergarten in an attempt to answer the following questions:

1. What should the full-day kindergarten curriculum look like?
1. What do kindergarten teachers think about full-day kindergarten?
1. What do parents of kindergarten children think about full-day kindergarten?
4. What are the benefits of full-day kindergarten for the children?
5. If there are benefits for children from attending full-day kindergarten, do these benefits continue into the children's subsequent years of schooling?

Answering the questions is important, since districts must add space, teachers, and materials if they decide to move to full-day kindergarten. Scientific evidence is needed to determine if full-day kindergarten is the best investment of additional resources. Unlike many of the earlier studies, which included full-day kindergarten impact data only, more recent studies have included process as well as impact data to answer the questions. The premise of these studies is that factors, such as teacher training and appropriate curriculum, affect the results of full-day kindergarten as much as length of time spent at school.

1. What should the full-day kindergarten program/curriculum look like?

Three studies will be the focus of this section, although other studies will be referenced. Hough and Bryde (1995) conducted a study in a mid-sized district in the Midwest. Schools within the district were matched on the following factors: geographic location, school size, student norm-referenced test data, and socio-economic status of patrons. Seven control schools were selected, based on the matching criteria, to join the six pilot schools in the study. There were twelve full-day classrooms, eight half-day classrooms, and five extended-day classrooms included. Classroom observations; student, teacher, and

parent focus groups; report cards; parent and teacher survey questionnaires; and norm-referenced assessments were used to collect the data. Elicker and Mathur (1997) conducted a study in a middle-class midwestern community. Twelve kindergarten classrooms (four full-day and eight half-day) were observed over a two-year period. Children in all classrooms were offered an activity-based, child-centered program. Children were randomly assigned. Among the multiple measures used to collect data for the study were parent surveys, a pre-kindergarten screener, classroom observation, teacher interviews, report cards, and first grade readiness ratings. Teacher and parent surveys, a parent focus group, teacher interviews, classroom observation, social skills checklists, and norm and criterion referenced assessments were the methods used in the two year long Martinez and Akey (1998-99) evaluation of a full-day kindergarten program in a suburban Kansas City district. The full-day kindergarten teachers and students were selected by virtue of being in the school chosen for the pilot full-day program. Children in four full-day classrooms and eight half-day classrooms were included in the study. Readiness screeners indicated no significant difference in kindergarten readiness at the beginning of the kindergarten year between the full-day and half-day students.

Findings from all three studies indicated that full-day kindergarten programs that are appropriate for kindergarten age children provide cognitive, social, physical, and emotional benefits for children. Children in the full-day programs studied spent more time in small groups and in child-to-child social interactions (Hough and Bryde, 1995). Full-day students initiated more activities, received more one-to-one instruction, and spent less time in teacher-directed groups (Elicker and Mathur, 1997; Martinez and Akey, 1998-99). Additional class time was used to teach social skills, reinforce concepts taught earlier in the day, and allow students more free play time. A smaller percent of time was spent in transitions. Full-day teachers spent more time helping children complete challenging tasks, develop friendships, resolve conflicts, and understand other points of view (Martinez and Akey, 1998-99). Elicker and Mathur (1997) and Martinez and Akey (1998-99) found no evidence of any detrimental effects of developmentally-appropriate full-day kindergarten.

Full-day kindergarten programs are not developmentally-appropriate, according to the experts, when the purpose is to cram more curriculum into the day to teach 5-year-old children material that should wait until first grade. According to Karweit (1992), the major challenge facing kindergarten teachers is to provide developmentally- and individually-appropriate learning environments for all kindergarten children in an era of high-stakes accountability. The following descriptors have been used to explain a developmentally-appropriate environment.

- Because children entering kindergarten vary in maturity, teachers try to integrate meaningful subject matter and draw several lessons out of one experience (Karweit, 1992; Rothenburg, 1995).
- Children and teachers have time to explore topics in depth (Stipek et al., 1995).
- There is a focus on experiential learning and higher order thinking (Emery, et al., 1998; Rothenburg, 1995).
- Child and teacher-initiated activities are balanced (Emery, et al., 1998).
- The importance of play is recognized (Emery et al., 1998; Kaufman, 1997).
- Teachers view themselves as facilitators of learning (Emery et al., 1998).
- Mixed-ability and mixed-age groups are common (Rothenburg, 1995).
- There is a reduction in the ratio of transition time to class time and greater continuity of day-to-day activities (Stipek et al., 1995).
- There is an emphasis on language development and appropriate pre-literacy experiences (Rothenburg, 1995).
- There is a balance of small-group, large-group, and individual activities (Rothenburg, 1995).
- The development of social skills, including conflict resolution, is emphasized (Rothenburg, 1995).
- Children and teachers are less hurried and stressed because more time is devoted to each learning

objective (Kaufman, 1997; Elicker and Mathur, 1997).

