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AUTHOR Moore, Mary T.; Funkhouser, Janie
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ABSTRACT

This report provides information about the use of extended time strategies by local Chapter 1 programs and offers practical guidance for district and school staff who are considering adoption of the strategies. The report focuses on five basic strategies for extending instructional time for Chapter 1 students: (1) extended day kindergarten; (2) home-based instruction; (3) before- and after-school instructional activities; (4) Saturday sessions; and (5) summer or extended school year programs. Findings are drawn from research regarding the effectiveness of increased instructional time and Chapter 1 extended time strategies in raising student achievement, and case studies of twelve Chapter 1 extended time projects that represent the basic strategies addressed in this report. An executive summary is provided, followed by an introduction (Chapter 1), which focuses on the report's purpose, the case for extended time strategies, sources of information, and methodology. Chapter 2 summarizes evidence on the value of increased instructional time for students. Chapter 3 describes the design and operation of extended-time Chapter 1 programs in selected districts. Chapter 4 discusses conclusions and implications. Profiles of 11 extended time projects and relevant documentation are provided in appendices. (RH)

MORE TIME TO LEARN: EXTENDED TIME STRATEGIES FOR CHAPTER 1 STUDENTS

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EXTENDED TIME STRATEGIES FOR CHAPTER 1 STUDENTS

Mary T. Moore
Janie Funkhouser

Decision Resources Corporation

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Several Decision Resources staff members contributed to this study. Amy Klein contacted districts to determine their eligibility for participation in the case studies as well as to schedule interviews in each of the selected districts. She also conducted two site visits and provided analytic support for the final report. Elaine Carlson and Susan Hennessy also conducted site visits, interviewing numerous individuals in each district they visited. We thank Saunders Freeland for typing this report.

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EXECUTIVE SUMMARY

Background and Purpose

The final report of the Congressionally mandated National Assessment of Chapter 1 encourages school districts to consider adopting approaches that increase the total time Chapter 1 students receive instruction in subjects such as reading, mathematics, and language arts. The report specifically mentions expanding the use of programs that are scheduled before and after school as well as in the summer as a means to increase Chapter 1 pupils' instructional time and, in turn, to improve their academic achievement (Birman et al., 1987). In school year 1985-86 fewer than 10 percent of all schools used these approaches to provide Chapter 1 instruction.

Commissioned by the Planning and Evaluation Service of the U.S. Department of Education, this report broadens the available knowledge about the use of extended time strategies by local Chapter 1 programs and generates practical guidance for district and school staff to follow as they consider adoption of these strategies. The report focuses on five basic strategies for extending instructional time for Chapter 1 students: extended day kindergarten, home-based instruction (excluding homework), before and after school instructional activities, Saturday sessions, and summer or extended school year programs.

The findings assembled in this report are drawn from two major sources: (1) existing research regarding the effectiveness of increased instructional time and Chapter 1 extended time strategies in raising student achievement; and (2) case studies of 12 Chapter 1 extended time projects representing the five basic strategies addressed in this report. The 12 projects comprising the case studies all exhibit some success in raising the academic performance of Chapter 1 students.

Lessons from Research

Recommendations for adoption of extended time strategies to serve Chapter 1 students rest on the generally accepted view that increases in the time students are exposed to instruction in a subject will lead to subsequent gains in achievement in that subject, and the observation that Chapter 1 programs, on average, only modestly increase the total amount of time students receive instruction in reading and mathematics. Estimates place the increment in instruction for Chapter 1 students at about 10 to 15 additional minutes each day (Rowan et al., 1986).

Three conclusions emerge from the research reviewed in this report supporting the potential of extended time strategies to improve achievement among educationally disadvantaged youth:

- Increases in instructional time will consistently produce increases in student achievement when staff use this time effectively.

- The effective use of time involves instructional practices that research has associated with enhanced student learning. These include appropriately challenging curricula, individualized instruction, small instructional groups, direct and indirect teaching techniques as appropriate to the academic skills being taught, classroom management that conveys order and a seriousness of purpose, and parent involvement in the instructional process.

- Increases in instructional time may be especially beneficial for low achieving students, who may require more time to master specific skills or acquire the thinking skills necessary to function effectively in the regular classroom.

Lessons from Chapter 1 Extended Time Projects

The experience of the 12 Chapter 1 extended time projects selected for case studies reveals that:

- Extended time projects can substantially increase the amount of instructional time available to participating students; however, exact amounts will vary depending on the design of individual projects.

- Except for the kindergarten and private school projects, the instruction from the Chapter 1 extended time projects adds to the Chapter 1 instruction students receive during the regular school schedule. Briefly stated, Chapter 1 pupils in these projects receive a "second helping" of instruction funded by Chapter 1.

- The instructional designs of several Chapter 1 extended time projects emphasize enrichment as opposed to remedial drill and practice.

- All the Chapter 1 extended time projects use some practices associated with effective instruction, but the combination of practices and their emphasis varies across projects.

- All the Chapter 1 extended time projects encounter problems with attendance, transportation, staff availability, and student attitudes, but they are able to resolve or accommodate these problems.

Guidance for Districts and Schools Adopting Extended Time Strategies

The varied experiences of the districts and schools presented in this report clearly indicate that several alternatives exist to extend students' instructional time through Chapter 1 programs. Currently the evidence about the superiority of any one approach is insufficient. However, some common lessons emerge from the range of projects examined that are likely to prove helpful in the design of extended time projects elsewhere. These lessons are:

- Plan for the effective use of added instructional time. This entails including curricular materials that are appropriately challenging and instructional methods that are paced to engage students and facilitate mastery.

- Anticipate the need for techniques to foster attendance. These include challenging lessons as well as accommodating schedules, frequent parental contact, awards for attendance, and communicating high expectations for students' attendance.

- Incorporate decision-making roles for instructional staff. Aspects of the design and implementation of projects need to fall to teachers working directly with the students.

- Be prepared to resolve or go around obstacles, such as securing appropriate space and qualified staff, competition with other activities, and the availability of transportation and crossing guards, to name a few.

- Formally evaluate student progress as well as the effectiveness of program components. The continuation of a program and determinations about which components to expand or improve require the information developed through evaluations.

Limitations of this Report

This report is not comprehensive of all strategies for increasing the instructional time available to Chapter 1 students through extension of the regular school schedule. The search for projects using such strategies failed to identify approaches that also may have promise for increasing educationally disadvantaged students' achievement. Subsequent research may be able to explore the following approaches absent from this effort:

- Chapter 1 schoolwide projects that incorporate increases in instructional time for students;

- Chapter 1 extended time projects directed at secondary school students; and

- Chapter 1 extended time projects that are the exclusive source of Chapter 1 instruction for Chapter 1 students.

CHAPTER 1

INTRODUCTION

Purpose

Twenty years of accumulated research indicates that Chapter 1, the federal government's compensatory education program designed to improve the educational performance of low achieving students from poor neighborhoods, has produced positive gains in the achievement of youngsters participating in the program.[1] However, these gains have been insufficient to substantially narrow the gap in achievement between Chapter 1 students and their more advantaged peers (Kennedy, Birman, and Demaline, 1986). These findings have fostered an interest among many policymakers and practitioners in intensifying efforts to adopt practices that promise to increase the effectiveness of Chapter 1 programs.

Consistent with this emphasis, the final report of the congressionally mandated National Assessment of Chapter 1 noted that one such promising practice was for school districts to substantially increase the *total* amount of time devoted to the instruction of Chapter 1 participants (Birman, Orland, Jung, Anson, and Garcia, 1987). The National Assessment suggested that districts consider scheduling compensatory education programs before or after school or during the summer break. At the same time the authors of the Assessment acknowledged that, even though these extended-time approaches fell well within the Chapter 1 legal framework, districts might be reluctant to pursue such strategies because of a variety of local problems such as staffing and transportation.

How promising are extended time approaches for Chapter 1 students? Under what conditions will they benefit students? What has been the experience of districts that have used this strategy to help educationally disadvantaged learners? This report attempts to answer these questions and to assist school districts in their consideration of this route to increasing the effectiveness of Chapter 1 programs for disadvantaged learners.

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[1]Chapter 1 superseded Title I of the Elementary and Secondary Education Act of 1965, and like its predecessor, provides financial assistance to state and local agencies to meet the special needs of educationally disadvantaged children. In 1988-89 the Chapter 1 program was funded at $4.3 billion.

The Case for Extended Time Strategies

The amount of instructional time available to students consistently has emerged as an important influence on students' achievement. A wealth of research over the past 15 years demonstrates that while simply adding time to a student's school day will not result in increased achievement, the combination of additional time with effective teaching strategies and curricula designed to engage students is a powerful tool for enhancing academic performance. Moreover, adding this type of instructional time may be particularly beneficial for low achieving students who are likely to require more time relative to other students to learn subject matter.

School districts that wish to follow this guidance and increase the instructional time available to their Chapter 1 pupils have two major choices. They can attempt to devote substantially more minutes to instruction during the regular school schedule or they can seek to add time for instruction beyond the confines of the existing schedule. Most districts have established Chapter 1 programs that function within the regular school day or year, but available evidence indicates that these programs in most cases have only modestly increased pupils' total minutes of instruction. Surveys conducted by the National Assessment indicate that while Chapter 1 students receive extra instruction in reading and math from Chapter 1 during the school day, this instruction often replaces time that students would have spent in the regular classroom learning the same or other academic subjects (Birman, Orland, Jung, Anson, and Garcia, 1987). One recently conducted study of 17 school districts operating Chapter 1 programs estimated that Chapter 1 students received a net daily gain of approximately 10 to 15 minutes instruction in reading and math (Rowan, Guthrie, Lee, and Guthrie, 1986).

In contrast, very few schools have employed strategies that extend the regular school schedule for Chapter 1 pupils. During the 1985-86 school year only 2 percent of public elementary schools that offered Chapter 1 reading or math provided this instruction before or

after school, and only 10 percent did so in the summer. Similar percentages characterize Chapter 1 programs serving secondary school students (Birman et al., 1987).

This report examines the practices and results in school districts that have pursued extended time strategies through their Chapter 1 programs. It documents the design of these programs and extracts lessons for possible use by other districts. This knowledge might prove particularly useful to districts (or schools) that may otherwise rule out such strategies for Chapter 1 students because of perceived obstacles.[2]

It is important to emphasize that attention to Chapter 1 strategies that add time to the regular school day or year in no way diminishes the value of expanding the amount of instructional time available to students within the existing school day or year. The research evidence clearly indicates that if school staff can capture additional time for instruction within the existing schedule and use that time effectively, their efforts are likely to pay off. However, given the small increase in instructional time that is common to many Chapter 1 programs and the difficulties in removing Chapter 1 students from activities in which other students participate, substantially increasing instructional time within the regular schedule may be more feasible when directed toward all students and not just Chapter 1 students.[3]

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[2]For example, districts may view parents and staff as unsupportive of approaches that extend the day or year. Public opinion polls reveal that the majority of the public does not support measures that establish year round schools for all students, or that extend the regular school day beyond 6 or 6.5 hours. At the same time, public opinion favors schools providing before and after school services (not necessarily instructional) for students of working parents. Also worthy of attention is teachers' negative response to extending the school year as a means of improving educational outcomes (NEA, 1987; PDK, 1988). Districts may also perceive logistical problems with the provision of buses, custodial agreements, and student attendance.

[3]Optimistic estimates indicate that less than two-thirds of the average school day is available for instructional activities. Recess, lunch, breaks, assemblies, standardized testing, announcements, and changing classes account for the remainder or "noninstructional time" (Karweit, 1982). Reducing these noninstructional periods may be beneficial for all schools. Moreover, Chapter 1 schools eligible to implement schoolwide projects may choose to focus their Chapter 1 funds on efforts to redirect the total amount of instructional time available during the school day.

Sources of Information

This report assembles information from two sources: (1) research pertaining to the effects on achievement resulting from increases in the instructional time available to students, especially educationally disadvantaged students; and (2) comparative case studies of Chapter 1 programs that operate before or after the regular school day or year.

These two sources intentionally complement each other. The synthesis of research attempts to make sense of the voluminous and at times contradictory literature about the relationship between time and student achievement by identifying those conditions under which extended-time strategies promise to improve the academic performance of Chapter 1 students. The comparative analysis of selected districts that have implemented such strategies documents how these districts have structured their programs, how they have sought to use time effectively, and what results they have obtained.

Methodology

The 12 Chapter 1 projects examined over the course of this study used one of the following five strategies to extend instruction beyond the regular school day or year.[4] The number of projects studied representing each strategy appears in parentheses after the name of the strategy:

- *Extended day kindergarten* (1), where Chapter 1 students stay for an amount of time over and above the regular half day of kindergarten;
- *Before/after school programs* (5), where students participate in Chapter 1 programs either before or after the regular school day;
- *Home-based programs* (2) that use a home instructor, tutor, or computer to teach students in their homes after the regular school day;
- *Saturday programs* (2) that provide Chapter 1 instruction on Saturdays; and

[4]These five strategies do not exhaust the possibilities of extending instructional time beyond regular school hours. Homework and involving parents generally in the instructional process constitute two approaches that are relatively common. Because these activities lack a project focus and can often be diffused throughout the instructional program, they are not examined in this report.

- *Extended school year/summer school* (2) sessions that operate in the summer when the traditional 180 day, 36 week school year has been completed.

The five strategies examined are not always exclusive of one another. While it is possible to speak about each program according to its major emphasis, in reality projects can and do incorporate more than one strategy. For example, one after-school program also includes a home-based component requiring students to work on computers in their homes. The project trains parents in working with the computer so they can assist their child in getting started.

The extended time programs described in this report are located in eight districts and were identified through a rigorous search process consisting of contacts with state Chapter 1 coordinators, staff in the Chapter 1 Technical Assistance Centers, and a review of Volumes II and III of the *Effective Compensatory Education Sourcebook* (Griswold, Cotton, and Hansen, 1986). A notice was also placed in the *Communicator*, a newsletter issued by the National Association of Elementary School Principals. Altogether 142 extended time programs were identified prior to the selection of the 12 projects for further study. Chapter 1 summer programs comprised at least 100 of this number. The few districts that emerged from the search using other approaches confirms their relatively infrequent use. Table 1.1 summarizes the characteristics of the eight districts in which the 12 projects ultimately selected are located.

In selecting districts for study, priority was given to extended time projects that had been in existence for more than a year, preferably for several years, and that district officials planned to continue. Attempts were also made to include districts that varied in terms of enrollments and region. With one exception, all programs selected were supported partially or completely by Chapter 1 funds.[5] In addition, all programs were required to have available some evidence of the program's effectiveness in raising students' achievement. However, because a considerable number of the extended time programs identified did not conduct

[5]The exception, DeKalb's after school program, is not supported by Chapter 1 funds; parents are charged for the service. However, all participants are one year below grade level or "near failing."

Table 1.1

Characteristics of the Eight Districts Selected for Case Study

District	Region	District Enrollment (1988-89)	Program Strategy	Program Starting Date	Program Enrollment (1988-89)
DeKalb, IL	North	3,587*	Summer After school	1978	30-40 10-12
West Bend, WI	North	6,092	Home-based	1976	36
Eagle Pass, TX	South	10,244	Saturday	1984	240
Florence, SC	Southeast	14,482	Extended day kindergarten	1973	234
Spokane, WA	Northwest	27,619	Home-based	1974	259*
San Jose, CA	West	29,212	Summer Before school	-- 1985	489 N/A
District of Columbia	East	87,677*	After school (STARS) After school (home-based component)/Bolling AFB	1983 1987	1,000 60
Dade County, FL	Southeast	266,528	Saturday After school	1987 1987	Both programs = 3,523*

*Enrollment figures are from 1987-88 school year.

rigorous evaluations, it was not possible to select only projects that met the criteria necessary for validation as models of effective practice. Nevertheless, virtually all programs included in this report succeeded in meeting their own internally specified objectives.

Importantly, all of the districts included in this study operated Chapter 1 programs during the regular schedule in addition to the extended time Chapter 1 programs. In most cases the extended time Chapter 1 program supplemented Chapter 1 services that the participating pupils received during the regular schedule. In a few others (usually pre-K or kindergarten), the extended time program was the only Chapter 1 program available to students. But no district studied had adopted extended time as an exclusive Chapter 1 strategy for all eligible students in the district.

Site visits were conducted in all the districts selected for study. These site visits included interviews with program administrators, teachers, and wherever feasible, with a parent whose child was participating in the program. Site visitors also observed the programs in operation at one or more of the schools (or homes) in each district. Information about the following topics was gathered at each site: program objectives, instructional design, program implementation, student eligibility and selection, staffing patterns, budget, attendance, parental involvement, logistics, and measures of program effectiveness.

