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ABSTRACT

As one of five field studies in the National Assessment of Chapter 1, this project studied the design and operations of the Chapter 1 program at the point of service delivery. Examination of the program at 24 schools revealed the following: (1) inflationary pressure on Chapter 1 budgets affected design decisions among schools; (2) cross-site analysis does not suggest that one service delivery model was markedly better or worse than others; (3) the implementation of any one model was largely unrelated to other design features of Chapter 1 projects; (4) Chapter 1 projects were characterized by small instructional groups; (5) in general, Chapter 1 instruction constituted about 30 to 40 percent of the total time spent by students in reading or mathematics; (6) elementary school reading projects offered the most "direct" instruction to students; (7) in general, Chapter 1 projects did not focus on "higher order" tasks; (8) Chapter 1 instruction replaced same-subject instruction in the regular instructional programs rather than taking time away from other programs; (9) the relationship between lessons in the Chapter 1 programs and the regular program varied across sites; and (10) formal procedures for coordinating Chapter 1 and regular instruction were necessary but not sufficient for the development of integrated instructional programs in schools. These findings are compared to past research, and prospects for improvement of the program are offered. Data are illustrated on 13 tables. A list of references is included. (BJV)

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This report represents the cumulative efforts of six teams of researchers. Each team was headed by a senior researcher who coordinated the activities of the research team with the project directors at Far West Laboratory. On the West Coast, the research team was headed by Ginny Lee of Far West Laboratory. Steven Bossert of the University of Utah led the research team in the Intermountain region. In the Midwest, the research team was headed by Annegret Harnischfeger of Northwestern University. In the Mid-South, Jane Stallings of the University of Houston acted as research team leader. In the Deep South, Lorin Anderson of the University of South Carolina was the research team leader. And Richard Allington of the State University of New York, Albany, headed the research team in the Northeast.

The names of all of the members of the various research teams are listed at the end of this section. All of these researchers performed admirably under less than ideal circumstances. Timelines for this research were short, the hours required were very long, and we are grateful for the stamina and commitment of all these team members. We especially wish to acknowledge the contributions of our research team leaders. Steven Bossert continues to be a valued colleague, and with him we learned much of what we know about how to conduct large-scale, multi-site field studies. Annegret Harnischfeger was invaluable during the proposal-writing stage of this study, and from her we continue to learn about how to analyze the structure of school days and the academic learning time of students. Jane Stallings shaped our understanding of effective teaching practices for low-income students, and we often borrowed ideas from her as we thought about how to conduct classroom observations. From Lorin Anderson we gained the insight that student instruction is assignment-driven. As we analyzed data from the student observations and thought about coordination issues in Chapter 1 schools, this insight proved invaluable. Finally, Richard Allington shared with us his considerable knowledge of compensatory reading practices and curricular coordination and thereby improved the quality of our work immeasurably.

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principals and classroom teachers who generously gave their time to be interviewed and allowed us to observe in their classrooms. Finally, we especially want to thank the 243 Chapter 1 students whom we "shadowed" during the course of this study. Their tolerance of us was remarkable.

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CHAPTER 1

INTRODUCTION

This study was sponsored by the Office of Educational Research and Improvement (OERI), United States Department of Education, as part of the congressionally-mandated National Assessment of Chapter 1. As one of five field studies in the National Assessment, this project studied the design and operations of the Chapter 1 program at the point of service delivery. At 24 schools across the country, over 2000 hours of academic instruction were observed, and interviews were conducted with over 400 teachers, administrators, and students. These procedures yielded descriptive data on patterns of Chapter 1 service delivery in schools and the characteristics of instruction received by Chapter 1 students.

Role of the Study in the National Assessment

The study was based on the research strategy of the National Assessment, discussed in the first report to Congress (Kennedy, Jung, & Orland, 1986). Overall, the purpose of the assessment was to provide Congress with information on the current operations of the Chapter 1 program at multiple levels of the educational system. The National Assessment sponsored two large-scale surveys of Chapter 1 schools and districts and five smaller-scale field studies of Chapter 1 operations. In addition, exisiting data on the program were re-examined. The staff of the National Assessment will use these data to compile their final report to Congress on the current operations of the Chapter 1 program.

As part of the National Assessment, this report was charged with describing the operations of the Chapter 1 program within schools. The report describes patterns of service delivery in schools and investigates the extent to which service delivery patterns affect the instruction received by Chapter 1 students. At each school in the sample, interviews and classroom observations were designed to gather the following information.

* The design characteristics of Chapter 1 projects, including curricular topics, staffing patterns, service schedules, and service delivery models used by Chapter 1 projects.

* The scope and quality of instruction received by Chapter 1 students, including the topics, amount of time, size of groups, and formats of lessons.

* The procedures used by teachers and school administrators to coordinate instructional programs and the extent to which students miss services in the regular program by virtue of participation in Chapter 1 instruction.

Research and Policy Issues Addressed by the Study

The research topics listed above reflect the National Assessment's need for descriptions of the instructional services provided to students who participate in the Chapter 1 program. Although several past studies have provided descriptive data on these topics (Advanced Technology, 1983; Carter, 1984; National Institute of Education [NIE], 1976), the growing knowledge base and changing policy environment in compensatory education continue to raise new questions about the design of Chapter 1 projects, the quality of Chapter 1 instruction, and the relationship between Chapter 1 programs and regular instructional programs in schools. In the following sections, research and policy issues related to these topics are discussed.

The Design and Implementation of Chapter 1 Projects

Recent studies of compensatory education have raised a number of interesting questions about the design of Chapter 1 programs at the local level (Advanced Technology, 1983; Carter, 1984). The National Assessment includes a separate field study of local design practices that provides more detailed data on local design than is reported here (Knapp, Turnbull, Blakeley, Jay, Marks, & Shields, in press). Nevertheless, the present study does address a few specific questions about local design practices. In particular, the present study sought to describe the types of project designs used in schools and to assess the effects of these designs on the scope and quality of instruction received by Chapter 1 students.

Questions about local design practices often focus on a specific issue: The relative merits of implementing pullout vs. alternative models of service delivery. Early research found that almost all Title I projects used pullout models (Glass & Smith, 1977), but later research discovered a slight trend away from this tendency, with local districts increasingly replacing pullouts with alternative designs involving in-class and replacement models (Advanced Technology, 1983). This study investigated whether the implementation of different service delivery models had consequences for the scope and quality of instruction received by students. It was felt that evidence on this question could help policymakers and researchers better understand the instructional consequences of local school systems' choice of service delivery models.

Much early research suggested that the use of pullout models was detrimental to instruction. Glass and Smith, (1977), for example, argued that "research does not support the wisdom of instruction under conditions like those that prevail in pullout programs" (p. 5). Kimbrough and Hill (1981) expanded this critique when they argued that pullouts disrupted ongoing lessons in regular classrooms and caused students to miss some portion of their regular instruction. Other research suggested that the implementation of pullout designs can result in a lack of coordination between compensatory and regular

instructional programs and that this can adversely affect student success in regular classroom lessons (Johnston, Allington, & Afflerbach, 1985).

Other researchers have developed a more balanced analysis of service delivery models. Archambault (1986), for example, reviewed a number of studies of the effects of pullout models on instruction and found that study results were inconsistent. He concluded that local choice of a particular delivery model was less important to the quality and effectivenss of Chapter 1 instruction than a number of other factors, including curricular, staffing, grouping, and teaching practices. Archambault's work suggests a broader view of project design that includes a number of factors in addition to the particular service delivery model being implemented locally.

Past evaluations of compensatory education suggest further considerations about local design practices. Carter (1984) noted that project designs in compensatory education are characterized by few uniformities. In part, this variability in design is due to the weak constraints placed on schools in federal education laws and policies. As Gaffney (1986) discussed, Chapter 1 legislation and federal education statutes give local school systems wide latitude in the design of local Chapter 1 projects. In addition to allowing schools to implement a number of different service delivery models (e.g., pullout, in-class, replacement, add-on), federal statutes prohibit the federal government from exercising any direct supervision or control over the curriculum, program of instruction, administration, or personnel of any school system (Gaffney, 1986). Given these circumstances, it would not be surprising to find that schools operating the same nominal service delivery model, a pullout model, for example, have different curricular and instructional characteristics, employ different types of staff, and use different administrative arrangements to coordinate instruction.

Given the lack of restrictive guidelines about local project design, there is a need to investigate the extent to which schools uniformly implement various service delivery models and a need to examine service delivery models in the context of other school-level design features. Accordingly, the sample for this study included schools that used a variety of service delivery models, and at each school, researchers carefully charted the characteristics of the curriculum, staffing, scheduling, and management of these projects. The purpose of this strategy was twofold. First, it allowed an investigation of the extent to which projects using the same nominal delivery model (e.g., pullout or in-class) were similar in other design features. In addition, it allowed an analysis of the extent to which project design features affected the scope and quality of instruction received by Chapter 1 students. The purpose was to provide practitioners and policymakers with a better understanding of the instructional implications of the use of particular service delivery models.

The Quality of Instruction in Chapter 1 Projects

A second set of questions being asked by the National Assessment concerns the quality of Chapter 1 instruction in schools and the overall instructional effectiveness of the Chapter 1 program. A systematic analysis of this issue has been presented in the second report of the National Assessment (Office of Educational Research and Improvement [OERI], in press), but the present study was in a position to make a limited contribution to studies of program effectiveness. While not an outcomes study, the present study did gather data that can be used to interpret the findings presented in the National Assessment's second report. This study also develops suggestions about how to improve Chapter 1 instructional services.

The approach taken in this study was based on the following observation. An enduring problem in research on compensatory education is that the results of large-scale outcomes studies often have been difficult to interpret. This was especially true of the earliest large-scale effectiveness studies, which tended to take a "macro-view" of federal education programs. In these studies, researchers assumed that all students who participated in a particular program received comparable instructional treatments and that evaluations of program effectiveness could therefore be made at a very general level of analysis. A number of observers have noted the shortcomings of this approach (Averch, Carroll, Donaldson, Kiesling, & Pincus, 1972; Wiley, 1979). A major problem is that Chapter 1 "treatments" vary markedly from school to school, contrary to the assumptions of early research designs (Carter, 1984). This has led researchers increasingly to adopt a "micro-view" of instructional treatments, a view that assumes that instructional "treatments" vary from site to site, and attempts to describe this variation in detail. VanderPloeg (1982) noted a benefit of this approach: It studies the processes within schools that lead to instructional outcomes and therefore provides data that help interpret the results of large-scale outcomes studies.

As the second report of the National Assessment indicates, compensatory education programs typically exert only a small positive effect on student achievement (OERI, in press). This study used the following approach to help interpret previous outcomes studies. Data were collected on the characteristics of instruction provided to Chapter 1 students at each school in the sample, and these data were compared to the features of a sound educational program as identified by past research. The purpose of this analysis was to assess the quality of instruction in Chapter 1 projects and to see whether variations in quality were affected by project design features or other school factors.

The definition of "quality" instruction used in this study was derived from past research on teaching and instruction. On the basis of this literature, the following variables were identified as major components of an effective educational program:

Time. Educational researchers have shown a consistent relationship between the amount of time students spend on academic tasks and

their subsequent performance on achievement tests (Walberg & Frederick, 1983). The relationship of time to student achievement is greater in studies that measured engaged time rather than allocated time. Engaged time represents that fraction of allocated time that students spend actively working at academic tasks (Fisher, Berliner, Filby, Marliave, Cahen, & Dishaw, 1980). The present study recorded the amount of time students in the sample spent in instruction in various subjects in both the regular and Chapter 1 program. In addition, qualitative data on student engagement and success were gathered. These data were used to assess the extent to which Chapter 1 instruction contributed to students' academic learning time.

Class size. Past research also indicates that student achievement is increased when learning activities take place in smaller classes or instructional groups (Cahen, Filby, McCutcheon, & Kyle, 1983). For example, a meta-analysis of studies of class size by Glass, Cahen, Smith, and Filby (1982) presented a curve that traced the effects on learning of reductions in group size. This curve suggested that reductions in class size had minimal effects until instructional groups reached a size of about 10 students. Below this number, reductions in class size tended to have larger effects. This same meta-analysis also suggested that reductions in class size had larger effects when the reduction occurred for longer time periods. For example, Glass et al. (1982) arbitrarily divided studies into those which reduced group size for more or less than 100 hours and found that reductions lasting longer than 100 hours had larger effects than those that lasted less than 100 hours. The present study recorded the sizes of the instructional groups in which students in the sample participated, both in the Chapter 1 program and in the regular program. These data were then used to examine whether changes in student grouping arrangements could be expected to contribute to increased achievement of Chapter 1 students.

Instructional formats. A third component of instructional quality consists of the formats used by teachers during lessons. A great deal of research has searched for instructional formats that result in effective instruction for low income/low achieving students (for a review, see Brophy & Good, 1986). In the 1970s, researchers held out high hopes for individualized instructional formats, but the Instructional Dimensions Study (Cooley & Leinhardt, 1980), sponsored by NIE during its last evaluation of compensatory education (NIE, 1976), provided little support for the effectiveness of this approach, at least as measured in the study. Alternatively, much more empirical support has been found for an approach which has come to be known as "direct instruction" (Brophy & Evertson, 1974, Good, 1978; Stallings & Kaskowitz, 1974; for a review, see Rosenshine, 1983). In this approach, teachers actively present lessons and provide students with guided practice in new academic skills. This approach contrasts sharply with the frequent use of independent seatwork as an instructional format, a feature common to many individualized instructional programs. Although good instruction always includes some independent practice, and this kind of practice occurs during student seatwork, recent research suggests that an over-reliance on seatwork, especially its use to present new skills, is less effective than more "direct" instructional formats (Anderson, Brubaker, Alleman-Brooks, & Duffy,

1985; Brophy & Good, 1986). On the basis of these findings, the present study recorded the amount of time students spent in independent seatwork as opposed to more "direct" instructional formats such as lecture/recitation activities.

Curriculum content. Discussions of instructional quality must consider not only how students are taught, but also what they are taught (Carter, 1984; Cooley & Leinhardt, 1980). Increasingly, thoughtful observers are beginning to question the curriculum content of compensatory education programs (Botel, 1978; Allington, Steutzel, Shake, & Lamarche, in press). Past research suggests that compensatory education students spend much time working on "lower-order" academic skills. For example, students practice phonics skills but do little reading; or students practice basic arithmetic skills but do not apply these skills in problem-solving situations. Recent research also suggests that the "direct" instruction formats that many educational researchers advocate for use with low-income/low-achieving students may be of limited utility for instruction in higher order thinking skills (Peterson, 1986). As a result of this debate, this study recorded the skills to which students in the sample were exposed, both in the Chapter 1 program and in the regular program, and this study assessed the extent to which the Chapter 1 instruction was focused on low-level basic skills, such as phonics drills and arithmetic facts, or whether Chapter 1 students had an opportunity to engage in higher order skills, such as the reading of connected text and the completion of problem-solving exercises.

The Relationship Between Chapter 1 and Regular Instruction

A third area of interest to the National Assessment was the relationship between the Chapter 1 program and the regular instructional program. In this study, this relationship was studied from two points of view. First, the sponsors of this study were interested in the flow and integration of Chapter 1 and regular lessons over the course of an entire student day. Second, they were interested in school-level procedures used to coordinate the regular and Chapter 1 instructional programs.

Both these interests derive from past research on compensatory education. With respect to the flow of Chapter 1 and regular lessons over the course of the school day, the last major evaluation of compensatory education (NIE, 1976) contained a number of relevant findings, some of which led critics to conclude that Title I instruction substituted for rather than added to students' regular instructional programs. For example, the NIE (1976) study found that the average compensatory education student spent between 4 and 5 1/2 hours a week in compensatory instruction, almost always during the school day and after being "pulled out' of the regular classroom, during which time about 40% of participating students missed instruction in a variety of subjects.