- Teachers have fewer children per day, know the children better, and are able to provide more individual attention (Kaufman, 1997).
- Teachers interact with fewer parents and are able to get to know them better and establish teacher/parent relationships that benefit the children (Kaufman, 1997).

Opponents of full-day kindergarten argue that half-day kindergarten can provide a high quality educational and social experience. They also feel that children's attention spans and interest levels are more suited to a half-day program, and that the children become overly tired during a full day of instruction (Emery et al., 1998). Observers of trends in kindergarten scheduling argue that changing the length of the kindergarten day is not as important as making sure that all kindergartners are provided with developmentally- and individually- appropriate learning environments, regardless of whether these programs are full day or half day (Karweit, 1992). They say that worksheets and early instruction in reading or other academic subjects are largely inappropriate in kindergarten, whether half- day or full-day, as is spending most of the day in large-group instruction.

2. What do kindergarten teachers think about full-day kindergarten?

According to teachers, the schedule and curriculum can make or break the program; therefore, the entire program must fit the needs of the five-year- old child. The full-day teachers report feeling less rushed in accomplishing the kindergarten objectives. Teachers state that they have a chance to know children and parents better, to do more individualization of instruction, and to expand the curriculum horizontally. Teachers think that the full-day program might not be right for all children; thus, they recommend making the full-day program voluntary (Hough and Bryde, 1995; Elicker and Mathur, 1997; Martinez and Akey, 1998-99). Elicker and Mathur add that teachers in their study felt children in the full-day programs were better prepared for first grade. Also, teachers say they are able to detect learning problems in the full-day program that would be much harder to see in the half-day. This early detection reduces special education costs down the road (Rothenburg, 1995).

Teacher responses in the Kaufman (1997) study indicated that teachers thought children developed closer relationships and were more relaxed in the full-day program and felt more a part of the school. Teachers indicated they were able to give more individual attention to students and that children had more time to develop both academic and socialization skills. Teachers noted they could work more on the continuing development of each child and felt children showed more advancement. Teachers indicated they felt closer to the children and that they got to know both child and family better. Some indicated in the full day they felt more flexible, were more relaxed and spontaneous, and felt better prepared to meet with parents.

In Elicker and Mathur's evaluation report, teachers perceived the full-day program to be beneficial for teachers, children and families for a number of reasons:

- Participating in full-day eased the transition to first grade, helping children adapt to the demands of a six-hour school day.
- Having more time available in the school day offered more flexibility and more time to do activities during free choice times.
- Having more time made kindergarten less stressful and frustrating for children, because they had time to develop interests and activities more fully.
- Participating in the full-day schedule allowed more appropriate challenges for children at all developmental levels. For children with developmental delays or those "at-risk" for school problems, there was more time for completion of projects and more time for needed socialization with peers and teachers. For more advanced students, there was time to complete increasingly

long-term projects.

- Having full-day kindergarten assisted parents with child care.
- Having more time made child assessment and classroom record keeping were more manageable for teachers.
- Switching to full-day kindergarten gave teachers more time for curriculum planning, incorporating a greater number of thematic units in the school year, and offering more in-depth coverage of each unit.

2. What do parents of kindergarten children think about full-day kindergarten?

Parents' perceptions of their children's success in kindergarten are significantly higher for parents of full-day kindergarten students. Full-day kindergarten parents also report a closer working relationship with their child's teacher. Many appreciate the more relaxed pace and in-depth learning that are possible with additional hours in the day. However, parents believe the full-day program should be voluntary (Hough and Bryde, 1995; Elicker and Mathur, 1997; Martinez and Akey, 1998-99).

Full-day kindergarten saves parents day-care problems, while providing children a comprehensive, developmentally-appropriate program (Rothenburg, 1995). Parents said that children often feel more stress when they have to go from a school situation to a day-care environment, where different rules and philosophies apply (Elicker and Mathur, 1997). Therefore, parents favor a full-day program, which reduces the number of transitions kindergartners experience in a typical day (Rothenberg, 1995).

According to Kaufman (1997), when asked what they liked about the full-day kindergarten program, parents' responses related to the students having more time to socialize, being better prepared for first grade, and thinking it was better for the children to be in one learning environment all day. Parents indicated that the full day resulted in less stress and less pressure and that the children were developing faster academically.

Parents appreciated that teachers were accessible and knew their children well. They also felt more opportunity for participation in their children's education.

There were several programmatic areas parents liked. They thought children had more time for learning and could go into more depth. The full-day program allowed for more variety, more specials, and more enrichment. Parents also indicated an appreciation for the "hands-on" activities which more time allowed. They said that the full-day program affords children the opportunity for exploration as well as focus.