Organization of The Report

Remaining chapters summarize the evidence surrounding the value of increasing the amount of instructional time available to students (Chapter 2), the design and operation of extended-time Chapter 1 programs that are currently underway in the select group of districts (Chapter 3), and conclusions and implications that emerge from the examination of research findings about extended time strategies and their current application by school districts (Chapter 4). Profiles of all the extended time projects used as sources for this report and relevant supporting documentation are presented in Appendix A and Appendix B.

CHAPTER 2

WHAT RESEARCH SAYS ABOUT EXTENDED TIME STRATEGIES

Three types of research relate to questions surrounding the effectiveness of extended time strategies for Chapter 1 pupils: studies examining the relationship between instructional time and student achievement; research on effective use of time in the classroom; and specific evaluations of Chapter 1 programs using strategies that extend the regular school schedule. A thorough review of each of these sources reveals:

- Instructional time is an important precondition to realizing gains in student achievement, but increasing the quantity of instructional time is unlikely by itself to improve achievement noticeably.
- Gains in student achievement are likely to occur when increases in instructional time are combined with effective teaching practices and curricula that are tailored to learners' needs.
- Low-achieving students may require more instructional time than other students to master subject matter or acquire learning strategies necessary to functioning in the typical classroom. Therefore, increases in instructional time may be essential to substantial improvement in the achievement of Chapter 1 students.

Taken together, these findings indicate that increments of instructional time will be effective in boosting student achievement when instructors pay attention to the quality of that time. Therefore, Chapter 1 programs that seek to extend the instructional time available to students and that incorporate effective teaching and curricular practices into the added time hold promise for improving the achievement of program participants. Conversely, programs that simply extend the absolute time Chapter 1 students spend in school without carefully addressing how that time is used are unlikely to realize the desired improvement.

A brief review of the research contributing to these conclusions is helpful in understanding the various factors important to successful Chapter 1 applications of the concept of increased instructional time.

The Relationship Between Instructional Time and Achievement

Research about how time affects student achievement is plentiful. Moreover, successive streams of research in this area have sought to refine the concept of time to distinguish time allotted to instructional purposes (referred to as **allocated time**) from time in which students are actually engaged in learning (termed **engaged time** or student **time on task**). The concept of **academic learning time** (or **ALT**) introduces an additional refinement. **Academic learning time** combines three elements: allocated time, engaged time, and a focus on material that challenges the student but also permits a reasonable rate of success.

The research based on these concepts leads to one overarching observation. **Studies of time that incorporate information about the usage of time show more consistently positive effects on student achievement than do studies that only assess quantity of time.** Several studies of allocated time, the least refined measure of time, do show a positive influence on pupils' achievement but this influence has not been consistently repeated across studies.

Research on the Effects of Increases in Allocated Time

Studies about the relationship between allocated time and student achievement are more numerous than studies using engaged time or academic learning time, largely because allocated time is more straightforward to measure. A considerable number of these investigations have found that allocated time is an important influence on achievement (Wiley and Harnischfeger, 1974; Karweit, 1976; Jacobson, 1980; Crawford, 1983; Schmidt, 1983; Walberg and Shanahan, 1983; Alexander and Pallas, 1983; Walberg and Frederick, 1983; Kiesling, 1984; Walberg, 1984; Crawford et al., 1985; Brophy and Good, 1986; Sebring, 1987). However, while these studies uncovered positive influences resulting from the amount of instructional time, these effects did not always hold across subjects or age groups (Jacobson, 1980; Daniels and Hailer, 1981; Schmidt, 1983; Crawford et al., 1985).

In other words, while more exposure to subject matter generally improves student achievement, this is not always the case. A number of studies have reported little or no effect on achievement resulting from different amounts of allocated time (Cooley and Leinhardt,

1978; Stallings, Needles, and Stayrook, 1979; Sanford and Evertson, 1982; Wood, 1984; Link and Mulligan, 1986; and Pittman, Cox, and Burchfiel, 1986).

Although the research methods, age groups, and subjects examined in studies of allocated instructional time differ and partially explain the contradictory findings, Walberg (1984) perhaps best sums up the lesson that emerges from research about allocated time. Although time is not the chief determinant of learning, he notes, it "appears to be a necessary ingredient, but insufficient by itself to produce learning."

Research About Engaged Time and Academic Learning Time

Studies using more refined measures of time offer strong support for the value of increasing instructional time when that time is put to good use academically. That is, the time devoted to instruction is either sufficiently well structured that it engages students in learning (engaged time), or it both engages students and involves them in activities that are challenging yet provide a reasonably high rate of success (academic learning time). Although fewer studies have used these measures because of the greater degree of difficulty involved, almost all of them consistently link gains in student achievement to greater amounts of engaged time and academic learning time.[6]

Studies showing positive effects on achievement stemming from students engaged time include Cooley and Leinhardt, 1978; Good and Beckerman, 1978; Stallings, Needles, and Stayrook, 1979; Wyne and Stuck, 1979; Everston, Emmer, and Clements, 1980; Anderson, 1983; Rossmiller, 1986; Peterson, Swing, and Stoiber, 1986; Magliaro and Borko, 1986; and Butler et al., 1987. Although engaged time relates positively to student achievement in almost all these studies, a few inconsistencies still emerge (Karweit and Slavin, 1981; Butler et al., 1987).

Several studies document the beneficial effects of academic learning time (ALT) on student achievement. These include Marliave, 1978; Muir, 1982; Wang, 1985; Brophy and

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[6]Studies of engaged time, time on task, or academic learning time have been particularly hampered by methodological difficulties. Several researchers have pointed to the impact on findings that result from different conceptual models, definitions, observation schedules, and observers (Karweit and Slavin, 1981 and 1982; Moore, 1984; Coatney, 1985).

Good, 1986; Griswold, Cotton, and Hansen, 1986; Robbins, 1986; and Ornstein, 1987. Even with the greater degree of consistency across these studies, some caution is required in the interpretation of ALT findings. Academic learning time cannot be indefinitely increased and still result in higher levels of performance; in fact, at some point (when the amount of ALT reaches or exceeds that required by a student to master material), the benefits of academic learning time begin to diminish.

Other Relevant Research About Instructional Time

Negative consequences are possible if added amounts of instructional time are not used appropriately, according to some researchers. For example, if students have already mastered the subject matter or are able to master it in less time than that allotted, increases in time can reduce student motivation and perseverance, which in turn can result in lowered achievement (Carroll, 1989; Levin, 1984). Moreover, students who spend most of their time experiencing low rates of success on material presented exhibit lower achievement than students with similar aptitude who experience reasonably high rates of success (Denham and Lieberman, 1980).

A related body of research serves to emphasize the importance of not overvaluing any single factor (such as instructional time) among the numerous factors associated with improving student achievement (Levin, Glass, and Meister, 1984; Walberg, 1984, 1986; Karweit, 1985a; Berliner and Fisher, 1985). In fact, more benefits in terms of student learning may accrue from combinations of elements related to learning than reliance on any single factor.

Debates abound about the relative size of the achievement effects of components such as instructional time, quality of teaching, and the appropriateness of curricula. Often these debates center on identifying one single approach or factor that is the key to improving students' achievement. Levin (1984), for example, investigated the cost-effectiveness of four innovations (cross-age tutoring, computer-assisted instruction, reducing class size, and increasing instructional time for reading and mathematics by 30 minutes each). Although increasing instructional time showed the lowest cost-effectiveness of the four (cross-age tutoring proved the most cost-effective), Levin's research on cost-effective practices did not

address the cost-effectiveness or benefits of programs that might employ a combination of these practices. His subsequent research on accelerated learning strategies for disadvantaged or at-risk pupils, however, speaks directly to this issue. Levin observes, "the four components of learning (capacity, effort, time, and quality of learning resources) may be separated analytically, but they surely operate interactively and simultaneously when affecting learning" (Levin, 1988).

Instructional Time and Low-Achieving Students

Educationally disadvantaged students may be those most likely to benefit from the provision of extra instructional time. By definition, low-achieving students have been unable to make the same gains in achievement as other students. Individual students require different amounts of time to learn material as a consequence of their aptitude and ability to understand instruction (Carroll, 1963, 1989; Dreeben and Gamoran, 1985; Peterson, 1986). Stated differently, if students have a low aptitude for learning[7] or are unable to understand English sufficiently well, they may experience difficulty in learning material that is directed to the middle third of students in the classroom.

Research has not clearly established whether low-achieving students are more likely to benefit from additional instruction in thinking strategies that improve their ability to learn in the regular classroom (Peterson, 1986; Pogrow and Buchanan, 1985) or whether they simply

[7]Levin (1988) refers to the "capacity of learners" instead of their aptitude as one of the major influences on learning. Because aptitude often suggests a one-dimensional attribute, Levin believes that capacity--which in his conceptualization includes intellectual ability as well as health and nutrition, personality, and emotional state--encompasses a broader set of dimensions important to a specific learning task.

require more time than do other students to learn the same lessons.[8] Given the fact that educationally disadvantaged students are not a homogeneous group, common sense would seem to indicate that individual Chapter 1 students probably vary in the type of instruction they require and the amount of time they need to master specific skills. Nevertheless, it is likely that children who are behind academically in school will need additional instructional time either to acquire the learning strategies possessed by other students so they too can master academic skills taught in the regular class, or to have sufficient exposure so they can become proficient in the requisite academic subjects.

Making Increased Instructional Time Effective

Given the broad consensus surrounding the importance of using added time effectively, the next logical question centers on how to do that. Fortunately, research has identified several features associated with the effective use of instructional time regardless of whether the instruction occurs during the regular school schedule or after. Most of these features have been thoroughly reviewed in previous publications such as the U. S. Department of Education's *What Works* series (*What Works: Research About Teaching and Learning*, 1986; *What Works: Schools That Work*, 1987) and *Designs for Compensatory Education: Conference Proceedings and Papers* (Williams, Richmond, and Mason, 1986). These features offer basic guidance about the effective use of time.

The key to effective use of time is maintaining high levels of student engagement through the appropriate use of teaching techniques and the selection of materials to challenge

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[8]The resolution of this question has serious implications for the amount of supplemental instruction needed by disadvantaged students over their school careers. Some argue that instruction in thinking strategies will equip students with the skills to operate in the regular classroom, thus removing the need for continual supplemental help. Should students who are low-achieving simply require more time to learn the same material, the need for extra assistance may continue throughout their schooling. An additional concern centers on the negative consequences (lowered expectations, repetitious curricula, and a reliance on remedial worksheets) that may ensue when teachers conclude that low-achievers will always need more time than other students to learn.

but not overwhelm students. At least four elements emerge from research as critical to using time to effect improvements in student achievement:[9]

- Curricular content that is adjusted to learners' skill levels, is challenging, and coordinated with other instruction;
- Teaching that involves substantive interaction between student and instructor, corrective feedback as appropriate, structured lessons with clear directions, appropriate pacing, and performance monitoring;
- Small instructional groups, particularly for students who are low achievers; and
- Classroom management that reduces noninstructional interruptions and fosters a seriousness of purpose.

While these elements have by now become very familiar to many educators as a result of their widespread publication, it is important to reiterate and clarify the meaning of certain elements. For example:

- A challenging curriculum that accommodates individual student needs and is coordinated with other instruction implies more than a singular reliance on remedial work focused on lower order academic skills. Chapter 1 programs that focus on lower order skills (decoding, rote memorization, basic comprehension, and word recognition) to the exclusion of higher order thinking skills (reasoning and problem solving) may be limiting in the long run, even though they may raise standardized test scores in the short run (Stedman, 1985; Calfee, 1986; Peterson, 1986; Romberg, 1986; Birman et al, 1987).
- Coordinating instruction with the regular reading or math program entails ensuring that the supplemental instruction is explicitly planned and implemented to build upon and not detract from students' understanding. However, it does not demand exposing students to "more of the same" instruction or lessons that simply repeat the regular class (Allington and Johnson, 1986; Birman et al., 1987).
- Effective teaching includes both direct and indirect instruction. Direct instruction (which emphasizes lecture and recitation) appears particularly well suited to teaching the basic skills while indirect instruction (which places emphasis on discovery and

[9]These features relate to effective instruction within classrooms. They constitute a subset of the list of effective school practices that address the set of organizational features (such as community support, order and discipline, high expectations, and the like) that are associated with higher levels of academic achievement in schools (Hersh, 1985).

surrogate activities such as computer work) has more effect on the acquisition of higher order skills (Rosenshine, 1983; Stedman, 1985; Brophy and Good, 1986; Peterson, 1986).

- Appropriate pacing refers to presenting material at a speed that is sufficiently rapid to keep students engaged and enable them to master it. Instructors need to avoid too heavy an emphasis on drill-and-practice approaches that convey low expectations among learners (Good, Grouws, and Beckerman, 1978; Barr, 1973-74).

Unfortunately, researchers have not directly addressed the specific question of how time added over and above the regular school day or year may be most effectively used. Presumably, a longer day may call for greater efforts to minimize student fatigue (Levin, 1984; Karweit, 1984) and avoid lessons that merely repeat work given in the regular school day. In addition, extended time programs for older students are likely to have to accommodate students' jobs and extracurricular activities (McDill, Natriello, and Pallas, 1985). For younger children, the commitment and support of parents may be essential for ensuring the child's attendance and eagerness to participate in additional instruction. Moreover, parent involvement in a child's education has proved to be an important element for enhancing student performance (McLaughlin and Shields, 1986; Henderson, 1987).

Evaluations of Chapter 1 (Title I) Extended Time Projects

Published evaluations of compensatory education projects funded by Chapter 1 (or Title I) that have used extended time approaches generally reinforce the lessons gleaned from other research. In short, efforts to extend the instructional time available to educationally disadvantaged pupils can result in increased achievement, but success is more likely when the instruction is rigorous and incorporates the features of effective instruction.

The inadequacies of many evaluations conducted of projects using extended time strategies seriously hamper any definitive conclusions about the success of these projects. Typically, the numbers of students involved in these projects are small and the students who comprise comparison groups are not carefully matched with those pupils participating in the project. Additionally, attempts are rarely made to account for the presence and successful implementation of other instructional features such as small class sizes, peer or cross-age

tutoring, or curricular content. Consequently, there is often little basis for concluding that students attending the extended-time project (for example, summer school or extended day kindergarten) accomplish (or fail to accomplish) more than they would if exposed to other interventions or the regular program of instruction.

Nevertheless, reading across results from several such evaluations produces some interesting observations that largely reinforce relevant findings from research about the effects of instructional time on student's cognitive development. For example,

- Summer programs (which among Chapter 1 extended-time projects have the most extensive history in published evaluation studies) as a group have not significantly or consistently increased achievement for participants. Yet several evaluations of individual programs yield some promising results (Branch, Milliner, Bloom, and Bumbaugh, 1985; Hansen, Yagi, and Williams, 1986; Detroit Public Schools, 1985). According to researchers, the noticeable lack of success from summer programs may stem from their mixed quality and their tendency to be short duration, "fun" programs rather than rigorous in academics (Kennedy et al., 1986, Klibanoff and Haggart, 1981; Heyns, 1978, 1986).

- Although hindered by design weaknesses, evaluations of extended day kindergartens show a greater positive effect on the achievement of disadvantaged students than on the general population of kindergartners (Karweit, 1987; Puleo, 1986). The long term effects of such programs are still unproven, however.

- A small number of evaluations of after school instructional programs show positive effects on the achievement of disadvantaged students, but these effects are not altogether consistent. The most publicized of these, Dade County, Florida, in 1980 reported noteworthy gains in achievement resulting from an after school Title I program. Based on this initial success, the district planned to expand the duration of the program from one to two hours each day (Jones, 1980). However, visits to Dade County conducted as part of this study reveal that school officials within a few years discontinued the program and embarked on a new approach to extended time that stressed enrichment activities in place of remedial exercises.

These evaluation findings suggest that the verdict is far from conclusive with respect to extended time approaches. The mixed nature of the evaluation results and the variable quality of previous programs indicates that the implementation of extended time approaches may have been more flawed than the idea itself. In fact, the case can be made that extended time

approaches continue to hold promise as long as teachers and administrators heed the guidance contained in research. Additional time for instruction is a powerful tool for improving disadvantaged students' achievement when it goes hand in hand with efforts to engage and challenge students.

CHAPTER 3

CHAPTER 1 PROJECTS USING EXTENDED TIME STRATEGIES

The lessons from research indicate that implementing effective extended time projects for Chapter 1 students will require careful attention to instructional decisions. The experience of the 12 projects visited as part of this study illustrates the approaches some districts (and in some cases, schools) use to increase instructional time for Chapter 1 students and minimize problems that accompany efforts to extend the regular school schedule. A synthesis of their ideas and problems may be helpful to other districts that are considering extended time strategies as a means of improving the performance of Chapter 1 students.