Policy analysts have discussed these findings in conjunction with criticisms of current program practices. Brown (1982) and Walberg (1984), for example, argued that compensatory education programs are

not truly compensatory because they rarely add more instructional time to a student's school day. Almost all projects offer instruction during the regular school calendar and participating students often miss some portion of regular classroom instruction. A closely related criticism was offered by Kimbrough and Hill, (1981), who argued that the widespread use of pullout models disrupted the instruction not only of pulled-out students, but also of students who remained in the classroom.

It is interesting to contrast these criticisms, offered by policy researchers and academics, with the views of teachers. In 1978, the National Institute of Education sponsored a conference in which teachers were invited to discuss research on compensatory education. By and large, teachers were not much concerned with the fact that compensatory instruction caused some students to miss some portion of the regular curriculum. Some argued that student mastery of basic reading and mathematics skills was paramount. Nevertheless, teachers at the conference did recognize that coordination problems arose, especially when pullout models were in use, and many teachers "saved" time for instruction in important subjects such as social studies so that it could be offered when all students were present (cf. Advanced Technology, 1983, pp. `-30, for survey findings that confirm teachers' views).

It is important to consider not only what students miss when they receive Chapter 1 lessons, but also the extent to which lesson content in Chapter 1 and regular classrooms is congruent. For example, Johnston et al., (1985) concluded that most compensatory education students received compensatory reading lessons that bore little or no relationship to the reading lessons in their regular classroooms. They also reported that school personnel made little effort to systematically coordinate lesson content across instructional programs. On the basis of this and other evidence, they concluded that students would be more successful in the regular instructional program if they received compensatory instruction that was more congruent with what was offered in the regular program.

In order to investigate the place of Chapter 1 instruction within the overall instructional program received by students, this study observed students over the course of an entire school day. This procedure allowed us to chart the congruence between lessons in Chapter 1 and regular settings. These whole-day observations were supplemented by various interviewing activities, and together these data sources were combined to address the following kinds of research questions. First, we were interested in understanding more about the problem of missed instruction. As the NIE (1976) data showed, only 40% of the teachers surveyed reported that Chapter 1 students missed some portion of their regular instruction. In this study, it was possible to analyze the extent to which school-level design decisions affected the problem of missed lessons. For example, we were interested in finding out if students served by pullout designs missed more regular instruction than students served by other models (e.g., in-class). Moreover, we wanted to learn more about how teachers managed instruction s ch that the disruptiveness of Chapter 1 instruction could be minimized. And finally, we used our data to investigate how

regular classroom teachers, Chapter 1 staff, and school administrators coordinated instructional programs and whether various coordinative procedures resulted in lessons that were more or less congruent across instructional programs.

The Contents of this Report

We conclude our introduction by discussing the contents of this report. Before proceeding, however, we note other reports from this study. An initial report of the project consisted of case studies of 12 of the 24 schools in the sample (Lee, Rowan, Anderson, Bossert, Harnischfeger, & Stallings, 1986). These cases were organized to provide information about the design and operations of Chapter 1 projects in schools operating pullout vs. in-class models of service delivery, in schools serving students with multiple needs, and in secondary schools. A second volume reported findings from a special substudy of 7 Chapter 1 schools that served high proportions of limited-English-proficient (LEP) students (Guthrie, L.F., Rowan, Guthrie, G.P., & Boothroyd, 1986). The report described a variety of strategies for designing compensatory instruction for LEP students and discussed the interaction of LEP and Chapter 1 instructional services.

In the present volume, findings from an analysis of data at all 24 of the schools in the study are reported. The 17 elementary and 7 secondary schools included in the sample were located in six different geographic regions of the country, used a variety of service delivery models to provide Chapter 1 instruction, and served student populations from a broad spectrum of economic and cultural backgrounds. The following topics are discussed below:

Chapter 3 describes the variety of schools and students that participate in the Chapter 1 program. Since 90% of the school districts in the nation receive Chapter 1 funds, it has been observed that the Chapter 1 program serves a wide variety of schools and students (Kennedy et al., 1986). Chapter 3 presents holistic portraits of the Chapter 1 schools and students that participated in this study and is designed to supplement purely statistical descriptions of Chapter 1 schools and students presented in other reports of the National Assessment.

Chapter 4 discusses the design features of Chapter 1 projects. In the past, the Chapter 1 program has been criticized for providing "pullout" instructional services (e.g., Glass & Smith, 1977; Kimbrough & Hill, 1981; Johnston, et al., 1985). Yet a wide variety of designs and service delivery models are permissible under Chapter 1 legislation and local school systems are increasingly implementing designs that incorporate "in-class" or other alternatives to pullout instruction (Gaffney & Schember, 1982; Gaffney, 1986). Chapter 4 provides descriptive information on the design features of Chapter 1 projects in the schools in this study and discusses factors that influence local design decisions. These data supplement other reports on Chapter 1 design features prepared as part of the National Assessment (see especially Knapp, et al., in press).

Chapter 5 describes the charateristics of the Chapter 1 instruction provided to the students in this study. Past research on both compensatory and regular instruction has uncovered features of a sound educational program that can enhance the effectiveness of basic skills instruction for low income and/or low achieving students (for reviews, see Brophy & Good, 1986; Peterson, 1986). Among these characteristics are increased instructional time (Walberg & Frederick, 1983), smaller class sizes (Glass et al., 1982; Cahen et al., 1983), and greater amounts of "direct" instruction (Stallings & Kaskowitz, 1974; Brophy & Good, 1986; Anderson et al., 1985). Chapter 5 examines the characteristics of instruction received by students in this study in light of findings on the characteristics of effective instruction. The purpose is to assess the quality of Chapter 1 instruction received by students in the sample.

Chapters 6 and 7 present data on the subject matter and timing of lessons experienced by Chapter 1 students during the course of an entire school day. A number of policy makers have been concerned that participation in Chapter 1 lessons causes participating students to miss some portion of their regular program of instruction and that the transition between Chapter 1 and regular lessons is disruptive for students (Brown, 1982; Kimbrough & Hill, 1981). Chapters 6 and 7 describe the structure of school days for students in this study and demonstrate how participation in the Chapter 1 program affects the scope and timing of the overall instructional program of students. In Chapter 6, quantitative data are used to address these issues, while in Chapter 7, qualitative data are relied upon.

Chapter 8 presents data on the procedures used by school personnel to coordinate student lessons across the regular and Chapter 1 programs. Past research has criticized compensatory education programs for failing to provide instruction that is congruent with lessons provided in the regular classroom. Chapter 8 describes the types of coordinative patterns found at the 24 schools in the sample and discusses the effects of these patterns on lesson congruence across programs.

Chapter 9 reviews the basic findings of the study and offers suggestions for improvement of the Chapter 1 program based on these findings.

CHAPTER 2

METHODOLOGY

This study employed a multi-site case study approach in a sample of 24 schools at six geographic locations across the country. Far West Laboratory (FWL) had responsibility for the overall conceptualization and conduct of the substudy, as well as the data collection at one geographic site. Educational researchers at universities served as site coordinators for the five other geographic sites. These university-based site coordinators contributed to the development of the data collection instruments, located potential school sites, selected field research teams, and managed the data collection at four school sites each. Comparability of data across regional sites was ensured through the use of a set of standardized data collection procedures.

This study was conducted during the 1985-86 academic year. Sample selection and training were carried out in the fall of 1985, and data collection took place from January through April, 1986.

This chapter describes the methods and procedures used in the study, giving attention to (a) sample selection, (b) instrument development and training, and (c) data collection procedures.

Sample Selection

Sample selection occurred in two stages: First, a sample of 24 schools was chosen, and then, within each school, 10 students were selected for observation over an entire school day. The next two sections describe the procedures followed for selecting schools and students. Table 2.1 displays characteristics of the final sample.

Selection of Schools

This study employed a purposive sampling plan, rather than one that would produce a representative or random sample of schools nationally. We sought a sample that would enable us to chart variations in context, student population, and Chapter 1 services. Nomination and final selection of schools were based on the criteria that the sample include: schools from urban, suburban, and rural settings; schools that organized Chapter 1 services by the various types of service delivery models (pullout, in-class, add-on, and replacement); both elementary and secondary schools with Chapter 1 programs operating at the grade levels targeted for student observations (grades 2, 4, 8, and 10); schools with substantial populations of non- and limited-English speakers; both public and non-public schools; and schools that served students from a variety of racial, ethnic, and socioeconomic backgrounds.

Table 2.1 Characteristics of Sample

	# Schools	# Students	# Academic Hours Observed
ELEMENTARY	17	166	1357
SECONDARY	7	75	705
TOTAL	24	241	2062

Project staff coordinated with state, county, and district offices of education to identify potential schools. Once a school was identified, telephone contact was made with the principal, and a standardized set of procedures was followed to introduce the study, assess the principal's interest, and collect background information about the school (e.g., demographic information, description of the Chapter 1 project). Researchers also visited the schools to discuss the study with appropriate staff members. Because student observations were to be conducted, cooperation of classroom teachers at targeted grade levels was especially important, and no school was included in the study without the voluntary cooperation of relevant teaching staff. Indeed, the vast majority of school staff were enthusiastic about participating.

When the potential pool of schools had been nominated, FWL staff made the final determination of the study sample, selecting 24 schools that would provide ample variation on the criteria listed above.

Selection of Students

Observing students over the course of the school day was a major task of the study. The identification of students for observation was carried out by research team members in association with school staff. In some cases, the classroom teacher at the grade level to be observed nominated students. In other cases, especially intermediate and high schools, Chapter 1 project staff were involved in the selection process.

At each school, ten students were selected for observation: Eight were observed for one whole day of instruction; two, for five consecutive instructional days. The primary selection criteria were (a) to select students who received Chapter 1 services; (b) to select equal numbers of students by grade level in each school; and (c) to select equal numbers of LEP and fluent-English-speaking students in those schools with high concentrations of LEP students.

As with school selection, no attempt was made to achieve a statistically representative sample; rather the goal was a sample that would enable the study to document variations. Thus, in addition to the criteria listed above, variations were also sought in (a) Chapter 1 services received by subject (e.g., reading only vs. reading and math); (b) achievement scores (e.g., California Test of Basic Skills); (c) receipt of other types of special services (e.g., special education, LEP); and (d) sex.

Instrument Development and Training

Data collection procedures were derived from those used in earlier multisite case studies conducted at Far West Laboratory. Existing instruments were modified for the study and refined during field testing. In developing data collection procedures, FWL key staff were

guided by the conceptual model discussed in Chapter 1. Procedures were developed that would allow fieldworkers to gather evidence on each of the constructs.

Field testing was conducted in two schools chosen to represent characteristics of the study sample. A large, urban middle school and a small, urban elementary school served as pilot sites. Both schools had compensatory education programs and enrolled a high percentage of LEP students. Early field testing focused on the structured student observation techniques. Working in pairs, key staff entered pilot sites and engaged in student observations. A series of trial observations and subsequent revisions of the instrument produced a coding scheme that was easy to use, reliable, and captured significant features of students' instructional experiences. Key staff also field tested interview guides, conducting interviews with various instructional staff members in the pilot schools.

Training

Training was conducted at each geographic site by key staff, using a standard set of materials and activities. Training was oriented around the Chapter 1 Whole Day Study Research Manual, which consists of the Technical Proposal of the study, an overview of the study, and sections on school and student level data collection. Videotapes were used to demonstrate interview techniques and to provide examples of classroom instruction. On-site practice observations in classrooms were conducted in local classrooms in schools that would not be part of the final study sample.

For a period of approximately one month following training, the field staff continued to practice interviewing and student observations in pilot schools. During this time, site team members phoned FWL staff with questions or problems they encountered. At the end of the practice period, FWL conducted a coding test at all sites and checked coding reliability across all fieldworkers. Test results indicated that coders understood and could reliably use the coding scheme.

Data Collection Procedures

This section describes the data collection procedures used in the study. Two levels of data collection are discussed: school-level data collection and student-level data collection.

School-Level Data Collection

Data on school-level variables were collected through semi-structured interviews with key school personnel. In each school, interviews were conducted with the principal, Chapter 1 coordinator, Chapter 1 certificated staff, and regular classroom teachers of observed students. In some cases, the Chapter 1 district coordinator or Chap-

ter 1 instructional aides were interviewed. Approximately ten interviews were conducted at each site.

All interviews were tape recorded. Those with the principal, Chapter 1 staff, and classroom teachers of students shadowed for a whole week were transcribed for later analysis. The remainder were summarized by the data collectors according to a standardized data reduction format. For all interviews, a "summary observation" of key points and comments about the quality of the interview itself was prepared.

Principals also provided standard demographic data on the school, Chapter 1 program, and the district. Among the data provided was the service delivery model: Add-on, in-class, pullout, or replacement. The school principal was asked to identify each service delivery model operating at the school. In the report, therefore, references to service delivery models are based upon principals' definitions.

Student-Level Data Collection

For each student shadow day, fieldworkers gathered data on students' instructional experiences through the use of the Student Observation Instrument (SOI), conducted a "debriefing" interview with teachers at the end of the observation day, and prepared a daily summary. Each of these procedures is described in this section; more complete descriptions are contained in the Chapter 1 Whole Day Research Manual.

The SOI combined a system of structured coding categories with descriptive, focused fieldnotes to yield a chronological account of each student's experiences across all instructional settings. Structured coding categories appeared across the top of the form; this information described the context of the target student's activity at any one time. Focused fieldnotes were taken on the lower portion of the form. These fieldnotes allowed fieldworkers to maintain a fuller, verbal description of the flow of instructional activities. Here, fieldworkers took notes on lesson content, materials, student performance, and behavior. While the study did not measure student outcomes on standardized achievement tests, fieldworkers did collect copies of students' worksheets and estimate students' engagement and success rate on observed academic tasks.

An important variable in the cross-site analyses was the coding category called instructional format. Instructional formats included lecture/recitation, seatwork, surrogate, and management. Lecture/recitation referred to lesson segments in which the instructor actively conducted the lesson through lecture, question-and-answer, or guided practice, such as when teacher and students work math problems together. Lecture/recitation served as the study's measure of "direct" instruction. Seatwork referred to lesson segments in which the shadowed student worked on written assignments without close supervision. Surrogate was used to code lessons that involved computer-

assisted instruction or audiovisual aids. Finally, management included classroom behaviors such as distributing papers, checking roll, or sharpening pencils.

A debriefing interview was conducted with classroom teachers at the end of each observation day. The purpose of this interview was to obtain information about the skills or academic content (if any) that students missed because they received Chapter 1 instruction. It also provided information on how lesson content was coordinated across Chapter 1 and regular programs and whether Chapter 1 students had to make up work missed.

A Daily Summary was developed for each student shadow day. This three- to four-page account of the student's instructional day was organized chronologically, summarizing each content area lesson (e.g., reading, math, science, social studies). Within lessons, instruction was reported on by format (e.g.,lecture/recitation, seatwork) and group (e.g., whole class, subgroup, individual). The Daily Summary also allowed fieldworkers to expand on focused fieldnotes and describe more fully what the student did in different instructional settings.

Data Analysis

Data analysis was both quantitative and qualitative. Quantitative analyses were conducted on the structured portion of the SOI. Qualitative data reduction procedures like those described by Miles and Huberman (1984) were used to analyze interviews and fieldnotes.

Quantitative Analysis

Data from the structured portion of the SOI were keyed into machine-readable format and analyzed by computer. The quantitative analysis produced (a) individual daily schedules for all shadowed students, and (b) a series of summary tables.

Qualitative Analysis

A massive amount of descriptive data was collected over the course of the study. These data included transcribed interviews, interview summaries, daily summaries of student observations, and school portraits and maps. Guided by the conceptual framework, FWL key staff used a series of steps to reduce the data to manageable proportions.