4. What are the benefits of full-day kindergarten for the children?

Fusaro (1997) conducted a meta-analysis of every day kindergarten studies to test the hypothesis that full-day kindergarten children show greater achievement than children who attend half-day kindergarten. Fusaro found 23 studies with data that could be used for the meta-analysis. The result of the meta-analysis indicated that students who attended full-day kindergarten demonstrated significantly greater academic achievement than their half-day counterparts. Fusaro suggests, however, that true experimental design studies, with random assignment of students, would be needed to draw causal relationships.

Cryan et al. (1992), Housden and Kam (1992), and the Evansville-Vanderburgh School Corporation (1988) are among the researchers who have found a range of positive effects of full-day kindergarten. Full-day kindergarten students, as opposed to half-day kindergarten students, are more likely to show

adequate school progress through their elementary school careers. The full-day kindergarten students exhibit more independent learning, classroom involvement, productivity in work with peers, and reflectiveness in their work than their half-day kindergarten peers. They are also more likely to approach the teacher, and they express less withdrawal, anger, shyness, and blaming behavior than half-day kindergartners.

Hough & Bryde (1995) found that full-day students significantly outperformed half-day students on 5 of 9 Reading criteria, 4 of 11 Language Arts criteria, 2 of 13 mathematics criteria, 2 of 9 Personal Development criteria; and on every criterion measured by the Early School Assessment norm-referenced achievement test. Half-day students significantly outperformed full-day kindergarten students on 2 of 8 Social and Physical Development criteria. In the Elicker and Mathur (1997) study, full-day kindergarten students made slightly greater progress in kindergarten, as measured by report cards, and received higher ratings on first grade readiness reports.

In the first year of the Martinez and Akey study (1998), gains on a criterion-referenced assessment, from pretest to posttest, were significantly higher for the full-day students in the area of Number Concepts. There were no significant differences in gains on the other areas of the assessment or on the social/emotional scale. During the second year, students were given a norm-referenced achievement test. The full-day kindergarten students received significantly higher math and listening scores and slightly higher reading scores than half-day students.

The results of the evaluation study on the English-speaking full-day versus half-day comparison in oral language development, early mathematics concepts, and emergent literacy skills all indicated significant differences in favor of full-day kindergarten. The analysis of pre- to posttest ratings of school behavior also indicated that being in a full-day program tended to improve students' behaviors more than being in a half-day program (Wang and Johnston, 1999). In another study, children in child-centered kindergarten programs rated their abilities significantly higher, had higher expectations for success on academic tasks, and were less dependent on adults for permission and approval (Stipek et al., 1995).

5. If there are benefits for children from attending full-day kindergarten, do these benefits continue into the children's subsequent years of schooling?

Evansville-Vanderburgh Schools have had optional full-day kindergarten since 1986 using their own funds. In their program, parents have a choice between full and half-day kindergarten. According to the Indiana Superintendent, Phil Schoffstall, in the 11 years the program has been in existence, only one parent has chosen the half-day program. Evansville students consistently out score the rest of the state in ISTEP testing and he contributes a lot of their success to the better preparation of their students from full-day kindergarten. He also said that although, they are able to fund the program out of their own funds, the school district is greatly in need of funding from the state to continue its successful program (Evansville-Vanderburgh School Corporation, 1988).

Cryan et al. (1992) found that children who attended a full-day program displayed more positive behavior in the classroom, including being more involved in learning experiences, showing original thought, and engaging more in independent learning and self-initiated play than children from half- or alternate-day programs. Full-day kindergarten students were less likely to be dependent, shy, and withdrawn. The benefits seemed to last well into the second grade. Other researchers found that some children (those from lower socioeconomic groups) who attended full-day kindergarten programs rated higher than those who attended alternate or half-day programs in reading, school readiness, and overall academic ability (Neiman & Gastright, 1981; Humphrey, 1983; Jarvis & Molnar, 1985; Elicker & Mathur, 1997).

In first grade, there were lower incidences of negative behaviors and increased incidences of positive behaviors among the children who had attended full-day kindergarten. First graders who had attended full-day kindergarten exhibited more confidence when approaching tasks and significantly higher levels of cooperative social behavior than children who had attended half-day programs (Hough and Bryde, 1995). In the Martinez and Akey study (1998-99), first grade students who had attended full-day kindergarten scored significantly higher in reading, slightly higher in math, and significantly lower in listening than their half-day counterparts on a norm-referenced achievement test. Also, they were referred for special education placement less frequently.

Conclusion

Research shows that most full-day kindergarten students demonstrate somewhat higher academic and social achievement than half-day kindergarten students; however, the higher academic achievement seems to diminish somewhat over time. Full-day kindergarten programs that are appropriate for kindergarten age children have been found to provide cognitive, social, physical, and emotional benefits for children. The majority of teachers and parents of kindergarten children favor full-day programs. Now that half of the nation's kindergartners are in full-day programs, research should be able to show which children benefit the most and if the benefits last throughout a student's school career.

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