It is important to emphasize that while all of the projects examined in this undertaking have some evidence of their effectiveness in enhancing students' academic performance, not all have been tested through carefully designed evaluations that compare pre and post test measures of student performance with results from a comparable group of students outside the project. However, evaluation results available from the 12 projects suggest that their efforts have met some success in boosting students' achievement, and consequently the projects serve as a useful source of ideas about the practical application of extended time strategies under Chapter 1.[10] But without more rigorous evaluation, it is premature for readers to consider these projects as validated models of effective practice.

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[10]Appendix Table B.1 summarizes evaluation measures and results for the 12 projects studied. Six projects report noteworthy gains in achievement for project participants based on pre- and post-test scores on standardized tests and comparisons with control groups. Three projects report gains in achievement using pre- and post-test scores only for extended time participants. The remaining three projects offer subjective reports of participating students' achievement growth based on performance on teacher-designed tests and instructors' observations of students mastery of skills. A thorough evaluation of the success of these extended time projects needs to account for biases introduced by students' (and parents') decisions to participate in the projects as well as school policies concerning the selection of students for participation in the projects. These selection biases complicate determining whether the added instruction from the project led to observed gains in achievement or whether the students participating in the program have individual characteristics (for example, parental support, aptitude, additional resources in the home) that account for the observed gains.

Five major observations emerge from looking across the 12 projects examined in this report:

- **Observation 1:** The Chapter 1 extended time projects use diverse strategies, instructional designs, and management structures.
- **Observation 2:** The Chapter 1 extended time projects differ considerably in the amount of added time, enrollment, and cost per student hour of instruction.
- **Observation 3:** The Chapter 1 extended time projects serving public school students beyond kindergarten use the additional instructional time to give students a second exposure to Chapter 1 services.
- **Observation 4:** All the Chapter 1 extended time projects visited incorporate some practices associated with effective instruction and many emphasize enrichment over remedial drills or worksheets.
- **Observation 5:** The Chapter 1 extended time projects are able to confront obstacles and keep them from dislodging their efforts to increase instructional time beyond the confines of the regular schedule.

The sections that follow elaborate on each of these observations.

Observation 1: The Chapter 1 extended time projects use diverse strategies, instructional designs, and management structures

As might be expected, districts and schools employ a wide range of approaches to add instructional time to Chapter 1 students' regular school schedules. Five basic strategies were examined in this study:

- Extended kindergarten;
- Home-based instruction;
- Before/after school instruction;
- Saturday instruction; and
- Summer/extended school year.

Project Designs and Operations

Beyond the obvious variety in these strategies, projects within each strategy vary considerably in their design and operation. A brief sketch of each project captures this variety. More detailed descriptions of each project are included in Appendix A.

Extended Kindergarten:

The Chapter 1 program for kindergarten pupils in **Florence, South Carolina** consists of adding 3.5 hours to what would otherwise be their school day. Consequently, Chapter 1 pupils, who are in the majority in this small school district, remain in school until 2:30 pm while the non-Chapter 1 pupils leave at 11 am. The extended day focuses on language skills development through the highly structured DISTAR program and the development of social and motor skills necessary for entering first grade.

Home-based Instruction:

In **Spokane, Washington** home instructors, who often hold teaching credentials, visit each child and parent in their home for 40 minutes each week to introduce lessons emphasizing pre-reading skills for the parent to pursue with the child. Equally important, is the instructors' guidance to parents regarding ways they can help their child and other siblings.

In **West Bend, Wisconsin** home instructors visit each child and parent in the home for one hour each week, working on language development skills tailored to the child's skill level. The instructors usually are not certified teachers, but are trained and supervised by a Chapter 1 teacher.[11] Books, number games, and language activities are left in the home for the parent to use with the child during the remainder of the week.

Saturday Instruction:

For 10 weeks in the middle of each school year, third and fifth graders in **Eagle Pass, Texas** who are eligible to receive Chapter 1 attend 3 hour Saturday sessions focused on reading and writing skills that are assessed as part of the Texas State Educational Assessment of Minimum Skills (TEAMS) test. The classes emphasize individual attention and themes drawn from children's literature. The project involves parents through such techniques as formal instruction for parents and a parent/child "reading calendar" to follow at home.

A number of Chapter 1 pupils in grades 2 through 6 in **Dade County, Florida** receive Chapter 1 instruction for approximately 3 hours on 30 Saturdays as part of the district's Extended Learning Program (ELP). All Chapter 1 schools must offer an ELP program but can choose to do so either after school (see below) or on Saturdays. The Saturday sessions, which are the less popular choice among staff, are designed as enrichment classes to supplement the regular day

[11]Home instructors are required to have a minimum of two years of college with emphasis in education and child development.

Chapter 1 program. The sessions revolve around three instructional centers (reading, media, and computers) that are staffed by Chapter 1 teachers and are designed to foster an enjoyment of reading.

Before/After School Instruction:

An elementary school in **San Jose, California** offers Chapter 1 services for children as a part of a larger instructional program preceding the official school day. Since schools are free to design their own Chapter 1 projects in San Jose, this school provides 30 minutes of children's literature and hands-on activities (puppet shows, plays based on books) to improve children's English language skills. All children, whether Chapter 1 or not, may arrive at school as early as 7:30 and participate in science labs, but only Chapter 1 pupils receive special language instruction for a half hour prior to the start of school.

As previously noted, a number of Chapter 1 schools in **Dade County, Florida** offer the Extended Learning Program (ELP) to eligible Chapter 1 students after school each day for about 30 weeks. Schools opting for after school services instead of Saturday sessions follow the same general format as the Saturday classes (see above), and use this program as an enrichment supplement to the regular Chapter 1 services students receive during the day.

Chapter 1 students in grades 2 through 12 in **DeKalb, Illinois** can participate in an after school tutorial program twice a week for 50 minutes each session. Teachers studying for their masters degree in reading at nearby Northern Illinois University tutor each child individually in reading skills. The Chapter 1 program selects potential candidates for these tutorial services, which add to the students' regular Chapter 1 program provided during official school hours. Parents must agree to pay $60 for the 16 week program each semester and to arrange transportation for their child.

All Chapter 1 elementary and junior high schools in **Washington, D.C.** provide after school services to Chapter 1 pupils to increase their reading and math skills and to supplement their regular day Chapter 1 lessons. For four days each week students spend an hour in the Students, Teachers, and Aides Reinforcing Skills (STARS) program. The program emphasizes small group activities and a 20 minute session of computer-based instruction.

Eligible Chapter 1 students who attend private schools and whose parents are based at Bolling Air Force Base receive Chapter 1 services from the **Washington, D.C.** after school program that includes loans of personal computers to the students' homes. Each week students from grades 1 through 8 attend an after school instructional program at the Base where Chapter 1 teachers work with the students in small groups or individually on academic skills. Computers are loaned to the students in their homes on a monthly cycle and parents are trained in the essentials of computer usage.

Summer/Extended School Year Instruction:

In conjunction with Northern Illinois University, **DeKalb, Illinois** provides small group instruction to Chapter 1 pupils in grades 2 through 4 for eight weeks in the summer. Students seeking a Masters degree in reading use a one on one approach to teach the children reading skills after a thorough diagnostic assessment of each child's reading abilities. The project involves 75 minute sessions, three times a week.

Five Chapter 1 elementary schools in **San Jose, California** hold classes for an additional 3 to 4 weeks after the official close of school. During these additional weeks, Chapter 1 students receive reading, language arts, and math instruction for about 3 to 4 hours each day. The programs mix enrichment and basic skills activities with each school deciding on the exact design and configuration of services.

Project Goals and Objectives

Diversity also is evident in the goals and objectives of each project. Along one dimension, projects vary in the specificity of their goals. Some projects emphasize numerical objectives (for example, "to raise NCE scores by two points in both reading and math") while others operate at a more general level (for example, "to improve language skills" or "to promote enjoyment of reading"). Many reflect a mix of specific and general objectives.

Along another dimension, districts vary in their motives for initiating and continuing extended time strategies. Many projects are guided by goals other than increasing instructional time available to disadvantaged students. Several of these goals are obvious in the strategies themselves. For example, the home-based kindergarten projects share a conviction that improving parenting skills will overcome many of the deficits faced by the young child and his or her younger siblings. In these strategies, the parents' development is as important as that of the child. In contrast, the summer instructional projects are directed at offsetting the lower learning rates characteristic of disadvantaged pupils during the summer hiatus from school.

Project staff also are motivated by goals that are not fully obvious in the strategies used. Consider the following examples.

- **Serving private school students.** The D.C. computer-based project at Bolling Air Force Base represents the District's response to serving Chapter 1 students who attend private schools in another jurisdiction (the State of Virginia). Providing instructional services after school and periodic access to computers in the home allows the children to receive services at a neutral site within the district where they reside.

- **Before school child care.** San Jose's before school project emerged in response to parents' leaving their children at school before the official start of the day. Desegregation measures had moved the beginning of school to a later time due to changed busing schedules. School staff seized this opportunity to embark

on a plan to use children's time academically, including a Chapter 1 project within a larger extended time project available to all children. Surprisingly, however, none of the Chapter 1 after school programs studied arose in response to working parents' need for afternoon child care.

- **Helping Chapter 1 students pass statewide assessment tests.** The Saturday program in Eagle Pass, Texas is linked to building proficiency in the skills contained in the state assessment test required for students in the third and fifth grades. The project uses the Saturday classes to ensure that third and fifth grade students acquire the competencies necessary to pass the exam and remain on grade level. In similar fashion, the extended day kindergarten in Florence, South Carolina uses early intervention in language skills to ensure that students possess the necessary readiness skills that the state requires prior to entrance into first grade.

Management Structures

Management structures also are diverse across the Chapter 1 extended time projects examined. One of three general patterns tends to characterize the management of each project:

- the project is managed and operated entirely by the district, usually through the Chapter 1 coordinator;
- the project is co-managed with the district and the participating schools dividing areas of decision making; or
- the project is almost entirely an undertaking of each school, with the district only serving in a support capacity.

The management approach used by a project in some instances reflects its basic design. For example, home-based kindergartens operate districtwide and consequently are managed entirely by the district Chapter 1 office. Similarly, DeKalb's after school tutorial program is a district-level project based on collaboration between the nearby university and the district's Chapter 1 office. Management patterns also emerge from philosophical commitments to placing the school at the center of efforts to improve students' performance. The San Jose, California school district expresses this commitment by placing all Chapter 1 design and implementation decisions at the school level. The district sees its primary role as encouragement of extended time strategies and administrative support for individual school efforts. Several projects follow the co-management approach (Dade County, FL; Florence, SC; Eagle Pass, TX; Washington,

D.C./STARS) with the district setting broad objectives and parameters for the extended time projects and school staff deciding issues of curricular presentation, materials, and, in some cases, schedules. Co-management frequently is an explicit attempt to develop professional "ownership" of the project among the teachers and administrative staff of the school.

Observation 2: The Chapter 1 extended time projects differ considerably in the amount of added time, enrollment, and cost per student hour of instruction

Differences in the design of extended time projects and local decisions about the intensity of services produce dramatic variations in the amount of time added to a student's schedule, the number of children served by a project, and the project's cost per student hour of instruction. In this respect, Chapter 1 extended time projects and Chapter 1 projects that are part of the regular school schedule differ little. Regular school day projects also span a wide range in terms of the intensity of resources such as pupil/staff ratios and instructional time (Goertz, 1987).

Added Instructional Time

The amount of additional instructional time (as measured by instructor contact with the student) generated by the extended time projects in this study range from roughly 23 hours per year (Spokane's home-based kindergarten) to 450 hours (Florence's extended day kindergarten) (see Table 3.1). For purposes of comparison, Chapter 1 services provided during the regular schedule are likely to increase students' instructional time by about 15 minutes per day, or about 45 hours per year[12] (Rowan et al., 1986). Viewed from this perspective, the extended time projects in this study result in anywhere from one half as much added time as regular schedule Chapter 1 programs to 10 times as much.

These estimates represent instructor contact time, not the amount of time children may spend on their own working with computers, for instance, or working on a learning task with

[12]An alternative comparison is the 35 minutes each school day that is the duration, on average, of Chapter 1 reading services. This yields about 100 hours of Chapter 1 instruction each school year; however, it fails to account for the instructional time the student misses from the regular classroom teacher.

Table 3.1

Major Features of Chapter 1 Extended Time Projects - 1987-88

Project	District	Additional Instructional Hours Per Year	Number of Students Served	Chapter 1 Cost Per Hour Per Student
Extended Day Kindergarten	Florence, SC	450[a/]	235	$ 2.55
Home-based (Kindergarten)	Spokane, WA	23[b/]	259	58.09
Home-based (Kindergarten)	West Bend, WI	36[b/]	36	42.11
Saturday	Eagle Pass, TX	30	240	7.90
Saturday	Dade County, FL	90	3,523[c/]	.92
Before	San Jose, CA	90	60	--[d/]
After	DeKalb, IL	27	10-12	--[e/]
After	Dade County, FL	90	--[c/]	.92
After (STARS)	Washington, DC	104	1,000	2.69
After (Bolling AFB)	Washington, DC	33[b/]	60	34.29
Summer	DeKalb, IL	30	30-40	5.00[f/]
Summer	San Jose, CA	70	489	2.88

a/ Adjusted to subtract 1 hour per day for lunch, naps, and recess. Project staff, however, perceive lunch and playground activities as instructional for this age group.

b/ Does not include parent-supervised instructional time in the home. Respondents could not provide an estimate although parents were expected to work each week with their child on prescribed activities.

c/ Enrollment figures include both Saturday and after school program. Because the latter are more numerous, it is safe to assume higher enrollment in after school projects.

d/ School could not separate Chapter 1 budget from total before school budget nor indicate Chapter 1 student enrollment over the year.

e/ Parents contribute $60 for their child to receive these additional services for a semester of 16 weeks.

f/ Chapter 1 pays Northern Illinois University (NIU) $5.00 for each child attending the summer program, but these costs do not recognize NIU's contribution from masters degree students.

a parent. Consequently, the lower bounds are very conservative estimates of instructional time for several of the projects that rely heavily on parent or computer approaches. Unfortunately, most of these projects do not monitor parents' or students' independent efforts and thus could not provide a more reliable estimate of how much increased instructional time resulted. If one assumed, however, that parents spent just 15 minutes each school day working with their child on the assigned activities, the instructional time added by the project would increase by 45 hours a year.

Importantly, projects using the same strategy can generate very different amounts of added time, depending on their instructional design. For example, DeKalb's after school project results in 27 hours of added instructional time, while Dade County's produces 90 hours. Because DeKalb's program emphasizes intensity of instruction through one on one tutorial sessions, which take place twice a week for 16 weeks, the hours added each year are less than those added in Dade County where groups of students attend activity centers with a few teachers and aides each day after school throughout the year.

Enrollment Size and Selection

The number of pupils served by specific projects also ranges widely, from 10 to a few thousand. Again, these numbers partially result from decisions to pursue specific approaches. The individualized approach to each child and parent that characterizes home-based and tutorial projects seriously limits available staff time and the number of pupils each staff member can handle, but staff are convinced it is worthwhile to concentrate resources on a smaller number of children with spin-offs to their siblings.

The enrollments of projects, however, are also affected by selection policies, the voluntary nature of many extended time projects, and resource limitations. All the extended time Chapter 1 projects studied are restricted to children eligible for Chapter 1, with eligibility cutoffs defined by district policies. In most projects, staff select participants based on a policy of greatest need as measured by scores on standardized achievement tests or skill inventories. However, these initial "invitations" to participate usually give way to a practice of

open enrollment among students who are eligible for Chapter 1, if and when invitees do not fill available spaces in the extended time project. A few projects operate completely on a basis of voluntary choice (for example, San Jose's before school project and Dade County's after school/Saturday projects). Staff in these projects view these policies as appropriate since Chapter 1 services are available during the regular school day to those children who are most educationally disadvantaged. While project staff can strongly encourage these children to attend the extra Chapter 1 Extended Learning Program, they do not believe they can require students to do so.

Ultimately, all the projects studied involve some degree of voluntary behavior, either on the part of students or parents. Because students in extended time projects stay in school longer than other students, or parents have to agree to a weekly visitor in their homes, the Chapter 1 extended time services often resemble elective courses, albeit in some instances with considerable persuasion from instructors. The DeKalb after school tutorial project represents the extreme of voluntary behavior on the part of parents, calling upon them to contribute $60 per semester to cover the tutors' expenses (staff time is free since it is part of the graduate students' clinical experience) and a commitment to transport the child to the sessions at the university.