All data for each school site were gathered in a separate binder: staff interviews, daily summaries, debriefing interviews, mini-questionnaire, and a narrative school portrait. On a site-by-site basis, data analysts then read through the data, extracting relevant information. A variety of data reduction forms were used to produce brief summaries. Student-level data reduction forms summarized each student's daily schedule, special program services (e.g., Chapter 1, special education), and topics and skill levels in reading and math by

program. For school-level data, data reduction forms focused on the funding context, service delivery models, and the coordination between Chapter 1 and regular instruction. In addition, portraits of individual students were prepared, and quotations from school personnel relating to a variety of issues were extracted from interviews.

Summary

This study employed a multisite case study approach in six geographic sites. A sample of 24 school sites was selected to reflect variations in context, student population, and Chapter 1 services. Ten students in each school were observed for entire school days. Students varied by grade level, Chapter 1 services received, English language proficiency, and achievement. At the school-level, interviews were conducted with key school personnel, including the principal, Chapter 1 coordinator, Chapter 1 instructors, and regular classroom teachers. Student-level data collection combined structured coding and focused fieldnotes. Data analysis was both quantitative and qualitative.

CHAPTER 3

THE COMMUNITY CONTEXT OF CHAPTER 1 SCHOOLS

This chapter sets the scene for the descriptions and discussions in the rest of this report. First, we present the basic descriptive data on the community and district settings of the 24 schools in the sample; we then focus on a number of themes that emerged during the cross-site analysis. A major purpose of this chapter is to describe the variety of communities served by the Chapter 1 program and to illustrate the various educational needs of students from these communities.

Basic Descriptive Data

The schools in this study were selected purposively to provide variation in community settings, grade levels served, and project types. This strategy does not result in a sample that is representative of the population of schools receiving Chapter 1 funds, but it does include schools with a wide enough range of characteristics to allow for an examination of how the services offered by Chapter 1 projects in schools are affected by such variables as community settings, district characteristics, the grade levels served by the schools, and the types of students attending the schools.

Table 3.1 arrays basic descriptive data for the 17 elementary schools, the 3 intermediate schools, and the 4 high schools in the sample. Community and district characteristics are indicated by community type and poverty index and enrollment of the school district; school characteristics include enrollment figures, school grade span, and ethnic composition of the school; student characteristics include the percentage of students who scored below the 50th percentile in reading and math, and the percentage of limited-English (LEP) students in each school. These data are briefly discussed below.

Community Characteristics

The Chapter 1 program is designed to provide services to educationally disadvantaged youth in areas with poverty concentrations. The first interim report of the National Assessment of Chapter 1 (Kennedy, Jung, & Orland, 1986) reported that as many as 90% of school districts receive Chapter 1 funds. Chapter 1 thus serves a wide variety of communities, and the sample was chosen to reflect this circumstance.

A majority of the schools in this study were located in urban areas, but the cities in which the schools were located varied greatly in size. For example, among the urban schools in the sample, four were located in large cities with populations greater than 500,000; seven, in medium-sized cities with populations between 100,000 and

TABLE 3.1 Characteristics of Schools in the Study

	Community and District Characteristics			School Characteristics			Student Characteristics			
	Community Type	District Enrollment	Poverty Index of District	School Enrollment	Grade Span	Ethnic Groups at School*	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP
Elementary										
Huxley	Urban	62,387	17%	942	K-5	Caucas = 37% AI/Al = 01 Asn/PI = 47 Black = 11 Hispan = 04	67	31	21	30
Parker	Urban	29,716	10%	512	K-5	Caucas = 15% AI/Al = 01 Asn/PI = 14 Black = 03 Hispan = 67	64	50	44	28
Westwood	Urban	8,392	16%	493	K-5	Caucas = 31% AI/Al = 01 Asn/PI = 41 Black = 14 Hispan = 13	61	70	60	20
Washington	Urban	436,925	19%	928	PreK-6	Caucas = 25% AI/Al = 03 Asn/PI = 16 Black = 26 Hispan = 30	13	75	66	29
Kensington	Urban	8,639	08%	483	PreK-4	Caucas = 10% AI/Al = 00 Asn/PI = 01 Black = 78 Hispan = 11	31	78	67	04
Nelson	Urban	2,480	06%	650	K-6	Caucas = 95% AI/Al = 00 Asn/PI = 01 Black = 04 Hispan = 01	22	08	04	00
St. Mary's	Urban	1,300	07%	224	K-8	Caucas = 91% AI/Al = 00 Asn/PI = 00 Black = 08 Hispan = 01	10	15	20	00
Danville	Urban	28,054	26%	436	PreK-5	Caucas = 10% AI/Al = 00 Asn/PI = 00 Black = 90 Hispan = 00	22	57	38	02
Central	Urban	3,285	19%	465	K-6	Caucas = 58% AI/Al = 00 Asn/PI = 14 Black = 27 Hispan = 01	30	26	24	14
Hillside	Urban	23,401	13%	615	K-6	Caucas = 56% AI/Al = 04 Asn/PI = 07 Black = 04 Hispan = 29	34	67	66	05
Johnson	Urban	23,401	13%	370	1-6	Caucas = 50% AI/Al = 07 Asn/PI = 04 Black = 07 Hispan = 32	46	27	26	04

*AI/Al=American Indian/Alaskan; Asn/PI=Asian/Pacific Islander

(table continues)

	Community and District Characteristics			School Characteristics			Student Characteristics			
	Community Type	District Enrollment	Poverty Index of District	School Enrollment	Grade Span	Ethnic Groups at School*	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP
Elementary										
Winkler	Suburban	4,097	03%	607	K-4	Caucas = 86% AI/Al = 00 Asn/PI = 06 Black = 08 Hispan = 00	6	20	12	00
Sumner	Suburban	10,608	16%	849	K-4	Caucas = 74% AI/Al = 00 Asn/PI = 02 Black = 23 Hispan = 01	4	41	31	00
Evergreen	Rural	823	66%	625	PreK-8	Caucas = 10% AI/Al = 00 Asn/PI = 00 Black = 90 Hispan = 00	No data	70	70	00
Hayes	Rural	9,737	16%	439	K-8	Caucas = 99 AI/Al = 00 Asn/PI = 00 Black = 01 Hispan = 00	18	28	10	00
Tudor	Rural	8,767	18%	198	K-8	Caucas = 90% AI/Al = 00 Asn/PI = 00 Black = 10 Hispan = 00	37	73	60	00
Lowell	Rural	6,188	18%	495	K-6	Caucas = 99% AI/Al = 00 Asn/PI = 00 Black = 01 Hispan = 00	17	45	40	00
Intermediate										
Kehoe	Urban	2,178	Missing	441	6-8	Caucas =100% AI/Al = 00 Asn/PI = 00 Black = 00 Hispan = 00	29	36	20	01
Lakeview	Urban	67,899	07%	840	7-9	Caucas = 74% AI/Al = 02 Asn/PI = 10 Black = 02 Hispan = 12	53	50	50	05
Einstein	Suburban	1,567	07%	297	5-8	Caucas = 00% AI/Al = 00 Asn/PI = 00 Black =100 Hispan = 00	44	70	73	00

*AI/Al=American Indian/Alaskan; Asn/PI=Asian/Pacific Islander

(table continues)

	Community and District Characteristics			School Characteristics			Student Characteristics			
	Community Type	District Enrollment	Poverty Index of District	School Enrollment	Grade Span	Ethnic Groups at School*	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP
High Schools										
Salvador	Urban	22,241	11%	2,068	9-12	Caucas = 28% AI/Al = 01 Asn/PI = 28 Black = 12 Hispan = 31	15	No data	--	24
Stevenson	Urban	23,401	13%	1,394	9-12	Caucas = 74% AI/Al = 02 Asn/PI = 10 Black = 04 Hispan = 10	11	41	42	22
Coolidge	Suburban	5,508	03%	1,170	9-12	Caucas = 74% AI/Al = 00 Asn/PI = 00 Black = 23 Hispan = 03	6	35	40	00
Taylor	Rural	921	39%	344	K-12	Caucas = 35% AI/Al = 00 Asn/PI = 00 Black = 65 Hispan = 00	7	75	71	00

*AI/Al=American Indian/Alaskan; Asn/PI=Asian/Pacific Islander

300,000; and the remainder of the schools, in small cities, suburban areas, or rural communities.

The economic vitality of these communities also varied greatly. For example, Table 3.1 displays data on the extent of poverty in the communities served by the school districts in our sample. The figure used in the table is the Orshansky index for the district in which the schools are located. This index reports the percentage of the school-age population within a district's attendance area that live below the federally-defined "poverty line." The rural communities in the sample, predominantly Southern, tended to have the highest rates of poverty. For example, in one of the small, rural communities in the sample, 66% of the school-age population were classified as living below the federal "poverty line," while in another rural community nearly 40% of the students were from impoverished backgrounds. By contrast, the large cities in the Midwest and West that were in the sample had between 10% and 20% of the school age population living in poverty, while the smaller cities and suburban communities in the sample had between 3% and 20% of the school age population living in poverty. An implication of these data is that students from poverty backgrounds can be found in virtually all types of communities, even though some communities and some schools within each type of community have higher concentrations of poverty than others.

This sample to some extent reflects patterns of poverty described in the first Interim Report of the National Assessment of Chapter 1 (Kennedy et al., 1986). Findings of the report, for example, were that children who experience long-term poverty are more likely to belong to minority groups and to live in rural areas, in the Southeast, and in large urban areas.

District and School Characteristics

The sample also was chosen to reflect the fact that school districts are more likely to provide Chapter 1 services in elementary than in secondary schools (Advanced Technology, 1983; Kennedy et al., 1986). Thus, as Table 3.1 shows, the sample included 17 elementary schools, 3 intermediate schools, and 4 high schools.

Table 3.1 also shows enrollments in the schools and school districts. The 24 schools in the sample were located in 22 different school districts. The smallest of these districts had an enrollment of 823 students, while the largest enrolled nearly a half million students. There was also variation in the number of students enrolled at each school. For example, the two smallest elementary schools in the sample had enrollments of around 200 students, while the two largest elementary schools had enrollments of over 900 students. The remainder of the elementary schools enrolled between 400 and 600 students. Intermediate and secondary schools in the sample ranged in enrollment from about 300 students to over 800 students. The high schools ranged in enrollment from a small, rural high school with 350 students to a large, urban high school with over 2,000 students.

The ethnic composition of the schools in the sample also varied. Table 3.1 shows the great variation in the distribution of ethnic groups served by the schools in the sample. Many of these communities had attracted recent immigrants from Southeast Asia; for example, one urban school community in the Midwest was known as an area for recent immigrants, and the school was reported to have students from 77 different ethnic and linguistic backgrounds. One third of the schools in the sample were notable for serving a variety of different ethnic groups, including substantial proportions of students from linguistic minorities. Other communities contained large numbers of indigenous Hispanic and Black minorities. Only about one third of the schools served a relatively homogenous student body. In four of these schools, 90% of the student body was White, while in another three schools, over 75% of the students were Black.

Student Characteristics

Table 3.1 displays data on the proportion of students at schools in the sample that scored below the 50th percentile on nationally normed achievement tests. It is well known that achievement scores are correlated to home background, but it is worth noting that this correlation is stronger at the school rather than individual level (Kennedy et al., 1986). Again, the schools in the sample varied greatly in this regard. For example, the proportion of students scoring below the 50th percentile in reading varied from 8% to 78%, and the proportion of students below the 50th percentile in mathematics varied between 4% and 71%. Table 3.1 also indicates the proportion of limited-English-proficient (LEP) students in each school. An effort was made in this study to include schools with high proportions of LEP students, and the sample, therefore, included five schools with over 20% LEP students.

The percentage of students served by Chapter 1 within each school is, in general, another indicator of the proportion of economically and educationally disadvantaged youth. These figures also varied greatly, from 67% in one of the largest urban elementary schools in the sample to only 4% in a large suburban elementary school in the Southeast.

To sum up the basic descriptive data and to portray better the diversity of the communities, districts, and schools in the study (for detailed case studies of 12 of these schools, see Lee, Rowan, Allington, Anderson, Bossert, Harnischfeger, & Stallings, 1986), we present the following vignettes:

* Evergreen Elementary School was located in a small, rural town in the deep South. The community seemed insulated from many of the economic and social changes that have occurred in other areas of the state. Numerous cotton fields lined the road to the school, and White families had fled the public schools by enrolling their children in various private academies in the county. Ninety percent of the students at Evergreen were Black. Many students (and teachers) spoke a form of Black dialect; 98% of the students qualified

for the free lunch program; and some students arrived at school hungry and improperly clothed. Recently, the school district had been classified as "seriously impaired" by the State Board of Education due to the low achievement of its students.

* Nelson Elementary School served a suburban community in the Northeast. Located near a local university, there was strong community support for education. The school operated an after-school activities program that was well-attended and greatly enjoyed by the students. Despite the suburban character of the community, some students at the school had special needs. About 3% came from poor families, others had what staff members called "a poor attitude towards school," and still others seemed to require more social and emotional support than their peers in order to succeed academically.

* Einstein Junior High served an economically depressed community on the outer fringe of a major Midwestern metropolitan area. Many of the houses surrounding the school were in disrepair and/or abandoned. Nearly 80% of the students at the school were Black, and about the same proportion qualified for the school's free lunch program. Staff identified the lack of home support for education and the students' lack of motivation to achieve as major problems at the school. Attendance was also a problem; average daily attendance was 83%.

Cross-Site Themes

Three broad themes emerged as we compared and contrasted the schools in the sample: (a) Chapter 1 students have a variety of needs; (b) limited-English-proficient (LEP) Chapter 1 students present schools with additional challenges; and (c) Chapter 1 secondary school students have special needs. In the following sections, we discuss these and related themes from the cross-site analysis.

Chapter 1 Students Have a Variety of Needs

From our cross-site analysis, we found that communities varied considerably in economic and educational vitality, but that all communities in the sample contained some students with educational and economic disadvantages. The vignettes from the previous section illustrate that such students were found at all of the schools in the sample; they also illustrate the variety of needs these students brought to the schools.

One point that emerged from the analysis was educators' sensitivity to the relationship between poverty and school achievement (cf. Kennedy et al., 1986). At the school level, students are selected to receive Chapter 1 services on the basis of educational need. Inter-

views with teachers showed that some of these students came from high-poverty environments. In several schools, for example, teachers reported that students from poverty backgrounds lacked adequate food and clothing. An urban teacher said of her students, "Many come to school hungry or hyper because they have eaten candy, or are ill-clothed." Another urban teacher noted that "people will keep their children out of school simply because they don't have clothes, they don't have shoes." A number of teachers noted that low-income students also lacked background knowledge and experience that could be helpful in school. For example, a secondary school social studies teacher described how some of his students thought "Europe was a country where they speak European." As another teacher explained, general background experiences such as travel can give students "more building blocks and more bridges to build upon" as they learn to read or are exposed to social studies lessons.

An additional problem noted by teachers was the lack of opportunity for some students to practice reading, writing, and basic math skills at home. As the principal of a rural school noted, "The kids don't have books in their homes." A teacher said that children were in the Chapter 1 program because "their parents don't have the ability to help them at home and don't know what kinds of things to do with them." At all schools, there was also great concern about single-parent families and adults who spent long hours working. One teacher noted that many children "are latch-key kids; they're not getting anything but TV at home. They're not having positive parent reinforcement. They're not having siblings helping them. They're not having grandma read to them. They're streetwise, but they're not getting what a lot of children are getting."

A second issue that emerged concerned the socio-emotional needs of Chapter 1 students (cf. National Institute of Education [NIE], 1978). The most common observation of Chapter 1 teachers was that Chapter 1 students lacked self-esteem. As one teacher said, "These are kids who are not having a lot of success. They have had a lot of failure academically, and they are discouraged." Most Chapter 1 teachers attempted to address this problem. As one teacher said, "Kids need that self esteem, and that's why we place so much emphasis on giving students a lot of positive feeling through smiles, encouragement, awards." An instructional aide noted that "the interaction and pat on the back are very important to kids who haven't had a lot of that."