Cost Per Student Hour of Instruction

Because costs per student hour of instruction are primarily a product of staff time and the numbers of students enrolled, they vary almost as widely as these component parts.[13] The costs in the projects visited range from about $.92 per hour to $58.09. Based on Table 3.1, the two home-based kindergarten projects appear to carry the highest costs per hour of instruction, primarily because these programs are labor intensive. They serve a relatively small number of students, and involve bringing instruction into the home. In addition, the estimates in the

[13]Costs per student instructional hour are calculated by dividing each project's budget by the product obtained from multiplying the total hours per year of instructional time devoted to each student times the number of students receiving services. Transportation and administrator costs also contribute to the overall expense of some projects.

table fail to account for the parents' contribution to instructional time, which if it could be determined, would clearly reduce the cost per hour of instructional time. Nevertheless, the designs used by these projects (one on one, home visits) still are likely to result in higher costs than after school classes even with these reductions. For example, only if parents in the Spokane home-based project spend 5 hours a week or more in learning activities with their child, do the costs per hour of instruction drop to less than $7.00.

Equipment costs, particularly for computers, also are a factor leading to higher costs overall. Typically, these costs do not occur every year, but when they do arise, they boost the operating budget of the project for that year. The relatively high cost of the D.C. after school project at Bolling Air Force Base ($34.29 per instructional hour) is in part a consequence of the purchase of several new personal computers to loan the students for use in their homes.

Observation 3: The Chapter 1 extended time projects serving public school students beyond kindergarten use the additional instructional time to give students a second exposure to Chapter 1 services

The projects included in this study use the time added after school, on Saturdays, or in the summer as additional Chapter 1 instruction for eligible students. Only in the case of kindergarten projects (both extended day and home-based) and the after school project serving private school children are the extended time services the only Chapter 1 services received by pupils. Thus, none of the districts and schools visited in this study chose to provide a full day of regular instruction (that is, with no Chapter 1 services provided during the regular school day) followed by special instruction from Chapter 1 in the extended time session.

The concerns voiced by some observers that regular Chapter 1 programs usually result in participating students missing some part of the regular academic instruction do not emerge as a particularly critical issue for the projects visited. In two projects, staff recognize that the disruptions caused by Chapter 1 services during the school day reduce students' regular instructional time and view the extended time projects as replenishing this lost time. However, most projects emphasize the value of increasing Chapter 1 students' time in specialized instructional settings (for example, smaller instructional groups, more individualized curricula)

both within the regular and the extended schedule. Caution needs to be exercised in drawing conclusions about the wisdom of district and school-level decisions to use extended time as a second round of services funded by Chapter 1. Several projects explicitly attempt to ensure that the "second helping" of Chapter 1 services differs both in form and content from that provided during the regular day. Moreover, in some cases (for example, Dade County) the regular day Chapter 1 program is a whole day replacement program where regular class sizes are cut in half and students remain with the same teacher for the duration of the day. Although students receive a "second helping" of Chapter 1 in this case, the uninterrupted integrity of Chapter 1 children's instruction during the day is maintained.

Observation 4: All the Chapter 1 extended time projects visited incorporate some practices associated with effective instruction and many emphasize enrichment over remedial drills or worksheets

A critical issue for extended time projects is effectively using the time available. Staff across all 12 projects have devoted considerable thought to planning the content and delivery of the instruction provided. None simply add time and repeat the lessons of the regular classroom. Although the projects vary in the emphasis, if any, given to particular practices associated with effective instruction, every project included a number of such practices.

Emphasis on Enrichment

Prior to illustrating how specific effective instructional practices take form, it is important to underscore the overarching commitment in many projects to enrichment activities instead of remedial drills and worksheets. In the great majority of projects, staff expressed the view that the extended time component of a Chapter 1 student's day should integrate and expand students' competencies across subjects such as reading, math, and language arts and do

so through an enjoyable, stimulating experience.[14] The goals of some projects explicitly state the priority placed on learning in a relaxed environment, developing students' interest and pleasure in reading literature, and permitting students to apply and practice skills through academically oriented games, plays, and creative writing.

Dade County's Extended Learning Program (ELP), which occurs primarily after school but also on Saturdays, illustrates this emphasis on enrichment. Almost 10 years ago the county operated a Chapter 1 after school program as the only federally funded compensatory education program for students. Heavy emphasis was placed on remedial drills and rote learning exercises. Although initial reports on the after school program showed improvement in student performance, over time student achievement began to decline along with student attendance. The attitudes of a number of teachers grew negative about what the teachers perceived as the stultifying effect of the program. Ultimately, many teachers expressed reluctance to participate.

Dade County's current ELP program is designed to overcome these deficiencies through an emphasis on reading books, student choice of activity centers, teacher preference, theme-centered curriculum, computer assisted instruction, and verbal discussions to increase students' confidence in using English. Teachers report that the ELP program picks up where the daily Chapter 1 program leaves off, affording students a different opportunity to learn and apply new skills.

The enrichment thrust evident in many extended time projects builds on two related objectives: to keep students motivated about learning and, as a consequence, to keep them

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[14]The projects serving kindergarten students do not emphasize enrichment as a distinguishing characteristic of their programs, perhaps because they see all of the efforts they make toward disadvantaged students as enriching their learning and, in particular, their language development. Clearly the use of the DISTAR approach (a highly structured instructional approach based on the principles of direct instruction with considerable student repetition) by the extended kindergarten in Florence contrasts sharply with the general philosophy of the Extended Learning Program which operates after school and on Saturdays in Dade County, Florida. Excluding the three kindergarten programs, seven of the nine projects placed some emphasis on enrichment: Eagle Pass, Dade County (both projects), San Jose (both projects), Washington, D.C. (both projects).

attending the extended time program. An emphasis on enrichment also can reinforce the efforts to inject challenge into the content of the curriculum and to discourage the exclusive teaching of rote learning skills to educationally disadvantaged students. But the enrichment thrust, in practice, cannot always be counted on to lead to these beneficial results. A focus on enrichment also can excuse a lack of rigor in instruction and in some cases may lead to a dilution of curricular content in an effort to ensure activities are "fun." The mediocre record of effectiveness associated previously with Chapter 1 summer programs offers evidence of these tendencies.

Visits to the projects were too short to determine whether the emphasis on enrichment in fact fosters an adequate level of academic challenge for the students involved. Observations of a few projects and a brief review of their curricula suggested that overall the content was stimulating and a departure from the workbook/worksheet approach to remediation. Moreover, most staff attribute students' attendance and engagement in activities to the projects' de-emphasis of remedial drills and seatwork, which some researchers associate with lowering teachers expectations for Chapter 1 students (Stedman, 1985; Levin, 1988).

Effective Instructional Practices

To improve the achievement and general academic performance of Chapter 1 pupils, the 12 projects rely on several instructional practices shown by research to have efficacy. The inclusion and packaging of these practices varies depending on the instructional philosophy of each project. A listing of practices accompanied by illustrations drawn from the projects appears in Table 3.2.

Certain practices appear more common than others across the range of extended time projects included in this study. All projects strive to make the curriculum challenging but not overwhelming to the students. Almost all projects use small instructional groups, individualize instruction to the needs of the child, coordinate with either the regular Chapter 1 or regular class program, and use staff who are trained teachers. A large majority incorporate the techniques known as direct instruction, and several include segments in which indirect

Table 3.2

Illustrative Effective Instructional Practices Used by Chapter 1
Extended Time Projects

Practice	Specific Illustrations from Extended Time Projects	Projects Where Noted
Appropriate Challenge in the Curriculum	Students work on personal computers using software specifically tailored to the district curriculum; the students move on to more challenging material in the software as they master specific skills.	Washington, D.C./Bolling AFB After School
	Students work with the home liaison on teacher developed lessons designed for each individual child's skill level; parents and children are left with a book to read and discuss during the week to extend the lesson.	Spokane, Wash./Home-based Kindergarten
	Lessons are built around the individually determined needs of each child.	West Bend, Wisc./Home-based Kindergarten
	Lessons are built around a weekly tiieme based on children's literature require students to write stories in groups and individually after reading a book together.	Eagle Pass, Tex./Saturday Instruction
Individualized Instruction	Home instructors observe each child for 4 hours each week in the regular classroom to identify learning difficulties and skill levels.	Spokane, Wash./Home-based Kindergarten
	Teachers conduct lengthy diagnostic assessment of child's reading skills and deficiencies through interviews with the regular teacher, child and parent, including taping the child as she or he reads aloud.	DeKalb, Ill./Summer Instruction
	Home instructors work from a Personalized Education Plan developed jointly by the regular kindergarten teacher and the Chapter 1 supervising teacher, and select books, language activities, and number games to match the student's needs.	West Bend, Wisc./Home-based Kindergarten
Small Group Instruction	Teachers work with students in one on one tutorials.	DeKalb, Ill./After School
	Staff/student ratios in sub-groups are less than 10:1.[1/]	All projects.

1/ These conditions prevailed in all classrooms site visitors observed.

Table 3.2 (continued)

Practice	Specific Illustrations from Extended Time Projects	Projects Where Noted
Direct/Indirect Teaching As Appropriate to Acquisition of Skills	Home instructors present lessons and engage students in question/answer exchange using information from the lesson.	Spokane, Wash./Home-based Kindergarten
	Students are exposed to both direct and indirect instruction as teachers engage them in whole group reading followed by individual creative writing to teach vocabulary, composition, and comprehension skills.	Eagle Pass, Tex./Saturday Instruction
	Students receive direct instruction for about a third of their Saturday class and indirect for the remaining two-thirds; the direct portion focuses on vocabulary and reading skills while the indirect relies on computer games for math and science concepts and silent reading of library books.	Dade County, Fla./After School and Saturday Instruction
Teachers Trained in Instructional Techniques and Class Management	Instructors are Chapter 1 teachers or regular teachers, often from the same school.	Florence, S.C./Extended Day Kindergarten; Dade County, Fla./After School and Saturday; Washington, D.C./After School STARS program; San Jose, Ca./Summer and Before School
	Instructors receive special in-service training in use of effective instructional techniques.	Florence, S.C./Extended Kindergarten; Eagle Pass, Tex./Saturday; DeKalb, Ill./After School and Summer West Bend, Wisc./Home-based Kindergarten
Coordination of Student's Regular and Special Instruction	Extended time teachers teach many of the same students during the regular school schedule.	Florence, S.C./Extended Kindergarten; Washington, D.C./After School STARS; San Jose, Ca./Summer
	Regular and extended time instructors jointly assess students' skills and instructional needs.	Dade County, Fla./After School and Saturday; Eagle Pass, Tex./Saturday; West Bend, Wisc./Home-based Kindergarten; Spokane, Wash./Home-based Instruction
	Instructors observe child for 4 hours every week in regular classroom.	Spokane, Wash./Home-based Kindergarten

Table 3.2 (continued)

Practice	Specific Illustrations from Extended Time Projects	Projects Where Noted
Parent Involvement in the Child's Learning	Parents are trained by developers of the program's instructional software in how to work each day with their child using a personal computer; booklets and parent-partners are available to ensure computer literacy.	Washington, D.C./After School, Bolling AFB
	Parents are trained in techniques to use in reading to their child and engaging the child in learning activities.	Spokane, Wash./Home-based Kindergarten; West Bend, Wisc./Home-based Kindergarten; Eagle Pass, Tex./Saturday
	Parents attend in-service training sessions at the child's school every other month to discuss lesson plans, review the "parent-child reading calendar," and learn ways to help their children with writing. Babysitting is available for all sessions.	Eagle Pass, Tex./Saturday

instructional techniques dominate (for example, computers, hands-on activities such as use of puppets, and creative writing). Although a majority of projects include efforts to involve parents (in fact, some are built around parents as instructors), a noteworthy few exert little effort in this area, possibly because the staff rely on the regular Chapter 1 program to carry this responsibility. In these non-parent oriented projects, staff also note that the design of before and after school programs are not particularly conducive to parent involvement as a result of parents rushing to and from their jobs.

Observation 5: The Chapter 1 extended time projects are able to confront obstacles and keep them from blocking their efforts to increase instructional time beyond the confines of the regular schedule

Constraints often arise that complicate the provision of Chapter 1 outside the official school schedule. The projects visited in this study all had confronted some logistical difficulties or problems that appear somewhat inherent to extended time strategies. However, the projects persevered in the face of these obstacles, either finding ways to counteract their influence or simply accepting their existence and moving ahead.

Several potential problem areas were evident from the history of the 12 projects--staff support, student attendance, transportation, student attitudes, and limits on expansion. Equally important, two areas did not arise as problems for these projects and their absence is worthy of note. First, negative reactions among parents to the extended school days or years failed to materialize to any extent in the projects visited. Second, the projects reported no legal obstacles requiring waivers or special approvals from state or federal program officials for the extended time element of the programs.

Projects use a variety of different approaches to handle the types of problems encountered. Several of these approaches deserve mention because of their potential relevance to other districts or schools contemplating the introduction of Chapter 1 extended time approaches.

Staff Support

Staff support is critical because of the need to find qualified instructors for the extra sessions comprising the extended time project. Under collective bargaining agreements, districts cannot require teachers to contribute additional time before or after school. Saturday programs are even more problematic because administrative and custodial staff are absent. Therefore, extended time projects must find mechanisms to compensate staff adequately (including administrators and custodians) and attract their professional and personal commitment to the endeavor.

All projects compensated teachers, administrators, and custodians for any additional hours they worked, but the more pressing issue is attracting staff to investing their discretionary time in the undertaking. Three techniques are used by various projects to address these issues of staff support. These include:

- Allowing the teaching staff to share in decisions about the schedule, design, and curricular content of the extended time project.
- Compensating teachers of Saturday classes with higher pay because of their assumption of administrative tasks.
- Creating a teaching environment in the extended time project different from that of the regular school day.

Student Attendance

A challenging issue for most extended time projects is student attendance. Due to the inherently voluntary nature of extended time projects, ensuring students' regular participation is of considerable importance to most project staff. Estimates of attendance, where they are available, vary across the projects. Each instructor in the home-based kindergarten projects has at least one to two students each year whose parents fail to participate regularly. Dade County estimates that around 50 percent of eligible Chapter 1 students regularly attend the Extended Learning Program. Officials report that attendance is higher for after school sessions than on Saturdays. The Washington, D.C. Bolling AFB project serving private school students

reflects an attendance rate higher than 90 percent. Techniques to counteract potential attendance problems include:

- Ensuring that learning activities were engaging and different from those offered in the regular schedule;
- Adjusting the schedule to suit parent and child preferences or transportation needs;
- Providing awards for perfect attendance;
- Threatening a participant's elimination from the program after a specified number of absences;
- Basing selection of participants on parents' agreement not to take vacation for the duration of the summer session; and
- Selecting another adult in the child's home (for example, a babysitter, an older sibling) to meet with home liaisons each week and take on the role of the parent instructor.

Unfortunately, it was not possible to compare the relative effectiveness of these techniques in the projects. Negative sanctions, such as dropping a student from the program, appear more of a threat than an actuality in those projects employing them. However, the existence of these sanctions helps reinforce the importance of regular attendance.

Transportation

Closely related to the issue of attendance is that of transportation. No panaceas to resolve transportation problems are evident across the projects included in this study. Some projects simply decide up front not to provide transportation. In one (DeKalb, Illinois/After School), a parent's commitment to transport the child is a major criterion for acceptance into the after school tutorial program located at the nearby university. Adjusting schedules to suit children's transportation needs is one factor staff in Dade County consider when they determine days of the week for after school classes or whether to serve students on Saturdays.[15] For those elementary schools where most students walk to school, the after school

[15]Other factors affecting the choice of Saturday or after school sessions are teachers' personal scheduling preferences and views about possible student fatigue and competition from other activities open to students.

alternative is often preferable; for schools with enrollments using public transportation, Saturday programs are thought more suitable.

Costs are also a major concern to projects that provide transportation. Administrators in Eagle Pass, Texas scheduled classes for three hour blocks of time on Saturday mornings in part to avoid the expense of the additional bus trips that would result from daily after school classes. Home-based projects also face the transportation costs entailed in sending instructors to homes throughout the district. Such projects may be more feasible, from the perspective of cost, in geographically small districts.

Student Attitudes

Generally speaking, student attitudes are less of a concern for projects than are attendance, transportation, and staffing. Home-based projects are particularly free from such concerns, although occasionally a parent is uncomfortable having liaison staff in the home. In these instances, the home instructors usually will suggest meeting at the school as an alternative. However, after school and Saturday extended time projects occasionally have to overcome students' perceptions, particularly those in older grades, that staying after school was punishment. The enrichment orientation of the projects in Dade County represents an effort to counteract such perceptions. Staff in the DeKalb, Illinois summer project also note that a number of students in grades 2 through 4 associate summer school with failure in the regular school year. Nevertheless, project staff indicate that once they are able to "hook" the children with positive learning experiences, these attitudes diminish.

Limits on Expansion

In some projects, need and interest on the part of students and their parents outstrips available resources. Waiting lists exist in at least four projects. Expansion, though desirable to many project staff, presents concerns for others. Appropriate space for the proper operation of some projects is not always available in the school, and staff question the wisdom of moving operations to a school different from the one the child regularly attends. Recruiting

qualified instructors for some projects is a time-consuming effort. If qualified recruits are not available from the district or broad geographic area, the project is limited in the numbers it can serve. For example, the Eagle Pass, Texas Saturday project has doubled in size since its initiation in 1984 but still reports a waiting list equal to its enrollment. Due to budgetary limitations, the project was incapable of serving more eligible pupils. In some cases, budget reductions require limiting services to a smaller number of students or serving students for fewer hours.

For three of the projects, expansion is limited by the ages of the students who constitute the target group. The home-based kindergarten projects are based on an approach that places major emphasis on developing parents' capabilities in helping their children learn. The staff overseeing these two projects do not foresee expansion to children in older grades because of the frustration and embarrassment parents are likely to feel in working with reading and math lessons that may exceed their own skill levels. Similarly, extended day kindergarten becomes a moot issue once children move to a full day of instruction in first grade.

Miscellaneous

Several other miscellaneous issues affect projects that do not fall neatly into categories--issues such as air conditioning for summer projects, availability of crosswalk guards in the early morning and late afternoon, administrative staff for scheduling buses, and school and non-school activities that compete for school space and children's time. In most projects, these issues are merely difficulties encountered as a normal part of daily operations. They do not present formidable obstacles to continuation of the projects but merely constitute constraints to address directly or largely ignore.

CHAPTER 4

CONCLUSIONS AND IMPLICATIONS

This report has examined one particular approach to improving the efficacy of local Chapter 1 programs, namely, that of increasing the amount of instructional time available to educationally disadvantaged children by using hours beyond the confines of the regular school schedule. These efforts, referred to as extended time strategies, are used infrequently by school districts as a means of providing Chapter 1 compensatory education services. They encompass services held before or after school, on Saturdays, in the summer, or in students' homes.

The authors of the recently completed National Assessment of Chapter 1 have suggested that extended time strategies offer schools a way of substantially increasing the amount of time available for low-achieving students to learn and, as a result, of improving the capacity of Chapter 1 projects to narrow the achievement gap between disadvantaged students and their better off peers (Birman et al., 1987). This report offers an in-depth look at the promise of such extended time strategies by combining lessons from existing research with information gathered from 12 Chapter 1 projects that have demonstrated some degree of success in enhancing student achievement through extended time approaches.

The case in support of expanding instructional time for Chapter 1 pupils is based on both the positive relationship between instructional time and student achievement and on findings that, on average, Chapter 1 programs only modestly increase the total instructional time afforded to disadvantaged pupils. One estimate from research sponsored by the National Assessment of Chapter 1 indicates that Chapter 1 programs increase total daily instruction in reading and mathematics by only 10 to 15 minutes (Rowan et al., 1986). Although Chapter 1 services occupy considerably more minutes of instruction (typically 30 to 35 minutes per day), they usually displace the academic instruction that Chapter 1 pupils would receive from their

regular teacher. Thus, the net gain in instructional time produced by Chapter 1 services is lower than appears on the surface.

General Conclusions

Several conclusions emerge from research and the experience of the 12 Chapter 1 projects studied. These are:

- **Adding more instructional time to the schedule of Chapter 1 pupils promises to enhance their academic performance, particularly if instructors incorporate effective instructional practices in using the added time.**

  Research guidance is clear and consistent about the importance of how time is used. Additional time can serve as a precondition to improving student achievement especially for low-achieving students, but it must be coupled with appropriately challenging curricular content, small instructional groups, and effective methods of teaching and classroom management.

- **Extended time Chapter 1 projects are capable of adding noteworthy amounts of instructional time to the education of participating students.**

  While the amount varies, the time added by the extended strategies presented in this report ranges as high as 10 times the net increase in instructional time added by Chapter 1 projects that operate within the regular school schedule. Moreover, while for some projects instructor contact hours per student may not amount to as many as are produced by regular schedule Chapter 1 projects, the added time stemming from the use of parents as instructors and computers in the home usually results in a total equal to or higher than the total found in regular schedule projects.

- **The instructional time added by extended time Chapter 1 projects in grades 1 and above supplements the time already added by Chapter 1 services provided during the regular schedule.**

  Except for kindergarten projects and one after school project serving private school students, the extended time projects studied provide participating students with a double serving of Chapter 1-funded services. A second exposure was viewed as beneficial in extending the positive instructional features associated with Chapter 1 (that is, small instructional groups and individualized instruction) and replenishing the instructional time such students might lose as a consequence of participating in Chapter 1 services during the regular school day.

- **Many of the extended time Chapter 1 services examined differ distinctly from those offered in the regular school schedule by virtue of the emphasis placed on enrichment.**

  Perhaps because the extended projects are somewhat more voluntary, both for students as well as staff, project designers often emphasize enrichment as a guiding theme and as a means of maintaining staff and student involvement. In contrast, regular schedule Chapter 1 programs are viewed as placing greater emphasis on basic skills, rote exercises, and practice. However, both regular schedule and extended time services emphasize individualization and small group instruction. The extended time projects allowed teachers more latitude for creativity, students more choice of academic activities, and, in general, more hands-on applications of skills. These differences can provide opportunities for reversing what has been perceived as an imbalance in the Chapter 1 curriculum between lower and higher level cognitive skills, but at the same time they may run the risk of reducing the academic rigor of projects if pursued exclusively to "make learning fun."

- **All of the extended time projects examined include several practices associated with effective instruction, although the number of practices and the emphasis placed on each varies.**

  All projects directed attention to how to use the additional time effectively. Most projects employ carefully trained teachers, frequently from the students' own school. All include a high degree of individualized instruction, small instructional groups, and an attempt to inject an appropriate degree of challenge into lessons. Reflecting their diversity and the pedagogical views of project designers, the projects vary with respect to whether direct or indirect teaching methods dominate. Several projects, but by no means all, seek to involve parents in the instructional program of their child.

Implications for Districts and Schools Considering Extended Time Strategies

What guidance can be extracted from research and the experience of the projects studied for this report by other districts or schools interested in implementing extended time strategies in their Chapter 1 programs? The diversity of the projects suggests that there is no one model to follow in extending the regular school schedule. Perhaps subsequent research can unveil extended time strategies that are more cost-effective than others in enhancing student achievement. For now, however, districts and schools will need to assess independently the value of various strategies and their appropriateness to local circumstances.

Four considerations, however, emerge as key to establishing an effective extended time project regardless of the specific approach. These are:

- **Plan for the effective use of added instructional time.**

  The research literature and the experience of other projects strongly endorse the importance of moving away from a reliance on repetitious remedial work and toward the inclusion of curricular materials that are appropriately challenging and instructional methods that are paced to engage students and facilitate mastery.

- **Anticipate the need for techniques to foster attendance.**

  Because extended time projects necessitate students and parents devoting otherwise discretionary time to instruction, efforts to stimulate participation and regular attendance are critical. Challenging lessons that capture and motivate students' attention are essential, but also important are accommodating schedules, frequent parental contact, awards for attendance, and communicating high expectations for students' attendance.

- **Include decision-making roles for instructional staff.**

  Aspects of the design and implementation of projects need to fall to teachers working directly with the students. Administrators can set broad objectives and policies, but placing instructional choices in the hands of teachers is important from two perspectives: (1) fostering teachers' and instructors' willingness to participate; and (2) ensuring stimulating lessons for students.

- **Be prepared to resolve or to go around obstacles.**

  Extended time projects frequently encounter impediments. Problems with securing appropriate space and qualified staff, competition with other activities, and availability of transportation, and crossing guards constitute just a few. The lesson emerging from the projects in this study is to tackle these problems either by finding alternative solutions (for example, paying Saturday teachers at a higher rate because they perform building supervision) or simply accepting some problems (for example, the need for parents to provide their child's transportation).

- **Formally evaluate student progress as well as program components.**

  Although most educators concur on the importance of assessing the overall effectiveness of specific interventions, efforts to do so are often shortchanged because of a lack of staff time, know-how, or finances. Moreover, instructional staff often resent the need to devote time to student testing instead of instruction. These pressures were evident in several of the visited projects.

Nevertheless, the continuation of a program and determinations about which components to expand or improve require the information developed through evaluations.

Epilogue

Efforts to expand the amount of instructional time available to disadvantaged students that are documented in this report send an important message to schools and communities about reaching beyond traditional schedules and approaches to compensatory education. The projects examined are distinctive not because they have solved all the problems associated with extending the official school day or year, but because they have experienced some success in raising students' achievement by virtue of not taking students' schedules as a given. In short, they have found more time for these students to learn. The projects offer support to other districts and schools searching for alternative approaches to scheduling by demonstrating that problems of extended schedules are surmountable. Furthermore, some of the projects studied deserve particular note because of their attempts to reverse a common assumption that low achieving students primarily need to spend more time in remedial drill and practice rather than in learning opportunities to enrich their understanding.

While this report contributes to a better understanding of extended time strategies used as part of Chapter 1, it is important to note questions that remain. For example, this report does not include the experience of schools that may be attempting to increase the instructional time available to disadvantaged students across the entire school. Given the potential benefits attached to school-level responses to disadvantaged pupils, efforts should be made to capture this experience.

There are also gaps in understanding the appropriateness of extended time strategies for all ages of students. Like Chapter 1 services in general, the projects discussed here emphasize services to children at the elementary level. Extended time arrangements for older children may present a different set of challenges.

Finally, with the exception of kindergarten projects, information is unavailable in this report about extended time Chapter 1 projects that constitute the only Chapter 1 service to students. To the extent emphasis on educational reform succeeds in improving the regular educational program, pressure may increase to deliver Chapter 1 services through extended time approaches, thus avoiding interruptions to a student's improved regular instructional program. Such arrangements raise important questions regarding whether the voluntary nature and enrichment focus common to many of the extended time projects are equally feasible when other compensatory services are not provided during the school day.

BIBLIOGRAPHY

Alexander, K. L. and A. M. Pallas
1983 Curriculum Reform and School Performance: An Evaluation of the "New Basics" (Report No. 347). Baltimore, MD: Center for Social Organization of Schools, The Johns Hopkins University.

Allington, R. L. and P. Johnston
1986 The Coordination Among Regular Classroom Reading Programs and Targeted Support Programs. Albany, NY: State University of New York.

Anderson, E.
1983 "Increasing School Effectiveness: The Full-Day Kindergarten." Paper prepared for the Annual Meeting of the American Educational Research Association. New Orleans, LA.

Archambault, F. X., Jr. and R. G. St. Pierre
1979 "Some Recent Findings on Supplanting in Title I Programs." Paper prepared for the Annual Meeting of the American Educational Research Association. San Francisco, CA.

Archambault, F. X., Jr. and R. G. St. Pierre
1978 "A Description of Instructional Experiences Received by Title I and Non-Title I Students." Paper prepared for the Annual Meeting of the American Educational Research Association. Toronto, Canada.

Arlin, M.
1984 "Time, Equality, and Mastery Learning." Review of Educational Research 54: 65-86.

Barr, R. C.
1973-74 "Instructional Pace Differences and Their Effect on Reading Acquisition." Reading Research Quarterly, 4: 526-555.

Bell, M. L. and C. W. Davidson
1976 "Relationships Between Pupil-on-Task-Performance and Pupil Achievement." The Journal of Educational Research 69: 172-176.

Berliner, D. C.
1984 "The Half-Full Glass: A Review of Research on Teaching," in P.L. Hosford, (ed.) Using What We Know About Teaching. Alexandria, VA: Association for Supervision and Curriculum Development.

Berliner, D. C.
1982 "On Improving Teacher Effectiveness: A Conversation with David Berliner." Educational Leadership 40: 12-15.

Berliner, D. C. and C. W. Fisher
1985 "One More Time," in D. C. Berliner and C. W. Fisher, (eds.) Perspectives on Instructional Time. New York: Longman.

Bildner, B., A. Conde and H. S. Tilis
1979 Title I Summer Program, Evaluation Report. New York, NY: Community School District 6.

Birman, B. F., M. E. Orland, R. K. Jung, R. J. Anson and G. N. Garcia
1987 The Current Operation of the Chapter 1 Program. Final Report from the National Assessment of Chapter 1 Office of Research. Washington, D.C.: Office of Educational Research and Improvement.

Bloom, B. S.
1976 Human Characteristics and School Learning. New York: McGraw-Hill.

Borg, W. R.
1980 "Time and School Learning," in C. Denham and A. Lieberman, (eds.) Time to Learn. Washington, D.C.: National Institute of Education.

Bornstein, R.
1985 Evaluation of the Extended Day Kindergarten Program. Detroit, MI: Detroit Public Schools, Office of Instructional Improvement.

Branch, A., J. Milliner, S. P. Bloom and J. Bumbaugh
1985 Summer Training and Education Program (STEP) Report on the Pilot Experience. Philadelphia, PA: Public/Private Ventures.

Brooks, M. G.
1981 A Report on the 1981 Summer Program of the Atlanta Public Schools, 1980-81. Report No. 16-2. Atlanta Public Schools, GA.

Brophy, J. and T. L. Good
1986 "Teacher Behavior and Student Achievement," in H. Mitzeo, (ed.) Handbook of Research on Teaching. New York, NY: Macmillan.

Butler, J. M., D. DeRuzzo, J. P. Wollenberg, and H. M. Handley
1987 "Differences in Achievement and Time-on-Task With Homogenous and Heterogeneous Ability Grouping of Second Graders." Paper prepared for the Annual Meeting of the American Educational Research Association. Washington, D.C.

Calfee, R.
1986 Compensatory reading. Paper presented at the Conference on Effects of Alternative Designs for Compensatory Education, Washington, D.C.: U.S. Office of Education.

Carroll, J. B.
1989 "The Carroll Model: A 25 Year Retrospective and Prospective View." Educational Researcher 18: 26-30.

Carroll, J. B.
1963 "A Model for School Learning." Teachers College Record 64: 723-733.

Carter, L. F.
1984 "The Sustaining Effects Study of Compensatory and Elementary Education." Educational Researcher 13: 4-13.

Chicago Board of Education, IL. Department of Research and Evaluation
1985 Introduction to High School. High School Renaissance Program. Evaluation Report, Summer 1984. Education Consolidation and Improvement Act Chapter 1. Chicago, IL: author.

Coatney, K. P.
1985 "The Beginning Teacher Evaluation Study: Further Examination of Educational Implications." Journal of Research and Development in Education 18: 44-48.

Cooley, W. W. and G. Leinhardt
1980 "The Instructional Dimensions Study." Educational Evaluation and Policy Analysis 2: 7-25.

Cooley, W. W. and G. Leinhardt
1978 The Instructional Dimensions Study: The Search for Effective Classroom Processes. Final Report. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.

Cooper, H. M.
1986 "Chapter 1 Programs Reduce Student-to-Teacher Ratios but Do Reduced Ratios Affect Achievement?" in B. I. Williams, P. A. Richmond and B. J. Mason (eds.) Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Crawford, J.
1983 A Study of Instructional Processes in Title I Classes: 1981-82 and Executive Summary. Oklahoma City, OK: Oklahoma City Public Schools, Oklahoma Department of Planning, Research, and Evaluation.

Crawford, J., G. Kimball and P. Watson
1985 "Causal Modeling of School Effects on Achievement." Paper prepared for the Annual Meeting of the American Educational Research Association. Chicago, IL.

Daniels, A.F. and E. J. Haller
1981 "Exposure to Instruction, Surplus Time, and Student Achievement: A Local Replication of the Harnischfeger and Wiley Research." Educational Administration Quarterly 17: 48-68.

Deck, D. and J. Arter
1981 "Evaluation Designs for Title I Summer Programs." Portland, OR: Northwest Regional Educational Lab. Paper prepared for the Annual Meeting of the American Educational Research Association. Los Angeles, CA.

deKanter, A., A. L. Ginsburg and A. M. Milne
1986 "Parent Involvement Strategies: A New Emphasis on Traditional Parent Roles," in B. I. Williams, P. A. Richmond and B. J. Mason (eds.) Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Denham, C. and A. Lieberman (Eds.)
1980 Time to Learn. Washington, D.C.: National Institute of Education.

Detroit Public Schools, MI. Department of Evaluation and Testing
1985 Evaluation of the 1985 Chapter 1 Citywide Summer School Program. Detroit, MI: author.