Teachers also noted a range of other emotional and behavioral problems shown by Chapter 1 students. One teacher discussed the strong need for attention of many Chapter 1 students and concluded, "Just the contact with another person is very beneficial for children with emotional needs." Another teacher noted the "short attention span" of Chapter 1 students, and another thought that Chapter 1 students needed encouragement "to work and perform properly, to behave properly. For some of them, we have a real difficult time with that, so we do a lot of rewarding in that direction." One principal summed up these observations well: "Lots of times these kids are incapable of doing the seatwork that has been assigned to them on their own. These are students that don't work well on their own." In response to

all of these needs, most of the schools in this study attempted to provide Chapter 1 students with adult attention, supervision, and encouragement.

A final image that emerged was teachers' perceptions of Chapter 1 students as "slow learners." Although one Chapter 1 teacher noted that "behavior problems might block some students from learning," there were many Chapter 1 students in this study who worked hard at school but nevertheless did not progress as fast as their peers. One Chapter 1 teacher explained this by saying that Chapter 1 students "start out lower" than other students; another observed that Chapter 1 students were "slower in their development and learn at a slower pace." One teacher even said, "The typical Chapter 1 student may need to hear something as many as 1400 times before they are able to do it on their own. The child just needs more repetition." Another concurred that Chapter 1 students "retain at a lower level than the average student, and I feel they need a lot of repetition." A common response to this problem was to provide Chapter 1 students with more drill and practice on basic skills.

The following brief student profiles illustrate more concretely the variety of needs Chapter 1 students brought to the programs:

* Maria, a second grader, did not have any schooling in Mexico before coming to the U.S.; she did not even know how to write her name.

* Alicia, another second grader, needed help staying on task besides needing academic help. She moved around in her chair, extending her arms up and back, making jerky movements, and pushing other students' chairs. She preferred going to school to staying at home, because at home she watched TV all the time and got bored.

* Cecilia, a second grader from a single-parent family, often came to school with makeup or in her mother's high heels. She had a tendency to interrupt the class with unrelated remarks such as, "I'm the only one in school who does not have a dad. He does not live with us." Her teachers suggested that she scored poorly on tests deliberately in an effort to gain attention.

* Damian, a second-grade boy, used to be an "out-of-control" child who ran away from school to avoid punishment and who could not sit still for even one moment. Labelled as "learning disabled" and a "problem child," he now took his lunch supplemented with the depressant Ritalin. During the five-day observation, he remained on task for entire class periods and seemed to accept punishment willingly; however, he was observed to have slowed down too much and to have laughed aloud only once--when watching a cartoon on how to make money.

* Phil was an eighth grader. He spent seventh grade in all of the Chapter 1 classes. The Chapter 1 coordinator said

that Phil had made a 180-degree turnaround in his performance this year. He was to transfer to a regular English class within a month and would be in regular math next year. He was observed to work really hard in order to get out of the Chapter 1 program, about which he felt embarrassed. He usually sat by students who did exemplary school work in his regular classes. He seemed to be very critical of his own work and to have high expectations for himself.

* Larry was in Grade 10. He didn't like school and wanted to get out. His math teacher thought he could do the work if he applied himself, but he was unmotivated. He was observed just to pace the floor four days out of five.

Limited-English-Proficient Chapter 1 Students Present Schools with Additional Challenges

In some schools in the study, the problems of low income and low achievement were compounded by the fact that a large proportion of students came from minority language backgrounds. Two vignettes illustrate some of the problems faced by these schools:

* Westwood Elementary School was located on the "wrong side of the tracks" in a small city on the West Coast. The school was ethnically diverse, with 41% Asian students and 13% Hispanic students. Students attending the school spoke a variety of languages at home, including Spanish, Tagalog, and a number of other Asian languages. About 20% of the students at the school were classified LEP, and most of these LEP students were served by the Chapter 1 program.

* Washington Elementary School was located in a large Midwestern city and served a neighborhood where many immigrant and refugee families lived. The school contained a variety of ethnic groups: 30% Hispanic, 26% Black, 25% White, 16% Asian, and 3% American Indian. Nearly 30% of the students at the school were classified as LEP. ESL and bilingual classes were held for Cuban, Vietnamese, and Laotian LEP students. Many of these students were also served by the Chapter 1 program. At Washington, the Chapter 1 program not only provided classroom support, it also reached out into the homes. Two full-time community helpers visited the homes of LEP students or telephoned parents. Such contacts often required interpreters, who were also necessary at school meetings.

A number of special needs of these language minority students were pointed out by various school personnel. One teacher said that "their biggest need is exposure to language." In some cases, in fact, limited English proficiency was the only disadvantage faced by these students. As one teacher observed, many LEP students were not "EDY (Educationally disadvantaged youth) in Spanish," and "as those

students become more proficient in English, they move out of the Chapter 1 program." An example of a success story was the case of an Afghani tenth grader:

> * Yasmin had been in the States for only two years. She seemed very bright and attentive. Her ESL teacher was surprised to find her classified as a Chapter 1 student. She was a hard worker and used her free time and unstructured class time very efficiently. She knew how to take advantage of any program offered her; for example, in her Basic English class where the teacher was known to ramble, she remarked, "He does not teach, but he talks a lot, and that helps me " She had difficulty with math as explained in class, but at home her father tutored her in math.

However, for some LEP students, progress was not necessarily as rapid. The same teacher quoted above noted that "kids low in native language stay low" and required longer periods of support. Benigno was a good example:

> * Benigno, a fourth-grade Filipino boy, had been in the ESL class since kindergarten. His teacher said he was not as self-motivated as other ESL students. He needed help in spelling and writing even though he did fine in spoken English.

A final theme that emerged concerned the language barrier faced by educators as they attempted to serve LEP students. The case of Nuyhn, a young Vietnamese boy, as told by his principal, illustrates this point:

> When he came to us he could not speak any English. His uncle told us about how he had seen the tanks go by and people being killed. We tried to bring in an interpreter to talk to him because he has real problems. The psychologist and I talked to the teachers, and we're going to try to get him tested in his own language, but we can't find anyone who's qualified to do that. We think that he has a learning problem and that it's not just language holding him back. He's not retaining, but he is getting the language down.

The case illustrates that language exposure was not always the only source of low achievement for LEP students. Like other students, LEP children had their share of socio-emotional and behavioral problems that affect learning. The case also shows how difficult it can be to diagnose the learning problems of LEP students (Cummins, 1984), and how extraordinary steps were sometimes needed to estabish communication with LEP students and their homes.

Chapter 1 Secondary School Students Have Special Needs

A third theme concerned potential differences between the needs of secondary students and the needs of elementary school students for

Chapter 1 services. The following vignette illustrates a typical high school with a Chapter 1 program:

> * Stevenson High School was located in a medium-sized city in the Intermountain region. Close to half the students at the school were from minority backgrounds, but there were few ethnic-based cliques. The school served a working class section of the city, and only 10-20% of the students went on to college. Many students had low achievement in such basic skills as reading and math, and the school has added a number of sections of English and mathematics to accommodate these students. About 70% of the students held after-school jobs, and staff members reported that many students appeared to have little purpose in coming to school other than to socialize with friends.

During the cross-site analysis, we examined the issue of whether secondary school students had educational needs qualitatively different from younger students. Analysis of data from teacher interviews revealed that this was, indeed, the case, but that there were also many similarities. Secondary school teachers, for example, emphasized problems of student motivation more than did elementary school teachers. As one teacher said of her secondary school Chapter 1 students, "I try to raise their goals higher. Instead of saying a D is OK, I try to push them for that A." Perhaps because of low motivation, secondary school Chapter 1 students often demonstrated a poor attitude toward school. For instance, a Chapter 1 teacher in a secondary school observed, "In general, I would say they hate school, they see no purpose for it." Another teacher noted, "Attendance is the worst practical need. If we could have some help from the home . . . but it's zero from the families." What emerged from the cross-site analysis, then, was that many secondary school Chapter 1 students actively disliked school, had low motivation to achieve, and sometimes had attendance problems.

A second difference between Chapter 1 students at the secondary and elementary levels was the greater variability in student skill levels in the secondary schools. By the time students reached high school, the differences in achievement, even among the lower-achieving Chapter 1 population, was much greater than in elementary schools. A high school math teacher summed up this observation:

> You've got to have a varied approach for kids with a varying degree of ability. I've got kids who cannot handle whole number addition and subtraction, and in the same class I've got kids who are working on decimals with no trouble at all.

This teacher's observation indicates that students in his high school class ranged in skills from the first- through eighth-grade levels. Such variety in skill levels cannot emerge until the later years of schooling.

Despite these differences, many of the same themes that were found in discussions of elementary school Chapter 1 students also appeared in discussions about secondary school students. For example, one teacher

said that secondary school teachers needed to "work on students' self-concept. You have to be a psychologist and let them know how you appreciate them, like them, and know they can do the work. You know, they just need a lot of encouragement." In addition, secondary school teachers noted students' need for attention and supervision. As one teacher said, "I always have to keep in mind that it is a lot of guided and individual help. Very seldom do Chapter 1 students do anything on their own. You know, it's like they always need assistance." Thus, as in elementary schools, secondary school Chapter 1 students presented symptoms of low self-esteem and low independence.

Summary

The sample of schools included in the study varied on several dimensions: Community type, ethnic composition, district poverty level, district and school enrollment, grade levels served, student achievement level, percent of students served by Chapter 1, and the percent of students who were LEP.

In the cross site analysis, we found that Chapter 1 students presented a variety of special educational needs to schools, including those related to poverty, home background, social and emotional difficulties, behavioral problems, low academic achievement, and limited English proficiency.

While all of the Chapter 1 schools in this study had some students with these needs, some schools, by virtue of the communities in which they were located, had larger proportions of students who were economically and educationally disadvantaged. This was especially true of schools in urban and rural poverty zones.

Three broad themes emerged as the schools in the study were compared and contrasted:

* Chapter 1 students have a variety of needs. Teachers reported that some students came from high poverty backgrounds and lacked adequate food and clothing; had little opportunity to practice lessons at home; had low self-esteem; or progressed more slowly than peers.

* Limited-English-proficient (LEP) Chapter 1 students present schools with additional challenges. The problems of low income and low achievement are compounded when a large proportion of students are LEP, particularly when multiple languages are represented.

* Chapter 1 secondary school students have special needs. Poor motivation and attitude toward school, and a greater variation in skill level were more characteristic of secondary- than elementary-level students.

CHAPTER 4

DESIGN FEATURES OF CHAPTER 1 PROJECTS

This chapter discusses the design features of Chapter 1 projects. Although there are many possible ways to describe Chapter 1 designs, in this study the following features are discussed: (a) the curriculum areas in which Chapter 1 instruction is offered, for example, reading and math; (b) the staffing patterns of Chapter 1 projects, for example the mix of resource teachers, instructional aides, and classroom teachers; (c) the service delivery models used to provide instruction, for example, pullout, in-class, replacement, add-on; and (d) scheduling practices, for example, how many times a week services are offered, and the length of each service interval.

This chapter presents descriptive data on these design features. Separate discussions are provided for elementary and secondary schools. The chapter also discusses the cross-site themes that emerged from an analysis of these design features.

Basic Descriptive Data

This study used a purposive sampling plan that called for the selection of schools with a variety of design features, especially schools that used a variety of service delivery models to provide instruction to students. Basic descriptive data on the results of this sampling strategy are presented below. Separate discussions are provided for elementary and secondary schools.

Elementary Schools

Table 4.1 presents descriptive data on the design features of Chapter 1 projects in the elementary schools in the sample. All 17 elementary schools in this study offered Chapter 1 instruction in reading; 14 offered instruction in math. The most frequently used service delivery model in both reading and math was pullout. As Table 4.1 shows, 13 schools used a pullout model in reading, and 10 schools used a pullout model in math. One way to summarize these data is to refer to the findings from Advanced Technology's (1983) survey of district practices. This study found that over 90% of the districts employed a pullout design exclusively or a combination of pullout and other models. The patterns in this sample are similar. Although this sample was deliberately chosen to include schools with a variety of service delivery models, the pullout model is pervasive. Fifteen of the 17 elementary schools in this study used a pullout model in at least one subject area.

Table 4.1 Design Features of Chapter 1 Projects in Elementary Schools

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Urban											
Huxley	K-5/ 942	67	31	21	30	Chapter 1 Reading	In-class	K-5	Aide A)	5x/wk	A has 2-3 hrs for rdg & math, to work w/ind or sm grps, to serve an avg of 24 2nd grdrs, 15 4th grdrs/class
						Chapter 1 Math	In-class	K-5	Aide	5x/wk	
						Chapter 1 Lab Math	Pullout	K-5	Aide	2x/wk	20 min, 3-4 wk cycle
Parker	K-5/ 512	64	50	44	28	Chapter 1 Reading	Pullout to computer lab	K-2	Aide	2x/wk	Avg 15 min, 4 wks to a year
						Chapter 1 Reading	Pullout	2-3	Resource Teacher (RT)	3x/wk	30 min, 6 wks to a yr
						Chapter 1 Reading	Add-on (Before school lab)	1-5	RT & Aide	4x/wk	30 min, Total 10 wks
						Chapter 1 Reading	In-class	1-5	Aide	5x/wk	1 hr for all Ch 1 Ss in class. T decides A time to Ss
						Chapter 1 Math	Pullout to computer lab	K-2	Aide	2x/wk	Avg 15 min, 4 wks to a year

(table continues)

School	Grades Served/ Enrlmt	% Svd by Ch. 1	% Below 50th		% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
			Reading	Math							
Parker (cont.)						Chapter 1 Math	Add-on (Before-school lab)	1-5	RT & Aide	4x/wk (for 10 wks)	30 min, Total 10 wks
						Chapter 1 Math	In-class (not official design but was observed)	1-5	Aide	5x/wk	Varies- a few mins to 30 mins
Westwood	K-5/ 493	61	70	60	20	Chapter 1 Reading Lab	Pullout	2-5	Aide	2x/wk	30-50 min, 6 mos to a year
						Chapter 1 Reading	In-class	2-5	Aide	2-5x/wk	15 min/grp, 5 min/indiv
						Chapter 1 Math	In-class	K-5	Aide	2-5x/wk	15 min/grp, 1 min/indiv
						Chapter 1 LEP, ESL	Pullout	K-5	RT & Aide	2-3x/wk NEPs 5x/ wk	30 min, Whole year but can exit early
Washington	PreK-6/ 928	13	75	66	29	Chapter 1 All Subjects	All day replacement	K,3,4	RT & Aide	5x/wk	All day
						Chapter 1 Reading	Pullout	5	RT & Aide	5x/wk	40 min
						*Chapter 1 Parent-child Center	No data	Pre-school	Invited speakers	1/2 day for kid; parent 4 1/2 day or 2 full days/mo	Academic yr

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Washington (cont.)						*Chapter 1 Rdg, Math, Soc stud, Sci	Add-on (summer prgm)	2-7	No data	1/2 day	7 weeks
						*These programs were district-wide programs held this year at this school.					
Kensington	PreK-4/ 483	31	78	67	4	Chapter 1 Reading	Pullout	K-4	RT & Aide	Daily for 9 wks	2 1/2 hrs, all morning or all afternoon
Nelson	K-6/ 650	22	8	4	0	Chapter 1 Reading	In-class(1-5) Pullout(6)	1-6	Aide	5x/wk	30 mins
						Chapter 1 Math	Pullout 3x/w In-class 2x/w	3-6	Aide	5x/wk	30 mins
St. Mary's	K-8/ 225	10	15	20	0	Chapter 1 Reading	Pullout & before school	2-5	RT	3x/wk (T,W,Th)	40 min
Danville	PreK-5/ 436	22	57	38	2	Chapter 1 Reading	Pullout	2-5	RT & Aide	4x/wk (social studies once a wk)	40-50 min, according to C1 Dir; 38-75 min observed
						Chapter 1 Math	Pullout	2-5	RT & Aide	4x/wk (music, PE on other occasions)	40-50 min according to C1 Dir.; 58-62 min observed

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Central	K-6/ 465	30	26	24	14	Chapter 1 Reading	Pullout	1-6	Aide	2-5x/wk	30 min
						Chapter 1 Math	Pullout	1-6	Aide	Every other day	30 min
						Chapter 1 ELD	Pullout	1-6	RT & Aide	2-5x/wk	30 min
Hillside	K-6/ 640	34	67	66	5	Chapter 1 Reading	In-class	K	Aide	4x/wk	45 min
						Chapter 1 Reading	Pullout	1	RT	4x/wk	45 min
						Chapter 1 Reading	Pullout to computer lab	2-6	C1 Coordin, T, Aide	4x/wk (M-Th)	45 min
						Chapter 1 Math	Pullout	1	Aide	No data	No data
						Chapter 1 Math	Pullout to computer lab	2-6	C1 Coordin, T, Aide	4x/wk (M-Th)	15 min
Johnson	1-6/ 370	46	27	26	4	Chapter 1 Reading	Pullout	1-6	RT & Aide	4x/wk	40 min
						Chapter 1 Math	Pullout	1-6	RT & Aide	4x/wk	40 min

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Suburban											
Winkler	K-4/ 607	6	20	12	0	Chapter 1 Math	Pullout (In-class on occasion)	2-4	RT, A, or both	5x/wk	20-30 min
						Chapter 1 Reading	Pullout	1-4	RT	5x/wk	30 min
Sumner	K-5/ 849	4	41	31	0	Chapter 1 Reading	In-class but Ss are pulled aside to work w/"floating aide"	2-5	Aide	3-5x/wk	About 20 min per group
						Chapter 1 Math	In-class but Ss work with "floating aide"	2-5	Aide	4x/wk	About 15 min/student
Rural											
Evergreen	PreK-8/ 625	No data	70	70	0	Chapter 1 Reading	In-class	2-5	Aide	5x/wk	Avg 15 min a day per student
						Chapter 1 Math	Replacement	2-5	RT & Aide	5x/wk	50 min
Hayes	K-8/ 439	18	28	10	0	Chapter 1 Reading	Pullout	1-3	RT	5x/wk	40 min
						Chapter 1 Reading	In-class	1-3	Aide	5x/wk	15 min

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Tudor	K-8/ 198	37	73	60	0	Chapter 1 Reading	Pullout	1-8	RT	5x/wk	40 min
						Chapter 1 Math	Pullout	3-8	RT	5x/wk	35 min
Lowell	K-6/ 495	17	45	40	0	Chapter 1 Reading	Pullout	1,3,4	RT	5x/wk	35-40 min
						Chapter 1 Reading	In-class	2	Aide	5x/wk	About 45 min. Minimum 30 min
						Chapter 1 Math	In-class	3-4	Aide	5x/wk	30 min blocks

Although pullout models were present in almost all of the schools in the sample, only 5 of the 14 schools that offered Chapter 1 services in both reading and math used a pullout model in both subject areas. In eight other schools, a "mixed" design that included more than one service delivery model was implemented. These schools often used different delivery models for different subjects or at different grade levels; a number of schools even used more than one delivery model for instruction in a single subject. Finally, only one school in the sample used an in-class model exclusively. In this school, in-class services were offered in both reading and math.

In most cases, schools with "mixed" designs were moving away from pullout models. An analysis of interview data showed that schools replaced pullout models for a variety of reasons. In one school, coordination problems were cited as a reason for implementing an in-class model. The principal at this school reported that "we were very uncomfortable with the [content] linkage between the math lab and math class." In another school, a principal supported a new in-class design by stating that "every time you get up and take kids out of the classroom you lose time for all students." However, complaints such as these seemed relatively isolated, and few of the school personnel in this study expressed strong feelings against pullout models. As a result, the movement away from pullout designs was often motivated not by pedagogical concerns but for pragmatic reasons. In one school, an in-class design was implemented because a pullout room had to be turned into a regular classroom, and in a number of other schools, the implementation of in-class models occurred as districts replaced resource teachers with instructional aides.

Several vignettes illustrate how Chapter 1 designs evolved at schools in this study. For example, the following vignette illustrates a project that offered Chapter 1 instruction in only one subject--reading:

> * Hayes Elementary School was located in a rural community in the Mid-South. About 25% of the students at the school performed below grade level in reading; only 10% were below grade level in math. Because of a higher need for reading remediation in grades 1-3, staff at the school decided to concentrate Chapter 1 services on reading in the lower grades. Two resource teachers provided pullout instruction to students five times a week, and three instructional aides offered some students a 15-minute, in-class reading tutorial each day. The in-class component was added to the program because the district Chapter 1 director believed Chapter 1 students needed to receive the full attention of an adult during at least some portion of each day.

The next two vignettes discuss schools that provide Chapter 1 services in both reading and math using a "mixed" design:

> * Parker Elementary School was located in a large city on the West Coast. About 50% of the students at the school performed below grade level in reading; about 40% were below grade level in math. In addition, the school served a

predominantly Hispanic community, and 28% of the students at the school were classified as LEP. In both reading and math, Chapter 1 services combined in-class, pullout, and add-on designs. Each teacher used one hour a day of aide time to provide students with in-class services in reading and math. In addition, three resource teachers offered pullout services in reading and math two to three times a week. Finally, resource teachers and aides staffed a before-school program that offered reading and math lessons four times a week in four- and six-week cycles. The principal of the school and the resource teachers favored pullout designs and wanted to increase these types of services at the expense of in-class services. Teachers, on the other hand, wanted more aide time for in-class services.

Hillside Elementary School was located in a medium-sized city in the Intermountain region. Nearly 95% of the students at the school qualified for the free lunch program; about 65% were performing below grade level in reading with an equal number performing below grade level in math. Because staff members believed that younger students needed the attention of a single teacher, aides were used to provide in-class services in reading and math to students in grades K-1. At grades 2-6, however, students were pulled out to a "lab" where resource teachers and aides provided small-group and computer-assisted instruction to 15-20 students at a time. The principal reported that the computer lab was "a cheaper way to accommodate more students" and that the lab was a good way to "expose poor children to computers."

Finally, a few schools implemented primarily in-class projects. The following vignette illustrates one school with such a design:

* Nelson Elementary School was located in a small city in the Northeast. The school served few poor students, and less than 10% of the students performed below grade level in reading and math. The school's Chapter 1 project was staffed by two instructional aides. In reading, one aide provided students with in-class services five times a week. In math, the other aide pulled students out of classrooms three times a week and offered in-class services twice a week. The district Chapter 1 director preferred the in-class model, but he noted that pullout services were offered in math because "you may end up with only one kid in one classroom and two kids in another . . . and the easiest thing is to group these kids" in a pullout setting.

In summary, an analysis of Table 4.1 shows that the design features of Chapter 1 projects in elementary schools can be complex. Although pullout models were the most frequent, most of the elementary schools in this sample implemented a "mixed" design that combined pullout models with other models. In schools serving large numbers of Chapter 1 students, these "mixed" designs could be quite complex, as the vignette of Parker illustrates. In other schools, for example, Nelson and Hillside, the "mixed" design affected only a subset of

students. In these schools, a variety of pedagogical and practical reasons motivated decisions to implement the "mixed" form of service delivery.

Secondary Schools

Table 4.2 shows basic descriptive data on the design features of secondary schools in the sample. These data confirm the findings of previous large-scale surveys of design practices: School districts favor elementary schools over secondary schools in the allocation of Chapter 1 funds (Advanced Technology, 1983). For example, although the three intermediate schools in the sample offered Chapter 1 services in both reading and math, these services were usually offered less frequently than in elementary schools. In fact, in two of the three intermediate schools, Chapter 1 services were offered only two or three times a week. Three of the four high schools in the sample also offered Chapter 1 services in reading and math, but in these schools, services were restricted to students in the lowest two grades, and the schools appeared to serve proportionately fewer low-achieving students when compared to the elementary schools in the sample.

Pullout and replacement models were the most common approaches used to deliver Chapter 1 instruction. Two of the three intermediate schools in the sample used pullout designs, and three of the four high schools used replacement models. It is interesting to note that there sometimes was little difference between the pullout and replacement designs in use at schools in this sample. For example, in some intermediate schools, students were "pulled out" of study hall, P.E., and social studies, while in some high schools Chapter 1 instruction "replaced" these services. Since this study employed the labels for service delivery models that were provided by school personnel, and since in cases where this classification seemed dubious, state application forms were checked, it appears unlikely that the lack of meaningful difference between pullout and replacement designs in this sample was due to our misclassification of delivery models. On the other hand, it is possible that local educators were confused about the appropriate label for their delivery model, and this could be especially true in the case of the replacement model. As past research shows, at least some local decisionmakers are confused about "excess cost" models as these apply to the definition of replacement projects (Gaffney & Schember, 1982).

In all of the secondary schools in the sample, Chapter 1 services were provided within the context of a departmentalized academic structure. In some schools with replacement models, Chapter 1 classes replaced regular classes in the same subject. In these schools, Chapter 1 classes were simply regularly scheduled classes in the lowest levels of the curriculum in the school, and they were scheduled in much the same way as regular classes. In other schools, however, Chapter 1 instruction replaced regular instruction in a different subject, for example, P.E., study hall, or an elective. In these schools, the Chapter 1 program provided students with a "double dose" of instruction. For example, the most common pattern in secondary

Table 4.2 Design Features of Chapter 1 Projects in Secondary Schools

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Service Delivery Model	Grades Served	Instructor	Frequency	Length of Service
Urban Intermediate											
Lakeview	7-9/ 840	53	50	50	5	Chapter 1 English	Replacement	9	Teacher (T) & Aide (A)	5x/wk	45 min
						Chapter 1 English	Replacement	7-8	T & Aide	5x/wk	45 min
						Chapter 1 Reading	Replacement	7-8	T & Aide	5x/wk	45 min
						Chapter 1 Math	Replacement	7-8	T & Aide	5x/wk	45 min
Kehoe	6-8/ 441	29	36	20	1	Chapter 1 Reading	Pullout	7-8	Resource Teacher (RT)	Alternate days (5x/ 2 wks)	43 min
						Chapter 1 Math	In-class	7-8	RT & A	5x/wk	43 min
Suburban Intermediate											
Einstein	5-8/ 297	44	70	73	0	Chapter 1 Reading	Pullout	5-8	RT	2x/wk	40 min
						Chapter 1 Math	Pullout	5-8	RT	2x/wk	40 min
						Chapter 1 Performing Arts	Add-on	6-8	RT	2x/wk	40-60 min

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th		% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
			Reading	Math							
Urban High Schools											
Salvador	9-12/ 2068	15	No data	No data	24	Chapter 1 Reading/Language Arts(LA)	Pullout Reading or "Think" Lab	9-10	Aide (sometimes w/T)	1x/wk or 1x/2 wks	30-55 min, varies by T
						Chapter 1 Reading/LA	Pullout Reading Computer Lab	9-10	Aide (sometimes w/T)	Once per 1-2 wks	30-55 min (est), varies by T
						Chapter 1 Reading/LA	Add-on (after school tutoring)	9-10	T oversees students (Ss) & tutor	Offered 2x/wk	1 hr
						Chapter 1 ESL, Reading/LA	In-class	9-10	Aide	5x/wk	Varies by T
						Chapter 1 ESL, Science, Soc. studies	In-class	9-10	Aide	5x/wk	Varies by T
						Chapter 1 ESL	Pullout ESL Language Lab	9-10	Aide (sometimes w/T)	Once per 2 wks	55 min, varies by T
						Chapter 1 Math	In-class	9-10	Aide	5x/wk	Varies to less than 1 min/day
						Chapter 1 Math	Pullout Computer Lab	9-10	Aide	Varies, whenever S needs drill	Avg 30 min
						Chapter 1 Math	Add-on (after-school tutoring)	9-10	T oversees Ss & tutor	Offered 1x/wk	1 hr

(table continues)

School	Grades Served/ Enrlmt	% Srvd by Ch. 1	% Below 50th Reading	% Below 50th Math	% LEP	Subject	Design Type	Grades Served	Instructor	Frequency	Length of Service
Stevenson	9-12/ 1394	11	41	42	22	Chapter 1 Reading	Add-on Elective	9-12	C1 RT & Coordinator	5x/wk	45 min
Suburban High Schools											
Coolidge	9-12/ 1170	6	35	40	0	Chapter 1 Reading	Replacement	9-10	RT	5x/wk	25-30 min
						Chapter 1 Math	Replacement	9	RT	5x/wk	25-30 min
Rural High Schools											
Taylor	8-12/ 344	7	75	71	0	Chapter 1 Reading	Replacement	8-9	RT & A	5x/wk	55 min
						Chapter 1 Math	Replacement	8-9	RT & A	5x/wk	55 min

schools was for students to receive Chapter 1 reading and a regular English class.

Two vignettes illustrate a number of design features of Chapter 1 projects in secondary schools:

* Stevenson High School was located in a medium-sized city in the Intermountain region. About 40% of the students scored below grade level in reading; a similar proportion were below grade level in math. However, the Chapter 1 project at the school served only 11% of the student body, and services were offered only in reading. The project used a replacement model in which students enrolled in Chapter 1 reading in place of an elective; thus, students received a "double dose" of reading and English. Three years ago, the school had dropped Chapter 1 services in math because the district had decided to allocate 85% of its Chapter 1 funds to elementary schools.

* Einstein Junior High School was located in an economically depressed community on the outskirts of a major Midwestern metropolitan area. About 80% of the students qualified for the free lunch program; 70% of the students were below grade level in reading; and about 75% were below grade level in math. The school managed to serve 44% of the student body with its pullout reading and math projects, but these services were offered only twice a week for 40 minutes. During these times, students were pulled out of all subjects except English and math.

In summary, Table 4.2 shows that secondary schools in this study used pullout and replacement designs. In the majority of the schools, Chapter 1 services replaced instruction in courses other than reading and math and thus tended to provide students with a "double dose" of instruction in subjects in which they required remediation. The data also indicated that secondary schools did not receive as much funding as elementary schools and that, as a result, many secondary school students in need of remediation did not receive services.

Cross-Site Themes

A major finding of the cross-site analysis was that budgetary pressures, the presence of state compensatory education programs, and the presence of large numbers of students with multiple needs affected project design features. In the following sections of this chapter, we discuss these themes.

Budgetary Pressures Affect Design Features

Although Chapter 1 funding has remained reasonably stable since 1980, Chapter 1 expenditures over this time period have declined by more than 27% when adjusted for inflation (Crawford, 1986). This

reduced spending power appeared to affect the design features of several Chapter 1 projects at schools in this sample. In particular, two design features appeared most sensitive to reductions in spending power: Staffing patterns and scope of services.

At several schools, district administrators decided to replace higher-salaried resource teachers with lower-salaried instructional aides. In several cases, resource teacher positions were eliminated entirely, and aides were placed in classrooms where they could be supervised by teachers. In other schools, pullout designs were retained, but resource rooms were staffed by instructional aides rather than resource teachers. In a few of these schools, pullout settings were changed from small rooms where one resource teacher worked with a single small group of students to large "labs" which contained several work stations and banks of microcomputers or other audiovisual machines. The larger labs were staffed by resource teachers and aides, contained between three and eight work stations, and accommodated between 15 and 80 students at a time. The movement towards "labs" was often motivated by cost consciousness. One district administrator estimated that after investing $32,000 per school to install Chapter 1 "labs," the per-pupil cost of Chapter 1 instruction decreased by about $150 per year. Finally, Chapter 1 budgeting also affected schools with replacement models. These schools most often responded by increasing class size in the Chapter 1 program and by hiring more aides. In one secondary school a teacher noted, "[This] has changed our role in that we used to have a lot of time with students."