Dewalt, Mark W. and F. G. Rodwell
1988 "Effects of Increased Learning Time in Remedial Math and Science." ERS Spectrum 6: 33-36.

Dishaw, M. M.
1977 "Descriptions of Allocated Time to Content Areas for the A-B Period. Technical Note IV-2a." Beginning Teacher Evaluation Study. San Francisco, CA: Far West Laboratory for Regional Educational Research and Development.

Dreeben, R.
1987 "Closing the Divide: What Teachers and Administrators Can Do to Help Black Students Reach Their Reading Potential." American Educator 11:28-35.

Dreeben, R. and A. Gamoran
1985 "Race, Instruction and Learning." Unpublished.

Egbert, R. L. and M. M. Kluender
1984 Time as an Element of School Success. Lincoln, NE: University of Nebraska. Using Research to Improve Teacher Education: The Nebraska Consortium. Teacher Education Monograph No. 1. (SP 024888).

Evertson, C. M., E. T. Emmer and B. S. Clements
1980 Junior High Classroom Organization Study: Observer Training Manual. (Report No. 6102). Austin, TX: The Research and Development Center for Teacher Education, the University of Texas at Austin.

Evertson, C. M., E. T. Emmer and J. E. Brophy
1980 "Predictors of Effective Teaching in Junior High Mathematics Classrooms." Journal for Research in Mathematics Education 11: 167-178.

Fisher, C. W., D. C. Berliner, N. N. Filby, R. M. Marliave, L. S. and M. M. Dishaw
1981 "Teaching Behaviors, Academic Learning Time, and Student Achievement: An Overview." Journal of Classroom Instruction 17: 2-15.

Frederick, W. C. and H. J. Walberg
1980 "Learning as a Function of Time." The Journal of Educational Research 73: 183-194.

Gambrell, L. B. and M. E. Jarrell
1980 "Summer Reading Description and Evaluation of a Program." Reading World 20: 1-9.

Gettinger, M.
1984 "Achievement as a Function of Time Spent in Learning and Time Needed for Learning." American Educational Research Journal 21: 617-628.

Gettinger, M.
1985 "Time Allocated and Time Spent Relative to Time Needed for Learning as Determinants of Achievement." Journal of Educational Psychology 77: 3-11.

Goertz, M. E.
1987 School Districts' Allocation of Chapter 1 Resources. Princeton, NJ: Educational Testing Service.

Good, T. L. and T. M. Beckerman
1978 "Time on Task: A Naturalistic Study in Sixth-Grade Classrooms." The Elementary School Journal 78: 193-201.

Good, T. L. and D. A. Grouws
1978 "Curriculum Pacing: Some Empirical Data in Mathematics." Curriculum Studies 10(L): 75-81.

Griswold, P. A., K. J. Cotton and J. B. Hansen
1986 Effective Compensatory Education Sourcebook. Washington, D.C.: U.S. Government Printing Office.

Gross, B.
1983 "Can Compensatory Education Produce Higher Achievement With Reduced Resources?" Educational Leadership 40: 44-47.

Hansen, J. B., K. Yagi and G. L. Williams
1986 Elementary Summer School, 1985 Program in the Portland Public Schools. Portland, OR: Portland Public Schools, Department of Research, Evaluation, and Testing.

Harnischfeger, A. and D. E. Wiley
1984 "Time and Learning: A Statewide Policy Analysis." Paper prepared for the Annual Meeting of the American Educational Research Association. New Orleans, LA.

Harnischfeger, A. and D. E. Wiley
1978 "Conceptual Issues in Models of School Learning." Journal of Curriculum Studies 10: 215-231.

Harnischfeger, A. and D. E. Wiley
1976 "The Teaching-Learning Process in Elementary Schools: A Synoptic View." Curriculum Inquiry 6: 5-43.

Hawkinson, H.
1984 "Hatch School - Not at Risk." Phi Delta Kappan 66: 181-182.

Henderson, A.
1987 The Evidence Continues to Grow: Parent Involvement Improves Student Achievement. Columbia, MD: National Committee for Citizens in Education.

Hersh, R. H.
1985 "Organizational Efficacy as a Research Focus for School Improvement," in L. J. Silverman and R. C. Taeuber, (eds.) Synthesis of Invited Papers: Elementary/Secondary Education Data Redesign Project. Washington, D.C.: National Center for Education Statistics.

Heyns, B.
1986 "Summer Programs and Compensatory Education: The Future of an Idea." Paper prepared for the National Institute of Education Chapter 1 Study Team, Conference on the Effects of Alternative Designs in Compensatory Education. Washington, D.C.

Heyns, B.
1978 Summer Learning and the Effects of Schooling. New York: Academic Press.

Jacobson, K.
1980 The Relationship of Individual Student Time Allocation to Reading and Mathematics Achievement. Report from the Project on Studies of Administration and Organization for Instruction (Report WRDCIS-TR-563). Madison, WI: Wisconsin University, Madison. Research and Development Center for Individualized Schooling.

Johnson, J.
1983 Language Development Component: All Day Kindergarten Program. Final Evaluation Report. Columbus, OH. Ohio Public Schools, Department of Evaluation Services.

Jones, H. L., B. Pollock and H. Marockie
1988 "Full-Day Kindergarten as a Treatment for At-Risk Students: Ohio County Schools." ERS Spectrum 6: 3-7.

Jones, J. L.
1980 "The Extended School Program in Dade County." Phi Delta Kappan 61: 490-491.

Karweit, N.
1987 Full or Half Day Kindergarten -- Does it Matter? (Report No. 11). Baltimore, MD: Center for Research on Elementary and Middle Schools.

Karweit, N.
1985a "Should We Lengthen the School Term?" Educational Researcher 14: 9-15.

Karweit, N.
1985b "Time Scales, Learning Events, and Productive Instruction," in C. W. Fisher and D. C. Berliner (eds.). Perspectives on Instructional Time. New York: Longman.

Karweit, N.
1984 "Time-On-Task Reconsidered: Synthesis of Research on Time and Learning." Educational Leadership, 41: 32-35.

Karweit, N. L.
1976 "A Reanalysis of the Effect of Quantity of Schooling on Achievement." Sociology of Education 49: 235-246.

Karweit, N. and R. E. Slavin
1982 "Time-on-Task: Issues of Timing, Sampling, and Definition." Journal of Educational Psychology 74: 844-851.

Karweit, N. and R. E. Slavin
1981 "Measurement and Modeling Choices in Studies of Time and Learning." American Educational Research Journal 18: 157-171.

Kennedy, M. M., B. F. Birman and R. E. Demaline
1986 The Effectiveness of Chapter 1 Services. An Interim Report from the National Assessment of Chapter 1, Washington, D.C.: U.S. Department of Education.

Kiesling, H. J.
1984 "Assignment Practices and the Relationship of Instructional Time to the Reading Performance of Elementary School Children." Economics of Education Review 3: 341-350.

Klibanoff, L. A. and S. A. Haggart
1981 Report 8: Summer Growth and the Effectiveness of Summer School. Santa Monica, CA: System Development Corporation.

Knight, M. E.
1979 Evaluation of Title I Summer School Program, Community School District 31, New York City. Summer--1979. Staten Island, NY: Community School District 31.

Leinhardt, G.
1985 "Instructional Time: A Winged Chariot?" in C. W. Fisher and D. C. Berliner, (eds.) Perspectives on Instructional Time. New York: Longman.

Leinhardt, G., W. Bickel, and A. Pallay
1982 "Unlabeled But Still Entitled: Toward More Effective Remediation." Teachers College Record 84: 391-422.

Levin, H. M.
1988 "Accelerated Schools for At-Risk Students." Center for Policy Research in Education. New Brunswick, NJ: Eagleton Institute of Politics, Rutgers, The State University of New Jersey.

Levin, H. M.
1984 "About Time for Educational Reform." Educational Evaluation and Policy Analysis 6: 151-163.

Levin, H. M., G. V. Glass, and G. R. Meister
1984 Cost Effectiveness of Four Educational Interventions. IFG Project Report 84-A11. Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance.

Levin, H. M. and M. C. Tsang
1987 "The Economics of Student Time." Economics of Education Review 6: 357-364.

Link, C. R. and J. G. Mulligan
1986 "The Merits of a Longer School Day." Economics of Education Review 5: 373-381.

Magliaro, S. G. and H. Borko
1986 "A Naturalistic Investigation of Experienced Teachers' and Student Teachers' Instructional Practices." Teaching and Teacher Education 2: 127-137.

Marliave, R.
1978 "Academic Learning Time and Achievement: The Validation of a Measure of Ongoing Student Engagement and Task Difficulty." Paper prepared for the Annual Meeting of the American Educational Research Association. Ontario, Canada.

Marzano, R. J., B. J. Guzzetti, and C. L. Hutchins
1984 A Study of Selected School Effectiveness Variables: Some Correlates That Are Not Causes.

McDill, E. L., G. Natriello and A. Pallas
1985 "Raising Standards and Retaining Students: The Impact of the Reform Recommendations on Potential Dropouts." Baltimore, MD: Johns Hopkins University, Center for Social Organization of Schools.

McLaughlin, M. W. and P. M. Shields
1986 "Involving Parents in the Schools: Lessons for Policy," in B. I. Williams, P. A. Richmond and B. J. Mason (eds.) Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Mei, D. M., J. T. Langlois and C. J. Meyer
1987 High School Summer Preparation for Raising Educational Performance (PREP) Program End-of-Year Report, 1986. OEA Evaluation Report. Brooklyn, NY: New York City Board of Education, Office of Educational Assessment.

Moore, J. E.
1984 "Measuring Academic Learning Time: Some Insights Through the Looking Glass." Paper prepared for the Annual Meeting of the Michigan Educational Research Association. Ann Arbor, MI.

Muir, R.
1982 "A Teacher Implements Instructional Changes." Journal of Classroom Interaction 17: 13-21.

Mullin, S. P. and A. A. Summers
1983 "Is More Better? The Effectiveness of Spending on Compensatory Education." Phi Delta Kappan 64: 339-347.

Nieman, R. H. and J. F. Gastright
1981 "The Long Term Effects of ESEA Title I Preschool and All Day Kindergarten: An Eight Year Follow-Up Study." Cincinnati, OH: Cincinnati Public Schools. Paper prepared for the Annual Meeting of the American Educational Research Association. Los Angeles, CA.

Ornstein, A.C.
1987 "Emphasis on Student Outcomes Focuses Attention on Quality of Instruction." NASSP Bulletin 71: 88-95.

Peterson, P. L.
1986 "Selecting Students and Services for Compensatory Education: Lessons from Aptitude-Treatment Interaction Research," in B. I. Williams, P. A. Richmond and B. J. Mason (eds.) Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Peterson, P. L., S. R. Swing and K. C. Stoiber
1986 Learning Time vs. Thinking Skills: Alternative Perspectives on the Effects of Two Instructional Interventions. (Report No. 86-6). Madison, WI: Wisconsin Center for Education Research.

Philadelphia School District Philadelphia, PA. Office of Research and Evaluation
1978 Evaluation of Title I ESEA Projects, 1977-1978. Abstracts: (Report No. 7876). Philadelphia, PA: author.

Pittman, R., R. Cox and G. Burchfiel
1986 "The Extended School Year: Implications for Student Achievement." Journal of Experimental Education 54: 211-215.

Pogrow, S. and B. Buchanan
1985 "Higher-Order Thinking for Compensatory Students." Educational Leadership 43: 40-43.

Powell, M.
1980 "The Beginning Teacher Evaluation Study: A Brie History of a Major Research Project," in C. Denham and A. Lieberman, (eds.) Time to Learn. Washington, D.C.: National Institute of Education.

Puleo, V. T.
1986 "Current Research Perspectives on Full-Day Kindergarten." ERS Spectrum 4: 32-38.

Rich, D.
1986 "The Parent Gap in Compensatory Education," in B. I. Williams, P. A. Richmond and B. J. Mason (eds.) Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Rieth, H. and C. Evertson
1988 "Variables Related to the Effective Instruction Of Difficult-to-Teach Children." Focus on Exceptional Children 20: 1-7.

RMC Research Corporation
1982 Evaluators Desk Reference: 1982. Durham, North Carolina: NTS Research Corporation.

Robbins, P.
1986 "The Napa-Vacaville Follow-Through Project: Qualitative Outcomes, Related Procedures and Implications for Practice." The Elementary School Journal 87: 139-157.

Robinson, G. E. and J. H. Wittebols
1986 Class Size Research: A Related Cluster Analysis for Decision Making. Arlington, VA: Educational Research Service, Inc.

Roderick, S. A., L. Hansen and B. H. Inwood
1979 "Evaluation of a Successful Remedial Summer School Program." Paper prepared for the Annual Meeting of the American Educational Research Association. San Francisco, CA.

Romberg, T. A.
1986 "Mathematics for Compensatory School Programs." Paper prepared for the Conference of Effects of Alternative Designs in Compensatory Education. Washington, D.C.: U.S. Department of Education.

Rosenshine, B. V.
1983 "Teaching Functions in Instructional Programs." The Elementary School Journal 83: 335-352.

Rosenshine, B. V.
1980 "How Time is Spent in Elementary Classrooms" in C. Denham and A. Lieberman, (eds.) Time to Learn. Washington, D.C.: National Institute of Education.

Rossmiller, R. A.
1986 Resource Utilization in Schools and Classrooms: Final Report. Program (Report No. 86-7). Madison, WI: Wisconsin Center for Educat' Research.

Rossmiller, R. A.
1982 "Managing School Resources to Improve Student Achievement." Paper prepared for the State Superintendent Conference for District Administrators. Madison, WI.

Rowan, B., L. P. Guthrie, G. V. Lee and G. P. Guthrie
1986 The Design and Implementation of Chapter 1 Instructional Services: A Study of 24 Schools. San Francisco, CA: Far West Laboratory.

Sanford, J. P. and C. M. Evertson
1982 "Time Use and Activities in Junior High Classes." Journal of Educational Research 76: 140-147.

Savard, W. G. and K. Cotton
1983 "What Effective Schooling Research Says to Migrant Education Program Planners." Paper prepared for the Annual Meeting of the National Migrant Education Conference. Portland, OR.

Schmidt, W. H.
1983 "High School Course-Taking: Its Relationship to Achievement." Journal of Curriculum Studies 15: 311-332.

Sebring, P. A.
1987 "Consequences of Differential Amount of High School Coursework: Will the New Graduation Requirements Help?" Educational Evaluation and Policy Analysis 9: 258-273.

Silverman, D. and J. Bank
1979 Title I. Final Evaluation Report. Summer 1979. Bronx, NY: Community School District 8.

Slaughter, H. B. and S. Powers
1983 Effect of Increasing Allocated and Engaged Instructional Time on the Achievement of High Risk Kindergarten Students: An Evaluation of the Chapter I Extended Time Kindergarten Project, 1982-83 and Technical Supplement. Tucson, AZ: Tucson Unified School District.

Slavin, R. E. and N. A. Madden
1987 "Effective Classroom Programs for Students at Risk." Paper prepared for the Annual Convention of the American Educational Research Association. Washington, D.C.

Smyth, W. J.
1985 "A Context for the Study of Time and Instruction," in C. W. Fisher and D. C. Berliner, (eds) Perspectives on Instructional Time. New York: Longman.

Sofer, S., B. Whiteside and J. E. Moore
1986 Detroit Public Schools Peer Teachers as Mirrors and Monitors Project: Final Evaluation Report. Detroit, MI.

Stallings, J.
1980 "Allocated Academic Learning Time Revisited, or Beyond Time on Task." Educational Researcher 9: 11-16.

Stallings, J.
1975 "Implementation and Child Effects of Teaching Practices in Follow Through Classrooms." Monographs of the Society for Research in Child Development 40: 50-93.

Stallings, J., M. Needels and N. Stayrook
1979 How to Change the Process of Teaching Basic Reading Skills in Secondary Schools. Phase II and Phase III. Final Report. Menlo Park, CA: SRI International.

Stedman, L. C.
"A New Look at the Effective Schools Literature." Urban Education 20(3): 295-326.

Stevenson, H. W.
1983 Making the Grade: School Achievement in Japan, Taiwan, and the United States. Stanford, CA: Center for Advanced Study in the Behavioral Sciences.

Tobias, R., C. Halfar, J. Margolis and D. Newman
1982 Reading and Math Through the Community as Classroom, Summer 1982. Annual Evaluation Report. E.S.E.A. Title I. Brooklyn, NY: New York City Board of Education, Office of Educational Evaluation.

U.S. Department of Education
1987 What Works: Schools That Work, Educating Disadvantaged Children. Author.

U.S. Department of Education
1986 What Works: Research About Teaching and Learning. Author.

Walberg, H. J.
1986 "Synthesis of Research on Teaching," in M. Wittrock (ed.) Handbook of Research on Teaching (3d. ed.). New York: Macmillan.