Cost consciousness also affected the scope of services provided by Chapter 1 projects in schools. This was especially evident at the high school level, where inflationary pressures often resulted in staffing cuts rather than replacement of resource teachers with aides. These cuts, in turn, led to decreases in the number of students served. For example, one high school in the study decreased its Chapter 1 staff from three resource teachers to about half that level and could only serve students in grades 9 and 10. In other secondary schools, cost consciousness forced staff to think about new ways of serving the large pool of students eligible for Chapter 1 services. One district in the sample resolved this problem by placing about 20% of its students in special education services, a solution th ap- peared to involve "cross-subsidy" of federal funding programs (Kimbrough & Hill, 1981). In another school district, the high schools no longer allowed students to be served by more than one federal program. As a result, many LEP students who were formerly served by the Chapter 1 program were no longer placed in this program.

State Compensatory Programs Affect Chapter 1 Designs

A second theme that emerged from our analysis of design histories was that state compensatory education programs affected Chapter 1 design decisions. In two districts in our sample, compensatory education programs at schools were funded either by state programs or by the Chapter 1 program, but not by both. In some cases, funding changed from one funding source to another from year to year, (e.g.,

from Chapter 1 to state funding), but design features of their projects remained reasonably stable.

In other districts in the study, schools were required (or permitted) to use both Chapter 1 and state compensatory funds. In one school, Chapter 1, state compensatory education, special education, and district funds were blended into a common funding base that provided remedial services to any student referred to the program by a special services committee. In other schools, state compensatory education provided services to one group of students, and Chapter 1 serviced another group. For example, at one school, state funds provided remedial services to students in some grades and Chapter 1 provided services to other grades. At another school, Chapter 1 served students between the 25th and 50th percentiles in achievement, and state funds served students below the 25th percentile. It is interesting to observe that in schools with both state-funded and Chapter-1-funded programs, the different programs usually used the same service delivery model.

Multiple Needs Students Are Served by Complex Designs

A third factor that affected Chapter 1 designs was the presence of high numbers of multiple needs students. By "multiple needs" students we denote children who are eligible to be served by more than one categorical program. In schools with large numbers of poor, language minority students, complex designs involving the interaction of numerous different components, funded by several different funding programs, evolved to serve these students.

In three of the schools in the sample, the Chapter 1 program funded in-class aide time on a daily basis; Chapter 1 pullout services were offered less frequently. In part, these designs resulted from budgetary pressures, but the move to in-class assistance and less frequent pullouts also meant that multiple needs students were pulled out of regular classrooms less often. For example, LEP students were most often pulled out for ESL lessons, in part because these lessons required students to participate orally and were much too noisy to accommodate with an in-class design. Because LEP students also received Chapter 1 services, and because LEP students had an immediate need for ESL services, Chapter 1 services were moved into classrooms to minimize pullouts.

Another school developed an alternative strategy for serving multiple needs students. At this school, special education and LEP students were allowed to receive Chapter 1 services. This school implemented all-day Chapter 1 replacement classes which functioned much like regular classrooms, except that they had reduced class sizes and were allocated instructional aide time. At this school, these classrooms served as the homeroom for Chapter 1 students who received pullout service in the special education or bilingual/ESL program. In this design, students who might have been pulled out of a regular classroom twice or three times during a day were now pulled out only once.

A major finding emerged from an analysis of these sites. Classroom teachers at schools with many multiple needs students had a very strong influence on the Chapter 1 services that eligible students received. In the all-day replacement program, for example, the amount of time students spent on various academic subjects (other than special education or ESL) was determined by the teachers of the Chapter 1 classes. Case study materials revealed that different teachers allocated different amounts of time to different subjects. At schools implementing complex "mixed" designs, classroom teachers always determined the amount of time students were served by in-class aides, and they often determined who was sent to various pullout services. In these schools, decisions about how to serve students were highly individualized, and the provision of a suitable mix of services to individual students required a high degree of coordination between Chapter 1 staff and regular classroom teachers.

Summary

This chapter described the design features of Chapter 1 projects at schools in the sample. A broad definition of design features was used, and this definition included as design features (a) the curriculum areas in which Chapter 1 instruction was offered; (b) the staffing patterns of Chapter 1 projects; (c) the service delivery models in use; and (d) scheduling practices. Key findings from this chapter are summarized below:

* At the elementary level, Chapter 1 project designs were very complex. In this study's sample, most elementary schools used a "mixed" design--usually a combination of pullout with other models.

* At the secondary level, schools in this sample used either pullout or replacement designs. Despite different labels, however, there was sometimes little difference between pullout and replacement designs at the secondary level.

* Across all schools, there were few uniformities in design features. For example, schools operating the same nominal service delivery model (e.g., pullout) did so in different curricular areas, with different schedules, and with different staffing patterns.

* At both the elementary and secondary levels, schools with "mixed" designs were moving away from pullout models. While pullout models were used to deliver instruction in some subjects or at some grade levels, schools with mixed designs were also replacing pullouts in other subjects or at other grade levels.

* Few of the school personnel in this study expressed strong feelings against pullout models. Change in designs was motivated by a variety of pedagogical and practical considerations.

* Inflationary pressures, the presence of state compensatory education funds, and the presence of high proportions of students with multiple needs affected local design features.

* Inflationary pressures affected staffing patterns and the scope of Chapter 1 instruction.

* The presence of state compensatory education programs affected targeting procedures, although not uniformly. Schools with both Chapter 1 and state compensatory education programs employed a variety of targeting practices.

* The presence of a high proportion of students with multiple needs led to the development of complex designs, many of which evolved to minimize pullouts.

* In schools where high proportions of multiple needs students were served using complex, "mixed" designs, regular classroom teachers had a strong influence on the Chapter 1 services that students received.

CHAPTER 5

CHARACTERISTICS OF INSTRUCTION IN CHAPTER 1 PROJECTS

This chapter uses student observation data to describe the characteristics of Chapter 1 instruction. Using past research, we concentrated on the following indicators of quality instruction for low-income/low-achieving students: (a) instructional time spent in Chapter 1 lessons; (b) the size of Chapter 1 groups; (c) amount of "direct" instruction in Chapter 1 lessons; and (d) the content and skill levels of Chapter 1 lessons.

Basic Descriptive Data

In the following sections, basic descriptive data on Chapte 1 instruction are presented for elementary school reading projects, elementary school math projects, and secondary school projects. Within each of these categories, projects at schools are grouped by the service delivery model in use. We begin with Table 5.1, which presents data on Chapter 1 reading projects at the elementary schools in the sample.

Chapt 1 Reading Instruction in Elementary Schools

The data presented in Table 5.1 have been aggregated to the school level, and schools have been grouped by the type of service delivery model used to provide Chapter 1 reading instruction. The first set of variables displayed in the table are measures of instructional time. The first column lists the number of days Chapter 1 reading instruction was observed at each school. The second column lists the number of times per week students were scheduled to receive Chapter 1 reading. In most schools, this schedule was fixed; but in several schools with in-class components, scheduling was variable, and it was necessary to infer a schedule from observed data. The third column lists the average number of minutes per service day spent in Chapter 1 reading. The final two columns combine the data on schedules with the data on service minutes to yield estimates of the weekly and yearly time the average Chapter 1 student at a school spent in Chapter 1 reading services. The yearly estimate is based on a 36-week academic year. This estimate errs on the high side since, in most schools, at least some time during the academic year will be devoted to start-up activities and student testing.

In addition to data on time allocations, the table includes data on three other variables. One of these is the percentage of observed Chapter 1 reading instruction conducted by classroom teachers, resource teachers, or instructional aides. The next two variables are

Table 5.1 Characteristics of Chapter 1 Instruction: Elementary School Reading Projects

Service Delivery Model	School	# Service Days Observed	Schedule	Average mins/Service day	Estimated Weekly Time Mins.	Estimated Yearly† Time Hrs.	% Instructor Type in Cl†† CT	RT	A	Average Group Size In Cl	% in Formats††† Lec/Rec	Stwk	Mgmt	Surr
Mixed														
	Parker	9	2x-5x/wk**	30.7	26wk/62 10wk/155	52	0	1	99	5.9	42	38	7	13
	Westwood	14	5x/wk*	31.4	157	94	13	10	70	4.5	52	19	7	17
	Hayes	17	5x/wk*	42.1	210	126	3	71	27	3.9	67	24	4	1
Pullout														
	Kensington	18	5x/wk(9wks)	133.1	665	100	1	58	34	5.7	40	53	7	0
	St. Mary's	11	3x/wk	29.3	87	52	0	85	15	5.5	82	0	6	12
	Danville	14	4x/wk	50.1	200	120	7	73	20	6.6	65	18	6	10
	Central	15	5x/wk	32.2	160	96	1	39	60	5.2	79	10	6	5
	Hillside	15	4x/wk	46.5	188	113	10	64	26	4.1	35	8	15	41
	Johnson	15	4x/wk	0.9	124	74	1	75	24	6.5	78	14	6	0
	Winkler	14	5x/wk	.6	140	84	0	67	33	3.1	59	39	2	0
	Tudor	4	5x/wk	25.6	130	78	3	97	0	3.8	12	44	10	34
In-class														
	Huxley	4	2.5x/wk*	25.5	65	39	13	0	87	3.6	65	10	24	0
	Nelson	17	5x/wk	28.7	145	87	0	6	94	3.0	44	41	6	0
	Sumner	9	4x/wk*	21.3	84	50	0	0	100	3.7	94	0	0	0
	Evergreen	10	5x/wk	21.5	110	66	30	0	70	6.8	54	35	0	0
	Lowell	11	5x/wk	41.2	205	123	0	3	97	4.3	56	34	7	3
Replacement														
	Washington	18	5x/wk	111.4	555	333	90	0	10	9.1	50	35	12	2

Legend: Cl Classroom Teacher; RT=Resource Teacher; A=Aide; Lec/Rec=Lecture/Recitation; Stwk=Seatwork; Mgmt=Management; Surr=Surrogate

†Yearly time=(Weekly time x 36 weeks) - 60 minutes

††Percentage may not equal 100 because Testing and Other formats are not included

†††Percentage may not equal 100 because Classroom Teacher & Aide and Other Instructor categories are not included

*Time variable--Schedule estimated from observational data

**Time variable--Estimate=26 weeks at 2x/wk and 10 weeks at 5x/wk

measures of instructional formats. The first is the average size of the instructional groups in which Chapter 1 reading students participated; the second is the percentage of all Chapter 1 reading time spent in different instructional formats.

The data show that Chapter 1 students in different schools spent widely varying amounts of time in Chapter 1 reading instruction over the course of a day; the table also shows that estimated weekly and yearly time varied widely. For example, on days when students received Chapter 1 services, the average amount of time spent by students at a school varied from a low of around 20 minutes at one school to a high of 133 minutes at another school. Over the course of a week, it was estimated that average service times varied from a low of about one hour to a high of about 11 hours. And over the course of a year, times were estimated to vary from a low of around 40 hours to a high of over 330 hours.

In most cases, all Chapter 1 reading students in a school had regularly scheduled time allocations, and schedules were followed closely. However, there were several schools in which classroom teachers determined time allocations for particular students. This occurred in schools with "mixed" designs, in the one school with an all-day replacement program, and in two in-class projects. In these schools, Chapter 1 time allocations were determined by classroom teachers and sometimes varied widely from classroom to classroom within a school and from student to student within a classroom.

Most of the elementary schools in this sample offered Chapter 1 reading instruction four or five times a week for 20 to 35 minutes. However, there were interesting differences in how time was allocated to Chapter 1 instruction across the schools in this sample. The following vignettes illustrate these differences.

* Johnson Elementary School used a pullout model to provide Chapter 1 reading instruction in grades 2 and 4. At this school, students were pulled out of their regular classrooms four times a week for about 30 minutes of instruction. Over the course of a week, students received about two hours of Chapter 1 reading instruction.

* Huxley Elementary School used an in-class model in reading. In this design, teachers were allocated two to three hours of aide time five days a week to provide Chapter 1 students with services in both reading and math. Despite the schedule, observed students received in-class assistance in reading only two or three times a week for about 25 minutes. Two factors accounted for the low amount of service time. Some teachers used aides for clerical rather than instructional work. Also, when aides did provide assistance, they had to divide their time among large numbers of Chapter 1 students in classrooms.

* Kensington Elementary School had an unusual pullout reading program. For one nine-week period a year, students were pulled out of regular classrooms for an entire morning or

afternoon. During this time, they received about 130 minutes of Chapter 1 reading instruction, or about 11 hours a week.

The data in Table 5.1 also confirm past research on class sizes in the Chapter 1 program (for a review, see Cooper, 1986). At almost all schools in the sample, Chapter 1 reading instruction occurred in groups of four to six students, a group size that is within the range of class sizes that can be expected to have positive effects on student achievement (Glass, Cahen, Smith, & Filby, 1982). However, it is worth noting that Glass et al. (1982) found that reductions in group size had larger effects when reductions occurred over longer periods of time. In their analysis, for example, they arbitrarily divided studies into those in which group size reductions occurred for more than and less than 100 hours of instruction and found that reductions lasting for more than 100 hours of instruction had larger effects. An interesting finding from Table 5.1 is that only 6 of the 17 elementary schools in this sample could be expected to provide over 100 hours of Chapter 1 reading instruction over the course of a 36 week academic year. Thus, it is possible that the short duration of this "treatment" decreases the potential effects of reduced group size on student achievement.

Table 5.1 also presents data on instructional formats used in the Chapter 1 projects. These data show that much of the time students spent in Chapter 1 reading instruction consisted of lecture/recitation activities, this study's indicator of "direct" instruction. Although the amount of "direct" instruction in Chapter 1 reading programs varied from a low of 12% at one school to a high of 94% at another school, the modal tendency was for Chapter 1 reading instruction to consist of 50% to 70% lecture/recitation (or "direct") instruction. In the five elementary schools with less than 40% "direct" instruction in Chapter 1 reading, students spent the majority of their time in seatwork or working with computers or other audiovisual aides (coded as surrogate in this study). It is important to remember that in all formats, Chapter 1 instruction took place in small groups. As a result, students received much opportunity to participate in Chapter 1 lessons and to receive academic feedback from Chapter 1 instructors.

In summary, Chapter 1 reading instruction took place in small groups and included a mix of "direct" instruction, seatwork, and surrogate instruction. The mix of these formats varied from site to site, but in most projects there was more teacher-directed instruction than seatwork or surrogate instruction. Finally, the amount of time students spent in Chapter 1 reading instruction also varied, although in most projects students could be expected to receive less than 100 hours of instructional service a year.

Chapter 1 Math Instruction in Elementary Schools

Table 5.2 presents data on Chapter 1 math services. Schools are once again grouped by delivery models, and the variables are the same as those displayed in the previous table. Note that only 13 of the 17 elementary schools in the sample offered Chapter 1 services in math at the grade levels observed in this study.

Table 5.2 Characteristics of Chapter 1 Instruction: Elementary School Math Projects

Service Delivery Model	School	# Service Days Observed	Schedule	Average mins/Service day	Estimated Weekly Time Mins.	Estimated Yearly† Time Hrs.	% Instructor Type in Cl†† CT	RT	A	Average Group Size In Cl	% in Formats††† Lec/Rec	Stwk	Mgmt	Surr
Mixed														
	Huxley	7	2x/wk*	27.6	56	34	26	28	46	6.5	53	4	2	22
	Parker	5	2x/wk*	16.0	36	22	0	45	55	13.5	16	25	11	30
	Westwood	8	3x/wk*	14.1	42	25	0	0	100	7.9	31	19	9	42
	Nelson	2	5x/wk	28.0	140	84	0	100	0	3.0	16	64	11	0
Pullout														
	Danville	2	4x/wk	60.5	244	146	22	78	0	4.2	36	37	1	7
	Central	6	2.5x/wk	22.8	58	35	3	5	92	5.1	76	0	24	0
	Hillside	7	4x/wk	43.3	172	103	0	100	0	3.8	25	13	16	41
	Johnson	9	4x/wk	40.2	160	96	22	30	48	5.0	54	31	7	0
	Winkler	13	5x/wk	24.8	125	75	3	36	58	1.6	62	12	5	17
	Tudor	13	5x/wk	38.4	?	115	0	100	0	3.9	7	92	1	0
In-class														
	Sumner	11	4x/wk	30.3	129	72	27	0	73	7.2	41	53	3	0
	Lowell	6	5x/wk	23.2	115	69	5	0	95	1.7	44	38	1	17
Replacement														
	Washington	17	5x/wk	25.1	125	75	96	0	4	9.4	26	59	11	0
	Evergreen	14	5x/wk	55.5	280	168	77	0	23	5.5	41	28	13	18

Legend: CT=Classroom Teacher; RT=Resource Teacher; A=Aide; Lec/Rec=Lecture/Recitation; Stwk=Seatwork; Mgmt=Management; Surr=Surrogate

†Yearly time=(Weekly time x 36 weeks) - 60 minutes

††Percentage may not equal 100 because Testing and Other formats are not included

†††Percentage may not equal 100 because Classroom Teacher & Aide and Other Instructor categories are not included

*Time variable--Schedule estimated from observational data

The data on math showed a number of patterns similar to those observed in reading. For example, in most of the schools, students were scheduled to receive Chapter 1 math services four to five times a week. The average amount of Chapter 1 instruction received by students on service days varied from an average of 14 minutes to an average of 60 minutes, about the same range as was found for Chapter 1 reading. Moreover, as with reading instruction, the average group size in Chapter 1 math classes tended to be within the range that Glass et al. (1982) have shown to be effective. However, as with reading programs, few schools could be expected to offer more than 100 hours of Chapter 1 math instruction over the course of the year.

The data did reveal one major difference between Chapter 1 reading and math services. Math instruction tended to include less teacher-directed instruction and more surrogate instruction and seatwork than reading instruction. For example, in only 4 of the 13 schools were math lessons composed of more than 50% lecture/recitation. However, it is important to note that, as in reading, seatwork and surrogate instruction occurred in small groups, an arrangement that allowed instructors to monitor students' independent work closely and to provide assistance and academic feedback as needed.

In summary, there was some difference between the formats used in Chapter 1 reading and math instruction in the elementary grades. Math instruction tended to include proportionately less teacher-directed instruction than reading. In both reading and math, however, Chapter 1 instruction occurred in small groups and was estimated to result in less than 100 hours of service per year.

Chapter 1 Instruction in Secondary Schools

Table 5.3 presents data on Chapter 1 instruction in reading and math in the secondary schools in the sample. The variables displayed in this table are the same as those in previous tables.

In contrast to elementary schools, a majority of the reading and math projects in secondary schools used replacement or pullout models. In some cases, replacement classes took the place of instruction in the same subject, for example, Chapter 1 math was taken in place of regular math. In other cases, replacement and pullout classes "replaced" instruction in another subject, for example, social studies, P.E., or study hall.

Most students received services five times a week, and lessons tended to last between 30 and 60 minutes. However, there were notable exceptions to this pattern. Two intermediate schools with pullout reading programs offered instruction two to three times a week, and one high school with a "mixed" design offered 10 to 15 minutes of service once or twice a week. The amount of Chapter 1 service at this school was limited by students' willingness to seek help. For example, many teachers allowed students a choice about going to the pullout labs, and some students chose not to use this resource. In addition, during in-class services, aides circulated around the room

Table 5.3 Characteristics of Chapter 1 Instruction: Secondary School Reading and Math

Service Delivery Model	School	# Service Days Observed	Schedule	Average mins/Service day	Estimated Weekly Time Mins.	Estimated Yearly† Time Hrs.	% Instructor Type in C1 †† CT	RT	A	Average Group Size In C1	% in Formats††† Lec/Rec	Stwk	Mgmt	Surr
Grade 8 Reading														
Pullout	Einstein	4	2x/wk	35.8	72	43	6	94	0	3.0	8	20	6	61
Pullout	Kehoe	12	2.5x/wk	40.8	103	62	0	82	8	2.9	17	65	8	7
Replacement	Lakeview	13	5x/wk	64.7	325	195	95	0	5	15.7	1	50	42	0
Replacement	Taylor	6	5x/wk	56.2	280	168	2	81	0	5.1	17	55	4	21
Grade 10 Reading														
Mixed	Salvador	5	1.5x/wk*	12.0	18	11	0	0	100	6.3	35	9	0	57
Replacement	Coolidge	16	5x/wk	29.3	145	87	2	96	0	4.3	9	47	10	30
Replacement	Stevenson	16	5x/wk	39.8	200	120	7	64	22	8.0	65	5	23	6
Grade 8 Math														
Pullout	Einstein	3	2x/wk	29.7	59	35	37	63	0	4.3	50	11	2	37
Replacement	Lakeview	14	5x/wk	36.6	185	111	93	0	7	11.8	3	55	41	0
Replacement	Taylor	15	5x/wk	57.3	285	171	0	91	7	12.6	51	42	7	0
Grade 10 Math														
Mixed	Salvador	5	2x/wk*	14.0	28	17	0	0	100	6.9	3	0	0	19

Legend: CT=Classroom Teacher; RT=Resource Teacher; A=Aide; Lec/Rec=Lecture/Recitation; Stwk=Seatwork; Mgmt=Management; Surr=Surrogate

†Yearly time=(Weekly time x 36 weeks) - 60 minutes

††Percentage may not equal 100 because Testing and Other formats are not included

†††Percentage may not equal 100 because Classroom Teacher & Aide and Other Instructor categories are not included

*Time variable--Schedule estimated from observational data

during the seatwork portion of the lesson, but they worked only with students who requested help, and many students did not request it.

Although most secondary schools in this study allocated fixed amounts of time to Chapter 1 and followed scheduled times quite closely, the following vignette illustr tes that schedules sometimes provided only a very weak measure of the amount of time students spent engaged in academic activities:

> * Lakeview Junior High School operated a replacement reading project in which students attended two periods of Chapter 1 reading per day in place of regular English and an elective. The program was individualized, the curriculum consisting of sequenced units that students mastered at their own pace. Bonus points were awarded to students for successfully completing work and mastering units, and students exchanged these points for time in a recreation room. The resulting use of allocated time in this project was interesting. Of the 90 minutes a day allocated to Chapter 1 instruction, students generally spent about 65 minutes in instruction and the remaining 25 minutes in the recreation room. Moreover, during instruction, students spent about 50% of their time working on assignments and 42% waiting for instructional aides to check assignments and assign bonus points. Thus, of the total of 90 minutes allocated to instruction, only about 38 minutes were spent actively engaged in academic tasks, and most of this time was spent in independent seatwork.

This vignette suggests a second observation about Chapter 1 projects in secondary schools. A striking finding in Table 5.3 is the virtual absence of teacher-directed instruction. In 7 of the 10 secondary school projects in Table 5.3, lessons consisted of less than 20% "direct" instruction. Thus, most of the Chapter 1 instruction received by students consisted of seatwork or surrogate activities. When the data on group sizes are added to this picture, it seems clear that secondary students worked more independently than elementary school students during Chapter 1 instruction. They were engaged in more independent as opposed to "guided" practice, and in several schools, secondary students worked in instructional groups that were markedly larger than those in elementary schools.

Cross-Site Themes

Two themes about the quality of Chapter 1 instruction emerged as we compared and contrasted the data on schools in the sample. These themes are discussed below.

Delivery Models Do Not Affect Quality of Instruction Variables

The data presented in Tables 5.1 through 5.3 allowed us to investigate the effects of different service delivery models on variables that measured instructional quality. Much previous literature has addressed this issue through criticism of the pullout model. For example, Glass and Smith (1977) concluded that "research does not support the wisdom of instruction under conditions like those that prevail in pullout programs." Other research, however, suggests that pullout models may be no better or worse in terms of instruction than other delivery models and that service delivery model, per se, has little effect on quality of instruction variables (Archambault, 1986). In this section, the effects of service delivery models on measures of quality of instruction are discussed. The analysis focuses especially on the effects of pullout models on instructional variables.

At the elementary level, there was no indication that use of the pullout model affected the quality of instruction provided to students, at least as defined in this study. On the whole, pullout projects allocated about the same amount of time to Chapter 1 instruction, provided the same small class size, and were characterized by roughly the same amount of teacher-directed instruction as schools with replacement and in-class designs. The same was true at the secondary level, where there was even less difference between pullout and alternative models.

However, the different service delivery models did have different staffing patterns. For example, in-class projects were staffed almost exclusively by aides, while pullout and replacement projects were staffed by resource teachers and aides. To examine whether resource teachers or aides taught differently, we compared the instructional formats used by aides and resource teachers. The analysis revealed no consistent differences. In reading, aides provided about 15% more "direct" instruction than resource teachers; in math, aides provided about 5% less "direct" instruction. The qualitative field records suggested that resource teachers generally provided well-organized lessons, used effective teaching practices, and kept students motivated and engaged in lessons. There were also many excellent instructors among the aides observed in this study, but there also was more variation in quality across aides; a few aides presented confusing and wrong information to students or were unable to keep students motivated and engaged in lessons. On the whole, however, it appears that staffing patterns made little difference to the instructional treatment received by students.

The field records also showed what happened when students left their classrooms to receive pullout instruction. Critics have argued that pullouts waste time for pulled-out students and disrupt ongoing instruction for students remaining in the classroom. To examine this criticism, a comparison was made between five elementary schools where all observed Chapter 1 services were offered in a pullout setting and two schools that used an in-class setting. In the two in-class projects, transition times to and from Chapter 1 lessons averaged 2.28 minutes and 1.47 minutes. Of the five pullout schools, three had average transition times of about 3.5 minutes, one had an average

transition time of 5.7 minutes, and the other had an average of 9 minutes. Clearly, the amount of time spent traveling to and from Chapter 1 services was less in in-class projects, but only by one or two minutes in most cases. Transition time was lengthy only in schools where the Chapter 1 rooms were at a considerable distance from regular classrooms. Finally, the field records indicated that the movement of students into and out of classrooms was no more disruptive than movement within rooms, and in elementary schools especially, students seemed quite accustomed to the movement and regrouping of students.

In summary, the limited comparisons discussed in this section did not show that pullout models provided markedly inferior instruction to students. However, the reader should be cautioned that other criticisms have been made of pullout designs. In the next chapter, for example, the criticism that pullout students miss some of the curricular content in the regular instructional program will be discussed.

Chapter 1 Rarely Teaches Higher-Order Skills

A characteristic of Chapter 1 instruction is that it emphasizes low-level, basic skills and neglects instruction in higher-order thinking skills. Although there are many possible definitions of "higher-order" skills, a number of subject-specific definitions for this term were applied in this study. These are discussed below.

Researchers agree that an important goal of reading instruction is to encourage students to become active readers of connected text (Anderson, Brubaker, Alleman-Brooks, & Duffy, 1985). In this study, instruction in phonics or vocabulary were coded as lower-order skills because they were only contributory to the main goal of reading instruction. Higher-order skills were coded when students read paragraphs and stories, as opposed to words and sentences, and when they were required to construe meaning from text and engage in evaluation and synthesis of ideas. A similar definition was used for language arts. Lower-order skills consisted of such basic facts as grammatical rules and spelling; higher-order skills involved writing paragraphs and essays. A similar standard was used for mathematics. Following the work of Romberg (1986), we assumed that a goal of mathematics instruction was for students to use mathematics much like a language and to be able to formulate and solve problems using this "language." Lower-order skills were coded when students practiced such basic skills as addition, subtraction, multiplication, and division, or when they engaged in memorization of mathematical concepts and principles. Higher-order skills were coded when students applied math facts in problem-solving situations or synthesized and evaluated argument using mathematical models.

From this perspective, most of the instruction observed in Chapter 1 math classes involved lower-order skills. In the elementary grades, Chapter 1 projects focused on the development of basic numeracy skills. In second grade, students learned to add and subtract; by fourth grade, they were learning to multiply and divide. Most often, Chapter 1 instruction consisted of worksheets that required students

to compute answers to a variety of arithmetic problems. Word problems, while not infrequent, were a small part of most math projects, as were topics in geometry. One of the few applications of mathematical knowledge occurred in units on measurement, when students used rulers to measure various objects and compare sizes.

At the secondary level, there was greater variety in curriculum content, in part due to the greater variation in achievement levels among high school students. The Chapter 1 math projects at Lakeview and Salvador, for example, were individualized, and students worked on skills ranging from basic arithmetic through decimals and fractions, skills they had been working on since the elementary grades. The eighth-grade Chapter 1 math project at Taylor High School placed more emphasis on geometry and arithmetic operations with mixed numbers and integers than did the other projects, but like the other schools, there was little opportunity for students to practice higher-order skills as defined here. All three programs included word problems, but the emphasis was on computation.

Reading instruction in Chapter 1 projects also varied from school to school. In second grade, phonics exercises were a constant, and students usually worked on assignments that required reading and writing of words and sentences. Reading of connected text and associated comprehension activities took place during oral reading, but not all Chapter 1 projects included this as a component of work. By fourth grade, Chapter 1 lessons were more varied, in part because student achievement showed more variation at this age. Some Chapter 1 students had not yet "broken the code" of reading and, therefore, worked primarily on word attack skills; other students were readers, but their comprehension skills lagged behind peers who were reading at grade level. These students were given both word-oriented instruction and comprehension-oriented instruction. In general, however, Chapter 1 lessons in the elementary grades required students to do little reading or writing. In all instructional formats, the focus of lessons was most often worksheets that required students to fill in blanks, circle correct answers, or transcribe words and sentences.

Two schools had Chapter 1 reading programs that were noteworthy for their stress on "higher-order" reading skills as defined here. The following vignettes illustrate the characteristics of these programs:

* Winkler Elementary School had developed a schoolwide philosophy that guided both the regular and the remedial reading programs. In both programs, reading and writing activities were integrated. In a typical Chapter 1 reading lesson, more than half the session was devoted to silent and/or oral reading of connected text, usually longer than a paragraph, followed by oral and written comprehension activities. During each lesson, students also worked in "writing logs" in which they made predictions about what would happen next in stories, summarized the order of events, or wrote personal reactions to stories. Phonics lessons were observed, but these were usually fast-paced and took no more than five minutes.

* Kensington Elementary School had developed a Chapter 1 reading project based on the philosphy that "comprehension is the important point in reading, not just reading the words, but understanding what is read." In this school, students received Chapter 1 instruction for about two hours a day. In the fourth grade, Chapter 1 lessons began with 30 minutes of independent silent reading from a library book. This was followed by a teacher-directed activity in which students applied reading comprehension skills. For example, students read directions, located places on a map, and then wrote directions for others. Students also worked with aides on more typical Chapter 1 assignments--vocabulary and comprehension worksheets, but these activities occurred after comprehension work and usually involved less than 30 minutes of work. Finally, lessons concluded with the resource teacher reading a story aloud to the class for 10 to 15 minutes.

The field records at these schools demonstrated that second- and fourth-grade Chapter 1 students could work successfully at reading comprehension tasks. The following vignette describes a Chapter 1 reading program that placed less emphasis on reading comprehension:

* Hillside Elementary School had recently installed a reading lab. Over the course of a week, students spent about one third of their time in computer-assisted instruction, one third working with audiovisual equipment, and one third in teacher-directed lessons. During computer-assisted instruction, students in both second and fourth grades spent much time on word-level tasks such as identifying plural nouns, identifying base words, and identifying verb endings. Audiovisual machines also stressed word-level tasks. Students listened to stories and completed worksheets that required for example, the matching of words to correct meanings. Teacher-directed activities provided more comprehension instruction; students read stories aloud and answered questions about word meaning or story facts. Typically, these activities occupied less than a third of the time students spent in Chapter 1 instruction.