Walberg, H. J.
1984 "Improving the Productivity of America's Schools." Educational Leadership 41: 19-27.

Walberg, H. and W. C. Frederick
1983 "Instructional Time and Learning." Encyclopedia of Educational Research: 917-924.

Walberg, H. J. and T. Shanahan
1983 "High School Effects on Individual Students." Educational Researcher 12: 4-9.

Wang, M. C.
1985 "An Analysis of Program Design Implications for Teacher and Student Use of School Time," in C. W. Fisher and D. C. Berliner, (eds.) Perspectives on Instructional Time. New York: Longman.

Wiley, D. E. and A. Harnischfeger
1974 Explosion of a Myth: Quantity of Schooling and Exposure to Instruction. Major Educational Vehicles, Studies of Educative Processes (Report No. 8).

Williams, B. I., P. Richmond and B. Mason
1986 Designs for Compensatory Education: Conference Proceedings and Papers. Washington, D.C.: Research and Evaluation Associates.

Winter, M. and A. E. Klein
1970 Extending the Kindergarten Day: Does It Make a Difference in the Achievement of Educationally Advantaged and Disadvantaged Pupils?"

Wood, C. T., G. K. Tallmadge and S. J. Roberts
1984 Availability and Utility of Existing Databases for Addressing Issues Related to the Impact of ECIA Chapter 1 Legislation and Regulations. Mountain View, CA: SRA Technologies.

Wyne, M. D. and G. B. Stuck
1979 "Time-on-Task and Reading Performance in Underachieving Children." Journal of Reading Behavior 11: 119-128.

APPENDIX A

Case Study Profiles of Extended Time Projects

Extended Day Kindergarten
Florence, South Carolina

The extended day kindergarten instruction in Florence has provided additional instructional services to Chapter 1 students since 1973. While all students in Florence attend kindergarten from 8:00 to 11:00 a.m., five days a week, Chapter 1 students remain at school from 11:00 to 2:30 p.m. Annually this amounts to roughly 630 hours of additional time in school for each Chapter 1 student. We estimate the additional instructional time amounts to 450 hours per year after deducting an hour each day for students to eat lunch and have recess. The program focuses on improving cognitive, motor, and social skills necessary to enter first grade. During the 1988-89 school year, 235 extended day kindergarten students participated in the program.

The South Carolina state education agency has established a set of educational objectives for all kindergarten students. Any student who does not demonstrate readiness for the first grade as evidenced by the attainment of these objectives must be afforded the opportunity to continue to develop these skills in the first grade. While many school districts in the state provide remedial programs for first graders (as well as for higher grades), the Florence School District elected to provide the extended day program for kindergartners based on the assumption that the earlier these skills are mastered, the better the chances for success in the future. Students with the lowest test scores are given first priority for enrolling in the extended day program.

In the initial years of the program, some students were transported to different schools for the afternoon program because the program was not offered at all Chapter 1 schools. Currently the program operates in all Chapter 1 schools. There are many benefits found to offering the program in each Chapter 1 elementary school. Program staff are able to obtain a high degree of coordination between the extended day and regular kindergarten instruction. Participants in the extended day program are taught by the same teacher and aide who instruct them during the regular kindergarten program. This situation provides continuity and security for young children allowing them to concentrate their energies on learning. Additionally, since the extended day program reinforces the same skills taught during regular kindergarten, instructors are already knowledgeable about areas in which participants are deficient.

While the regular kindergarten program provides students with more individualized instruction, the extended time program focuses on highly structured group work. Particularly noteworthy is the daily use of DISTAR, an intensive language skills development program using group drills. The drills give students practice in moving from one concept level to the next. For example, a drill might develop from "fireman" to "a fireman" to "a fireman will put out the fire." Using this method, teachers do not single out the student who answers incorrectly but require that the students verbally practice the drills as a group to ensure all pupils respond with the correct answer. Team work and a positive attitude toward learning are also important aspects of the DISTAR program. Additionally, the extended time includes outdoor movement education, story time/music participation, and lunch. All of these activities focus on specific developmental goals and provide students with constant student-teacher interaction.

Due to the special nature of the DISTAR program, teachers receive a two-day inservice training conducted by the kindergarten coordinator and a district language specialist. Teachers also are provided with a highly detailed manual describing what to teach, how to teach it, and what to do when problems arise.

While all parents meet individually with teachers three to four times each year, in the past parents of Chapter 1 students have not been involved with the parent advisory group. Recently, the bylaws were modified so that one Chapter 1 parent from each school is selected by the principal to participate in the group. The hope is that this will gradually increase parent involvement in programs like the extended day kindergarten.

Student test scores attest to the success of the program. Over the course of the 1987-88 school year, extended time program participants demonstrated significantly greater achievement gains than non-participating kindergarten students.

Home-Based Kindergarten
Spokane, Washington

Since 1974, Spokane School District has provided Chapter 1 home-based instruction to kindergarten students based on the view that early intervention will prove successful in improving students' basic skills. "Liaisons" work with children and their parents in 40 minute sessions each week, for roughly 35 weeks, on the following developmental areas: conceptualization; language; auditory memory; auditory perception; visual memory; visual perception; visual motor; and coordination. They rely heavily on word and number games. The liaison chooses a book for the parent and student to read together during the week; students respond to questions about the book when the liaison returns the following week.

This program is the sole source of Chapter 1 instruction for kindergarten students in this district. During 1988-89, the program served the 259 students who scored the lowest on a standardized test of developmental tasks.

Increasing parent involvement in their children's education is a major program goal. In fact, this program is referred to as the "Chapter 1 Kindergarten Parent Involvement Program." Parents are involved during home visits, where they observe the instruction provided by liaisons as well as during the week when they are expected to spend a minimum of 15 minutes per day (five days per week) reading with their child and playing educational games introduced by the liaison. In addition, parents are provided with written materials outlining their importance to their child's education, their responsibilities while participating in the program, a guide to a successful home visit, and pointers for reading to and quizzing their child during the week. District staff hope that by providing parents with role models (the liaisons) as well as positive reinforcement and increased self-esteem, siblings of program participants will also benefit.

There were a total of 16 liaisons last year, each with an average caseload of 16 students. Liaisons are well-trained paraprofessionals, many with general teacher certification. New liaisons receive at least one week of training prior to being assigned students. During training, they accompany more experienced liaisons on home visits. In addition, all liaisons receive inservice training on a weekly basis.

Services provided by the liaisons are coordinated with regular classroom instruction through weekly meetings with classroom teachers and through class observation. They use these meetings to discuss the progress and needs of individual students. Liaisons spend four hours each week observing their 16 students in the classroom setting. Additionally, seven hours per week are allocated for lesson and material preparation.

In cases where a parent is unavailable to participate in the program, the liaison may try to involve an older sibling or babysitter to work with the student. Additionally, parents are given the option of meeting at the school if they feel uncomfortable with the liaison coming to their home. One of the problems associated with the program is attendance. Some parents are frequently not home when the liaison arrives for the home visit. This becomes particularly common around the holidays.

Program participants are given both pre- and post-tests. While the students on average began the program with large developmental lags behind a national sample of children of the same age, by the completion of the program their developmental deficit had diminished.

Home-Based Kindergarten
West Bend, Wisconsin

West Bend School District has offered home-based Chapter 1 instruction to kindergarten children since 1976.[1] Home instructors schedule one hour weekly visits for 33 to 36 weeks a year at participants' homes. The primary goal is to improve oral and written language skills and to instruct parents in educational activities they can pursue with their children. The program is based on research indicating the importance of parental involvement in their children's education and the importance the district attaches to early intervention to prevent the need for subsequent remediation.

This program is the only Chapter 1 instruction offered to kindergarten students. Pupils are selected to participate based on a teacher assessment of skill deficiencies, with those students exhibiting the greatest need served first. During school year 1988-89, 36 students participated, while a number of others had their names placed on a waiting list.

Individual development plans, or Personalized Education Plans, are developed for each student by the regular kindergarten teacher with input from the Chapter 1 coordinator and the home instructor. The personalized education plans specify the skills in which each child needs assistance and the specific activities that the instructor can use to improve the particular skill. Home instructors attend regular kindergarten classes from time to time to see how a child is progressing and interacting in a larger group setting. It is also a time for the home instructor to share information with the regular teacher about techniques that have been particularly effective in the home, information about the child's environment that may affect the student's performance in the classroom, and whether the skills learned individually at home are transferred to the classroom.

A unique feature of this program is the training and involvement of parents in the teaching process. Parents are actively involved in the home lessons. They observe the home instructor, practice teaching the targeted skills, reinforce the child with guidance from the instructor, and then follow a schedule of individualized daily learning activities during the remainder of the week. Structured parent workshops are held monthly to reinforce positive parenting skills. Finally, parents are provided with a booklet of creative speaking and listening activities for use in promoting student progress in these areas. The booklet not only covers what skills children should develop at different ages, but also provides engaging activities and games to pursue with children.

Additionally, program staff take specific steps to maximize time on task during home-based instruction. They remove distracting objects (toys, T.V., etc.) from the lesson area; reward on-task behavior; ignore, reshape or negatively reinforce off-task behavior (depending on the particular behavior); and individualize activities so they are at or just above the child's skill level, increasing the likelihood that the child will stay engaged in the task.

While the program coordinators have not conducted a formal evaluation of the program, individual student achievement is evaluated by pre- and post-tests using the Metropolitan Readiness Test of Basic Skills. Teachers and, starting in 1988-89, parents are surveyed about their perceptions of the program.

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[1]The district also offers home-based Chapter 1 instruction to preschool students, but our analysis does not include data on preschool programs.

Before School Program
San Jose, California

Since 1985-86, the San Jose Unified School District has operated before school reading/language arts programs for Chapter 1 students in grades K through 5. As is true of the extended school year programs in San Jose, the district plays only a minor role in implementing and administering these programs; individual schools have a great deal of flexibility in designing, implementing, and evaluating their own programs. Many believe this situation contributes to the success of individual programs because teachers and principals develop a "sense of ownership" towards their program.

The San Jose school visited for this study operates a Chapter 1 before school program that provided instruction for 30 minutes, five days per week for roughly 36 weeks. Any Chapter 1 student in the school can attend these sessions. Due to the large Spanish and Portuguese speaking populations in attendance, instructional activities are designed to increase English language reading and speaking, and focus on children's literature and "hands on" activities, such as performing plays based on books that the students read. Program goals also include improving self-confidence and self-esteem through positive reinforcement and participation in an alternative learning environment. The before school program is designed to be a different learning experience than students receive in their regular Chapter 1 pullout program.

The before school project is run by the Chapter 1 resource teacher and several aides. The aides receive in-service training each week as well as a week of training prior to the start of the school year.

At the school visited, a before school program open to all students was initiated when school hours were adjusted to accommodate busing for purposes of desegregation. With school starting later, many students arrived at school hours before the first class. Rather than leaving students on the playground, administrators initiated a voluntary before school program in order to use this time to students' benefit.[2] The before school program has two components. From 7:30 to 8:30, a science program is offered to all students in grades K through 5. The second component, for Chapter 1 students only, runs from 8:30 to 9:00 and features reading/language arts activities. The curriculum is literature-based and activities focus on use of English in an applied setting.

Because students attend the before school program on a voluntary basis, the daily composition varies and presents problems for testing students and evaluating the program's success. Despite the lack of formal evaluations, teachers, administrators, and parents judge the program as effective in providing additional language instruction and helping students to enjoy school.

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[2]Program participants are generally students who walk or are dropped off by parents at the school. No special transportation for program participants is provided.

After School Instruction
DeKalb, Illinois

In conjunction with Northern Illinois University (NIU), DeKalb Public Schools has offered an after school reading program to low-achieving students in grades 2 through 12 since 1979. While Chapter 1 funds do not support this program (the university charges parents directly), participants are one year below grade level or "near failing". As is true regarding DeKalb's summer program, which is also offered in conjunction with NIU, participants are selected on the basis of greatest educational need as well as a parent's commitment that the child will attend regularly.

The regular Chapter 1 program in DeKalb is provided to students in grades K through 4. After school students in those grades usually are enrolled in the regular Chapter 1 program which pulls students out of non-basic skills courses in order to provide basic skills remediation.

As in DeKalb's summer reading program, NIU students earning a masters degree in reading provide instruction. In fact, most of the after school tutors are regular teachers in the DeKalb schools during the day and are working on their advanced degrees at night. However, where the summer program provides instruction to students in groups of two to three, the after school program provides one on one tutoring. Ten to 12 students participate each year and are tutored twice a week for 50 minutes over a 16 week period Unlike the summer program, the after school tutorial program is given on the NIU campus. Each student-tutor pair have a small room for the duration of the program. Students can then decorate the room with their work, making it into a familiar, comfortable learning environment.

Program goals are individualized for each student and typically involve improvement of reading skills. As during the summer extended time program, all students receive a lengthy diagnostic assessment that covers comprehension, word recognition, vocabulary, and fluency as well as tests for vision and hearing problems. Each student's needs become the program goals for that student. In addition, instructors focus on fostering students' motivation to read.

NIU charges parents $60 for a semester of participation in the after school program. As is the case in the DeKalb summer program, the cost of this program is kept low in part due to the use of master's degree level students as teachers. This cost is far below the usual cost of a private tutor and includes thorough testing and monitoring of students by certified teachers as well as university professors of education. Parents must provide transportation for their child to and from NIU.

While the achievement of individual students is monitored frequently, these results have not been combined as part of a formal evaluation of the program.

After School Instruction
Washington, D.C.

Students, Teachers, and Aides Reinforcing Skills (STARS) is an after school program offered in all Chapter 1 elementary and junior high schools in the District of Columbia. Initiated in 1983, this program serves approximately 950 students annually; students are primarily in the fifth through seventh grades, but younger children often are served as well. STARS participants attend the after school program one hour per day, four days per week.

The D.C. school district believed that certain students enrolled in the Chapter 1 program could benefit from additional exposure to the concepts that they were learning in their regular classroom. While the regular Chapter 1 program provides students a second exposure to basic skills, it was believed that a third exposure would be beneficial to some students. Basing their program on the Dade County's original after school program, the Chapter 1 office funded the STARS program as a before/after school program. In its second year, STARS became an after school only program due to the lack of crossing guards in the early morning.

The primary goal of the STARS program is to increase skill levels in reading and mathematics by providing an additional exposure to concepts taught in the regular classroom and reinforced in the regular Chapter 1 program. A secondary goal of the program is to develop more positive self-esteem in those students who may have the most difficult time keeping up with their peers in the regular classroom. Therefore, positive reinforcement is key to the STARS program.

Participants must be Chapter 1 eligible, enrolled in the Chapter 1 CAI (Computer-Assisted Instruction) lab program (if available in the school),[3] and have parental consent to be eligible for the STARS program. Selection priority goes to students that are repeating a grade or have failed one subject. Eligible students are ranked according to the number of semesters they are behind in primary subject areas with the most needy receiving the services.

The STARS after school program enrolls only eight students per school. These pupils receive the attention of both a teacher and an aide. These small student/staff ratios provide the opportunity for students in the after school programs to receive specialized attention. Teachers report spending substantial amounts of time within these small groups, working with only one or two students at a time and involving them in activities selected to meet their special needs. Overall, the STARS setting is highly energized with students constantly moving to different activities and seldom waiting to receive the teacher's attention after completing a task.

Staff attempt to make program time more engaging for students than traditional academic settings. Very little time is spent on pencil and paper activities; rather, students work with hands-on activities. All students spend 20 minutes per day using computer-assisted instruction supervised by an aide. In students' regular Chapter 1 pullout program, they are tested using computerized skill testing software to determine strengths and weaknesses. Test results determine each student's individualized "prescription." The prescription states the appropriate computer-assisted instructional software at the proper level for the student to work with during both the regular Chapter 1 program and the STARS program. The computer software uses colorful pictures and designs to keep students attention while addressing their math and reading skills.

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[3]This is the regular Chapter 1 program in schools that have CAI labs.

In most schools, the regular Chapter 1 teacher runs the school's STARS program. This is helpful because the Chapter 1 teacher is already familiar with the students and the materials used in the lab. Also, this arrangement simplifies coordination between the STARS program, the regular Chapter 1 program, and the student's regular academic program. Coordination with a student's regular teacher is an important consideration in the implementation of the STARS program. Both teachers fill out sections of a weekly collaboration form for each STARS participant, explaining what skills will be covered in the regular class, suggested activities for the additional time, and expected outcomes of the STARS activities. Because communication and program planning takes time, program developers schedule student instruction for only four days per week, thus allowing STARS teachers the fifth day for planning.

The 1986 District of Columbia Chapter 1 evaluation states that STARS participants exhibit the greatest achievement gains among Chapter 1 students. While the raw data from this evaluation were unavailable from the district, the district plans to conduct another evaluation of this program in the near future.

After School and Saturday Programs
Dade County, Florida

Dade County's "Extended Learning Program" (ELP) began during the 1987-88 school year and offers Chapter 1 reading and language arts instruction on a "first come, first served" basis to Chapter 1 eligible students in grades 2 through 6.[4] Students in grades 2 through 4 also receive Chapter 1 instruction during the regular school schedule. School administrators have the option of offering ELP instruction either after school or on Saturdays; most choose after school programs. During the 1987-88 school year, roughly 3,520 Chapter 1 students participated in either ELP after school or Saturday programs.

Whether held on Saturday or after school, ELP instruction follows a similar general format. Each program uses the same number and type of instructional staff, follows the same curricular objectives, serves the same number of students per session, and provides the same amount of total instructional time, with variation only in the days of the week on which instruction is scheduled. All schools operate three "centers" as part of the extended program: a reading classroom; a media center (library); and a computer center. Students move from one center to the next, either during the course of the day or the week.

The Dade County extended time program places heavy emphasis on academic enrichment as opposed to remediation, in large part due to experiences with a previous extended learning program. Beginning in 1979-80, the only Chapter 1 instruction in Dade County schools was offered after regular school hours. The focus was strictly remedial. There were a number of implementation problems, chief among them teacher retention and student participation. Reportedly, the singular focus on academic remediation led to "burn out" among both teachers and students. Eventually, test scores declined, and the program was phased out after a few years.

ELP instruction differs considerably from the regular Chapter 1 program in both goals and instructional techniques. Chapter 1 students in grades K through 4 are enrolled in a full-day replacement program: the student/teacher ratio is cut in half and the curriculum focuses exclusively on basic skills (reading, math, science and computer literacy, excluding subjects such as social studies, health, etc.). The current ELP program supplements the regular Chapter 1 program and is perceived primarily as an enrichment program.

The primary goal of ELP instruction is to develop students' enjoyment of reading. Teachers are given flexibility in designing creative ways to motivate students to read. For example, students may write stories or read several books on a common theme. Some schools give students books as rewards for reading a certain number of books outside school. While all ELP schools focus on reading skills, schools have the option to include math and science activities as well.

A number of factors at the school level determine which extended time model is offered. These include teachers' willingness and desire to work on Saturdays, principals' concern for opening the school on days without administrators' supervision, parents' preferences, and student transportation needs.

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[4]The regular day Chapter 1 program is offered to students in grades 2 through 4 only. Students in grades 5 and 6 who wish to participate in the ELP are Chapter 1 *eligible*.

The current ELP program emphasizes early and thorough program evaluation. Consistent with program objectives, yearly evaluations are conducted, beginning after the first semester the program operates. Participants are pre- and post-tested using a standardized test to determine NCE gains. Their scores are compared to Chapter 1 students who do not participate in the extended program. In addition, the district plans to measure sustained gains using test score data collected in the spring of 1988, 1989, and 1990.

Saturday Program
Eagle Pass, Texas

Since 1984, Eagle Pass School District has offered Saturday instruction to third and fifth grade Chapter 1 students who score the lowest on the Iowa Basic Skills Test. Instruction is focused on reading and writing skills and is offered for three hours on Saturdays from November through February. During 1988-89, 240 students participated.

The class sizes are small; a teacher and an aide work with 15 students. This allows each student to receive close attention. The teacher and aide constantly address students' academic needs and questions. The teacher also drills each student individually on vocabulary and other language skills. Strong support from administrators in the program allows teachers and aides to direct their efforts towards teaching.

This program is coordinated closely with the regular program. Regular classroom teachers compile a folder for each extended time program participant that includes results of an informal reading inventory, the Texas Educational Assessment of Minimum Skills (TEAMS) test, the Iowa Test of Basic Skills, teacher recommendations regarding reading comprehension skills, and any other general observations the teacher has made about the student's needs and skills. These folders are used by the Saturday teachers and the Chapter 1 coordinator to assess student needs and group students by ability and skill level.

The Saturday program is designed not to repeat the regular program but rather to complement it. The program develops the same skills through a different approach. All activities (reading and writing exercises, book projects, computer and individual learning center) are based on the theme of different pieces of children's literature. The program is designed to teach those skills necessary to pass the TEAMS test. Reading and writing skills addressed include identification of the main idea, use of context clues, phonics, recall of specific details, sequencing of events, predicting outcomes, drawing conclusions, distinguishing fact from opinion, and the association of cause and effect.

The program attempts to maximize parent involvement. Parents are asked to attend several meetings designed to explain the extended time program and other services available to Chapter 1 students. Parents are also instructed in ways to promote their children's educational development at home. Babysitting services are available during these meetings. Additionally, parents of children in the extended program attend intensive inservice sessions every other month to discuss the development of lesson plans and review the "parent and child reading calendar" which contains instructional activities to pursue at home. Finally, parents are invited to attend Saturday sessions that model what their children are taught but that use more advanced literature.

Parents must sign a statement (produced in both English and Spanish) holding them responsible for their child's regular attendance. Because there is a long waiting list for the program, students are dropped from the program if they miss two classes without legitimate excuses.

Program participants were pre- and post-tested. Average gain scores of students enrolled in the Saturday program were greater than for Chapter 1 students not enrolled in the program. In addition to the greater growth demonstrated by test scores, surveys of teachers, aides, and parents show positive attitudes toward the program.

After School Instruction (with Home-Based Component)
Washington, D.C.

The Bolling Air Force Base Project, a combined after school and home-based computer program initiated in 1987-88, provides Chapter 1 services to eligible private school students living on the Base but attending private schools.[5] Approximately 60 students from grades K through 8 receive their Chapter 1 services through the Bolling Air Force Base Project. To be eligible, students' have to 1) live on the Bolling Air Force Base, 2) attend private schools in the Diocese of Arlington, VA., and 3) be Chapter 1 eligible (test below the 50th percentile on the CTBS standardized test). All students meeting the eligibility requirements may be enrolled in the program if their parents show interest.

Perhaps the most distinctive feature of this program is its combination of two strategies for extending instructional time. By using both after school and home-based instructional strategies, students receive greater amounts of direct instructional time and parents have a more active roll in their childrens' education.

During the after school session, two teachers and three parent-partners (volunteers) instruct a group of 20 students. Students attend the after school program one hour per week. They work in small groups or alone; these groups may be arranged by grade level or by subject. The program's curriculum differs from students' regular academic work because it is informal, involves a lot of dialogue, does not use fixed groups, has students from grades 1 through 8 in one setting, and involves peer tutoring and educational games.

Maximizing parental involvement is the cornerstone of the home-based component of the Bolling project.[6] Parents are trained prior to receiving a computer for their child to use in their home for four weeks. The training prepares them to supervise the child's work on computer-assisted instructional lessons for approximately 30 minutes each night, five nights per week. The training, provided by the designers of the educational software, focuses on the essentials of computer usage and setup as well as on ways to reinforce the skills children learn during the regular day and to increase time on task. Bolling project parents can usually sign out computers again after a four week hiatus and are encouraged to work with their children using workbooks during that time.

The results of a computerized test[7] determine a student's individualized "prescription" for home computer use. This prescription defines skills in which the student is deficient and indicates software of an appropriate level of difficulty for the student.

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[5]The Supreme Court's decision in *Aguilar vs. Felton* prohibits the provision of many Chapter 1 instructional services on the premises of sectarian schools to prevent unconstitutional entanglements of religion and government.

[6]The home-based component follows the design of the District of Columbia's FACTS (Families Accessing Computer Technology Systems) program, a home-based computer program for Chapter 1 students attending 30 public schools receiving Chapter 1 in the district. To date, no evaluation results are available for the FACTS extended-time program; therefore, it was not included in this study. Plans exist, however, to conduct an evaluation shortly.

[7]The test covers both reading and math skills and was developed by the designers of the educational software.

At the beginning of the program each year, program teachers hold planning sessions with the students' regular classroom teachers from the private schools. Additionally, the program teacher writes reports on student progress for the regular teacher's review. Project staff state the school principals are especially helpful throughout the year.

In Bolling's initial year, 1987-1988, evaluations were conducted using data from three sources: achievement test gains; attendance data; and questionnaire findings. Participants' gains in achievement test scores were particularly high, far exceeding both project goals and national averages.

Extended School Year Program
San Jose, California

In San Jose, district administrators encourage school principals and teachers to develop and implement Chapter 1 extended year programs (ESY); five out of the 13 Chapter 1 schools have run such programs. Because the staff at each school are given autonomy in developing the programs, programs vary considerably from school to school with respect to design, implementation, and evaluation. Staff contend that the programs succeed because each program's coordinators develop a "sense of ownership" towards their program. The ESY staff are regular teachers and aides from the school offering the program or, if students from a different school attend the ESY program, from the host and guest schools.

At the schools visited for this analysis, Chapter 1 students in grades K through 5 who score in the lowest quartile on standardized tests receive reading, math and language arts instruction for three to four hours each day for three to four weeks beginning the Monday after the last day of the regular school year.

At the two schools visited, program goals seek improvement in basic skills, as measured by teacher developed tests, and remedying the slower gains in achievement experienced by many Chapter 1 students over the summer months. Teachers and administrators are reluctant to spend large amounts of time testing students due to the short amount of time available. However, both schools used some form of testing and reported that students achieved academic gains. They also reported an improvement in self-esteem because during the ESY program students were not compared to higher achieving peers.

The instruction is focused partially on enrichment activities and partially on basic skills. Teachers in both schools use thematic instruction. One school, for example, uses a literature-based approach; if they read *The Frog and the Prince*, they follow with a science lesson on frogs.

Some parents enroll their students but then go on vacation rather than send their child to ESY. Because there is a waiting list, additional parents are contacted regarding participation when other students drop out. Once a student comes to the ESY program, however, their attendance is generally consistent.

While there is an attempt to limit the amount of time spent on testing and program evaluation, district administrators, principals, teachers, and parents all report that the ESY program helps students' academic performance and improves their self-esteem. By running a program for Chapter 1 students only, the schools provide an opportunity for educationally deprived students to be the best in the class rather than the worst. The success of the program is also noted in the attitudes of students who enjoy the alternative learning achievement provided through ESY.

Summer School
DeKalb, Illinois

For roughly 10 years, DeKalb has operated an extended time summer reading program for low-achieving students in conjunction with Northern Illinois University (NIU). The program provides "small group" instruction (two to three students) for Chapter 1 students in grades 2 through 4. Instruction is provided for 1 hour and 15 minutes, three times a week, for eight weeks. Roughly 34 students are served each summer. Students are selected based on greatest educational need as well as a parent's commitment that the child will attend regularly.

As the class size of the program suggests, formal program goals are highly individualized, but, in general, seek to improve students' reading skills. All students participate in a lengthy diagnostic assessment that covers comprehension, word recognition, vocabulary, and fluency as well as tests for vision and hearing problems. Each student's needs become the program goals for that student. In addition, instructors focus on improving students' motivation to read.

Several tutors and student groups meet in a classroom. The small program size allows instructors to work one on one with students while the other students work individually. This amount of individualized attention is difficult to achieve in the students' regular Chapter 1 pullout program due to class size. Additionally, each child has an individualized lesson plan for each day's activities.

A distinguishing feature of this program is its use of NIU students as instructors. All are certified classroom teachers with at least two years of classroom experience, and are earning a masters degree in reading from NIU. While Chapter 1 funds support this summer program, it costs only $5.00 per student due to the unique relationship the district maintains with NIU. NIU masters degree students are required to gain clinical experience in reading, and thus these programs serve their needs as well as those of program participants.

There is some concern about overall attendance problems. While the majority of students have good attendance, many students miss more than 20 percent of the classes. Program staff state that these children's parents seem less committed to the summer program than others. Because transportation is not provided by the program, parental commitment to the program is crucial to regular attendance.

DeKalb administers pre- and post-tests to students in the summer Chapter 1 program using the California Achievement Test. Test scores for 1988 indicate that neither participants or Chapter 1 non-participants made notable gains over the summer. However, program participants did not lose ground. This is encouraging in light of research on the effectiveness of summer programs in minimizing the academic backsliding common among disadvantaged students over the summer months. In addition, it should be noted that the DeKalb program serves students based on need, and these 1988 summer students started the program with an average pretest score 12 NCEs below that of Chapter 1 nonparticipants.

APPENDIX B

Summary of Chapter 1 Extended Time Project Evaluation Results

Table B.1

Evaluations Conducted for 12 Extended Time Programs

District	Program Type	Most Recent Evaluation	Design	Test Used	Results	Surveys Conducted
Florence	Extended day kindergarten	1987-88	Pre- and posttest with comparison group of nonparticipating non-Chapter 1 students.	Cognitive Skills Assessment (State Test)	The mean gain in test scores of participants was three times greater than the gain scores of nonparticipants. The difference is significant at the level of .001.	Teachers, aides, parents
Spokane	Home-based	1987-88	Pre- and posttest. Evaluation includes only scores of children enrolled in the program at least six months.	Santa Clara Inventory of Developmental Tasks	A developmental age was determined for each student based on tests of eight skill areas. On average, entering students' developmental age was 11.8 months below their average chronological age. The deficit at the conclusion of the program dropped to only 3.2 months. On average, participants gained 2.12 developmental months per month of participation.	
West Bend	Home-based	1987	Pre- and posttest	Metropolitan Readiness Test	Posttest scores for the pre-reading composite rose by 11.8 NCE units.a/	Teachers, parents

a/ Normal Curve Equivalents (NCE) scores are referenced to the performance of a nationally representative sample. NCE units range from 0 to 100, with equal intervals and a normal distribution of scores. The NCE scale allows the comparison of scores of different tests of similar material.

Table B.1 (continued)

District	Program Type	Most Recent Evaluation	Design	Test Used	Results	Surveys Conducted
Eagle Pass	Saturday	1987-88	Pre- and posttest The comparison group was regular Chapter 1 program students.	Iowa Test of Basic Skills	Average gain scores for program participants were greater than for Chapter 1 students not enrolled in the extended time program. For third grade students, on average participants gained 2.9 NCE units while regular Chapter 1 students lost 1.8 NCE's. Fifth grade participants gained 4.4 NCE units while nonparticipants gained .5 NCE's.	Regular and program teachers, parents, aides
Dade County[b/]	Saturday After school	1987-88	Pre- and posttest of students in grades 3-6. Comparison group: Grades 3-4: Chapter 1 students Grades 5-6: Chapter 1 eligible students.	Stanford Achievement Test	In 3 of the 4 grades tested, gain scores of participants were greater than gains of Chapter 1 nonparticipants.	

b/ This school district allows individual schools to offer either the Saturday or after school program. The district does not, however, collect or evaluate these programs separately. Therefore, the evaluation represents results from both programs.

Table B.1 (continued)

District	Program Type	Most Recent Evaluation	Design	Test Used	Results	Surveys Conducted
District of Columbia	After school (includes home-based component)	1987-88	Pre- and posttest 1985-86 national average scores of all students were used as a proxy comparison group. Students in grades 2-7 were tested. Students in grades 1; 8-12 were not included in the analysis.	Scholastic Testing Service Instruments	The average annual NCE gain of program participants was 7.4 in reading, and 8.2 in math. This compares favorably with national average gains (in reading and math) of 2.7 and 4.3 NCEs, respectively.	Students, parents, teachers, principals
District of Columbia	After School (STARS)				While raw data for the program are not available from the district, the 1986 District Chapter 1 evaluation report states that STARS participants exhibit the greatest achievement gains among Chapter 1 students.	
San Jose	Summer	Summer 1987	Pre- and posttest	Locally designed instruments tested for growth in math, reading, and language arts skills.	In most cases, students showed mastery of all skills tested.c/	

c/ Because this district allows schools a great deal of flexibility in designing and administering these programs, testing procedures and results may differ between schools. These results reflect one school only, and may or may not be reflective or district-wide results.

Table B.1 (continued)

District	Program Type	Most Recent Evaluation	Design	Test Used	Results	Surveys Conducted
San Jose	Before				No formal evaluation has been conducted for this program. This is in part, due to the program's optional attendance procedures. Teachers and parents report, however, that students are making of gains as a result of the program.	
DeKalb	Summer	1988	Pre- and posttest Comparison group was regular Chapter 1 students not enrolled in program.	California Achievement Test	Participants on average, demonstrated gains equal to the average gains of the non-participant comparison group. Note: The comparison groups pretest scores were on average 12 NCEs higher than the average score for participants.	
DeKalb	After School				While the program has not been formally evaluated, individual student achievement is closely monitored by staff who report consistent improvement.	