In contrast to most elementary schools, Chapter 1 reading in high schools invariably focused on the development of reading comprehension skills. However, this did not involve the reading of trade books or classical literature. Instead, students worked through individualized, sequenced reading curricula. In these programs, students read short stories and worked on comprehension worksheets. The worksheets often bore a striking resemblance to those completed by second and fourth graders, except that secondary students worked at the paragraph and story level. The following vignette illustrates this type of program:

* Coolidge High School operated a voluntary, no-credit Chapter 1 project in which students left study hall to attend a 25-minute period of Chapter 1 reading. During the month of observation at this school, many students were

observed working on comprehension worksheets in which they ordered scrambled phrases into meaningful sentences and then ordered these sentences into a complete (paragraph-long) story.

The field record indicated that the reading program at Coolidge High School was remarkably successful in producing achievement gains. This was due in large part to the resource teacher, who managed to motivate and inspire students. In other respects, however, the program at Coolidge was not much different from another secondary school reading project that was not producing large achievement gains for students.

* Taylor High School offered Chapter 1 reading in place of an elective course. Instruction in the program revolved around the use of a commercially-developed set of curriculum materials. During many class sessions, students worked out of manila folders that contained two- or three-page stories, both fiction and non-fiction. Each story came with a worksheet that required students to answer literal comprehension questions about the people, places, and events in the story. When students completed these worksheets, the teacher engaged students in recitations, asking them questions like, "What's this story all about?" After this, the teacher usually assigned new work to students. One student, upon completing a worksheet and being given another by the teacher, was overheard saying to classmates, "She just gave this to me to keep me busy."

Only one secondary school reading project differed from this pattern. The following vignette provides a sense of the difference between this program and the others:

* Stevenson High School offered students Chapter 1 reading in place of an elective. Students attended the class each day for a 45-minute period. The Chapter 1 classes were similar to many regular English classes observed during this study. Students spent about 65% of their time reading and discussing plays and about 5% writing in journals. Much of the reading activity was oral. For example, students often assumed characters in the plays and read the parts aloud. The assignment of parts for these dramatic readings often consumed several minutes of management time.

In summary, most Chapter 1 reading and math projects provided students with few opportunities to engage in higher-order skills as defined in this study. In reading, students at all grades rarely read trade books or wrote creative themes. In math, students practiced computation skills and rarely applied concepts or synthesized ideas using mathematical models.

Summary

This chapter discussed the instruction provided in Chapter 1 projects at schools in the sample. The discussion persented data separately for Chapter 1 reading projects in elementary schols, Chapter 1 math projects in elementary schools, and Chapter 1 reading and math projects in secondary schools. Key findings from the chapter were:

* Chapter 1 students at different schools spent widely varying amounts of time in Chapter 1 instruction. In elementary school reading, weekly estimates of instructional time varied from 1 hour to about 11 hours; in elementary school math, weekly time varied from about a half hour to about 4 hours; in secondary school reading, weekly time varied from 15 minutes to about 5 hours; in secondary school math, weekly time varied from a half hour to about four and a half hours.

* In both reading and math at both the elementary and secondary levels, Chapter 1 instruction rarely could be expected to total more than 100 hours of instruction over the course of a 36 week academic year.

* In both reading and math at both the elementary and secondary levels, Chapter 1 instruction took place in small groups. Group sizes tended to be larger in secondary schools, but most reading and math projects conducted Chapter 1 instruction in groups of four to six students.

* The instructional formats used during Chapter 1 instruction varied widely across schools. However, there was some evidence that grade level and subject matter affected the use of "direct" instruction. Elementary school reading projects showed the most use of "direct" instruction, with most lessons consisting of 50% to 70% lecture/recitation. Elementary school math lessons included about 10% less use of "direct" instruction. At the secondary level, in both reading and math, most Chapter 1 instruction consisted of a large proportion of seatwork and surrogate activities and only about 20% "direct" instruction.

* In both reading and math, Chapter 1 instruction in elementary schools was almost always focused on low-level basic skills. However, in a few schools, students were presented with opportunities to engage in higher order tasks; the field record showed that Chapter 1 students could successfully complete these tasks.

* In both reading and math, and at all grade levels, the focus of Chapter 1 lessons was worksheets. In reading, worksheets required students to fill in blanks, circle correct answers, or transcribe words and sentences. In math,

worksheets required students to write the correct answers to basic math problems.

* In secondary schools, Chapter 1 reading invariably focused on the development of reading comprehension skills. Students worked through individualized, sequenced reading curricula by reading short stories and completing comprehension worksheets. Often these worksheets bore a striking resemblance to those completed by second and fourth graders, except that secondary school students worked on materials at the paragraph and story level while elementary school students had wroksheets focused on words.

* In secondary schools, there was great variation in the math skills that students worked on. Some students worked on simple addition and subtraction; others worked on pre-algebra skills.

* In general, the specific type of service delivery model used by a project had little effect on quality of instruction as measured in this study. Thus, the adoption of a particular delivery model (e.g., in-class) will not, in and of itself, markedly change the group size, instructional formats, time, or curriculum content of Chapter 1 instruction.

* The amount of time taveling to and from Chapter 1 services was less in in-class projects than in pullout projects, but only by one or two minutes in most cases. Transition times were lengthy only in schools where the Chapter 1 classroom was at considerable distance from regular classrooms.

CHAPTER 6

CHAPTER 1 INSTRUCTION AND THE SCHOOL DAY

The previous chapter discussed the characteristics of Chapter 1 instruction. This chapter adds a description of the instruction received by Chapter 1 students over the course of an entire school day. These data are used to assess the effects of Chapter 1 instruction on the overall scope and quality of instruction received by students. In particular, the discussion in this chapter focuses on whether or not Chapter 1 instruction redistributed the amount of instructional time students spent in different subjects and whether or not Chapter 1 instruction enhanced the quality of students' overall academic programs.

Basic Descriptive Data

The analyses in this chapter are based on descriptive data on instructional time, instructional formats, and average class sizes in both the Chapter 1 and regular instructional programs. This section discusses these data; the next section describes cross-site themes.

Instructional Time in Different Programs

Table 6.1 presents data on the amount of instructional time students in the sample spent in different subjects on days when they received Chapter 1 services. The data are aggregated by grade level, and the table lists the average daily minutes spent by students in four curriculum areas: (a) reading/language arts; (b) mathematics; (c) other academic lessons, including social studies, science, and foreign languages; and (d) multisubject lessons.

The table shows that students at different grade levels spent different amounts of time in these curriculum areas. For example, in the elementary grades, the average service day included about two hours of instruction in reading/language arts and about 50 minutes of math instruction. In addition, students spent an additional 40-50 minutes a day in "multisubject" lessons in which they worked on a variety of seatwork assignments, usually related to the reading and math lessons for the day. Thus, over the course of the usual six-hour elementary school day, nearly three hours were spent on the traditional "three r's." An additional 40-50 minutes were spent on instruction in other academic subjects, for example, social studies or science, and the remainder of the school day was devoted to instruction in other subjects (e.g., art, P.E.) and to activities such as homeroom, recess, lunch, and transitions.

In secondary schools, the distribution of time was quite different. At this level, students spent less time on reading/language arts than elementary school students and more time on "other" academic

Table 6.1 Average Minutes Spent in Different Subjects on Chapter 1 Service Days

	Reading/LA	Math	Other Academic	Multisubject
Grade 2	118.6	50.1	38.2	54.4
Grade 4	129.3	52.4	51.6	42.1
Grade 8	76.3	49.1	82.8	55.3
Grade 10	81.4	49.0	67.6	34.5

subjects; there was no difference in time spent on math. Thus, the average secondary school student in this sample spent about 70 to 80 minutes in reading/language arts, 70 to 80 minutes in other academic classes, and about 50 minutes in math. Based on these data, it makes sense to conclude that, in this sample, a typical daily schedule for secondary students on Chapter 1 service days would include two periods of reading/language arts, two "other" academic classes, and one math class. The remaining time would be spent in other instruction, study hall (coded as multisubject), lunch, recess, transitions, and homeroom.

Table 6.2 shows the average total time spent in reading/language arts and math instruction on Chapter 1 service days and the proportion of the total that was spent in Chapter 1. The data in the table are aggregated by school, and schools are grouped by grade level and service delivery model. Schools that used more than one Chapter 1 service delivery model are listed under the heading of "mixed" models.

The table shows that the percentage of time spent in Chapter 1 instruction varied across schools. On average, however, Chapter 1 services in elementary schools accounted for about 34% of reading/language arts time and 47% of math time. At the secondary level, the average student spent about 60% of reading/language arts time in Chapter 1 classes and about 85% of math time in Chapter 1 classes. The table suggests that at both the elementary and secondary levels, Chapter 1 classes accounted for proportionately more time in math than in reading. However, the table also shows that secondary school Chapter 1 classes accounted for a larger proportion of instructional time than did elementary school Chapter 1 classes.

Finally, Table 6.3 takes advantage of natural variation in the sample to investigate the effects of participation in Chapter 1 on the amount of time spent in reading and math. The table was constructed in the following way: In virtually every school, some students were observed who did not receive Chapter 1 services (in reading and/or math) on the observation day. Table 6.3 compares the amount of time these students spent in reading and math to the amount of time spent by observed students who did receive Chapter 1 reading or math. For example, the column labled "reading" compares the amount of daily time spent by students who did receive Chapter 1 reading on a service day with the amount of time spent by students on days when they did not receive reading services. The next column makes a similar comparison of math times. All times are average daily minutes per students.

The data on elementary school students show that on days when students received services, the students spent an average of 10 to 15 more minutes per day on reading compared to reading times for student days that did not include Chapter 1 reading. A similar pattern was evident for elementary school math services (cf. Archambault & St. Pierre, 1979). Further inspection of the data on daily schedules at each school revealed that this 10- to 15-minute "gain" in reading and math came at the expense of time in multisubject seatwork or "other" academic subjects. The data on secondary students in Table 6.3 should be interpreted with caution; at this level, there were fewer schools and students involved in comparisons. In secondary reading, students who received services on an observation day averaged 10 to 15 minutes

Table 6.2 Proportional Contribution of Chapter 1 Instruction to Total Daily Minutes in Reading and Math

Schools	Reading/Language Arts		Mathematics	
	Avg Total Mins/Day	% Ch. 1	Avg Total Mins/Day	% Ch. 1
Elementary				
Mixed				
Huxley	133	20	47	58
Parker	141	22	68	24
Westwood	127	25	50	28
Nelson	104	28	83	34
Evergreen	112	20	60	94
Hayes	118	36	17	18
Lowell	91	45	51	45
Pullout				
Kensington	210	63	no math services	
St. Mary's	134	24	no math services	
Danville	145	35	107	57
Central	114	28	62	37
Hillside	112	42	98	44
Johnson	127	24	66	61
Winkler	97	29	81	31
Tudor	158	26	67	38
In-class				
Sumner	110	21	53	57
Replacement				
Washington	119	94	26	96
Secondary				
Mixed				
Salvador	106	11	54	26
Pullout				
Einstein	99	36	64	47
Kehoe	100	41	no math services	
Replacement				
Lakeview	66	98	37	100
Coolidge	78	38	no math services	
Stevenson	82	49	no math services	
Taylor	71	51	57	100

Table 6.3 Minutes Spent in Different Subjects

on Chapter 1 Service and Non-service Days

Grade	Chap 1 Service Day?	LESSON			
		Read/LA		Math	
		Mean	SD	Mean	SD
2	No	111.8	51.9	38.8	13.9
	Yes	118.6	42.4	50.1	25.6
4	No	99.1	46.1	43.7	21.3
	Yes	129.3	48.6	52.4	23.7
8	No	70.4	29.3	37.9	10.8
	Yes	76.3	31.3	49.1	16.9
10	No	67.9	27.2	49.8	6.7
	Yes	81.4	23.2	49.0	6.4

more reading/language arts time compared to students who did not receive services on an observation day. As for elementary students, this "gain" in reading time involved a tradeoff: Students who did not receive services on an observation day often spent more time in "other" academic courses. In math, on the other hand, students who received Chapter 1 services on an observation day gained no additional math time over students who did not receive services, due largely to the replacement features of the secondary school math programs in this study.

In summary, the data suggest that participation in Chapter 1 programs can add a few minutes per service day to students' instructional time in reading and math. These gains, however, would come at the expense of time in multisubject seatwork or in "other" academic instruction. At the same time, the data suggest that, for the average Chapter 1 student in this sample, the receipt of services did not result in a large redistribution of time spent in different subjects. For the average student, only 10 to 15 minutes of Chapter 1 service involved a transfer of time from one subject to another. The rest of the service interval would have been spent on the same subject in which a student received service. Thus, the data indicated that, on average, Chapter 1 instruction in this sample was largely a substitute for same-subject instruction in the regular program.

Instructional Format and Group Size in Different Programs

Because Chapter 1 instruction largely substituted for same-subject instruction, it is important to know whether the Chapter 1 program offered higher quality instruction than the program it replaced. In this section, this issue is addressed by a comparison of data on the instructional formats and group sizes that occurred in Chapter 1 and regular programs.

Table 6.4 shows the proportion of all observed instruction coded into one of five instructional formats. In addition, the table shows the average size of instructional groups for each program and subject. At the elementary level, the table shows that Chapter 1 reading consisted of roughly 10% more "direct" instruction and about 2% to 10% more surrogate instruction than regular reading programs; the average size of instructional groups was also substantially smaller during Chapter 1 instruction. However, in elementary school math, a different pattern occurred. The Chapter 1 programs in this sample offered smaller math classes, but these classes consisted of proportionately less "direct" instruction and proportionately more surrogate instruction than regular math programs.

The data on secondary schools show interesting grade level differences. At the eighth-grade level, Chapter 1 reading classes were smaller than those in the regular program; they also contained much less lecture/recitation than regular English classes. This finding is influenced by the large proportions of observations from Lakeview and Taylor High, schools that used individualized curriculum packages in their Chapter 1 projects. At the tenth grade, data were heavily weighted by observations at Stevenson High, and there w s little

Table 6.4 Percentage of Time Spent in Different Instructional Formats by Subject and Grade Level

Program	Total Hours Observed	% Lec/Rec	% Seatwork	% Surrogate	% Other	% Management	AVERAGE GROUP SIZE
READING FORMAT							
Grade 2							
Regular	140.4	50.6	34.6	1.5	4.2	9.1	16.6
Chapter 1	53.8	60.2	17.1	12.6	2.6	7.5	5.0
Grade 4							
Regular	122.2	41.9	42.5	1.1	4.2	10.2	19.5
Chapter 1	101.1	48.1	39.1	3.5	1.0	8.4	6.6
Grade 8							
Regular	18.9	35.7	38.3	8.7	6.9	10.4	13.4
Chapter 1	30.2	8.9	52.7	10.7	5.0	22..	9.3
Grade 10							
Regul.	30.4	42.8	24.7	13.3	1.4	17.7	17.5
Chapter 1	19.4	41.0	22.1	18.6	1.6	16.8	6.4
MATHEMATICS FORMAT							
Grade 2							
Regular	27.2	55.4	25.8	3.4	3.5	11.9	19.4
Chapter 1	23.8	42.4	26.6	15.1	7.9	8.0	6.5
Grade 4							
Regular	22.2	53.5	31.7	0.8	0.8	13.3	22.0
Chapter 1	28.6	34.4	42.3	11.1	2.3	9.9	5.6
Grade 8							
Regular	4.0	52.7	16.5	2.0	16.0	14.8	19.3
Chapter 1	27.2	31.7	48.9	--	0.2	17.2	5.6
Grade 10							
Regular	2.5	28.7	38.0	--	5.3	28.0	14.5
Chapter 1	1.1	2.9	--	18.8	78.3	--	6.9

difference between Chapter 1 and regular instruction. Finally, in math, secondary school Chapter 1 instruction was offered in smaller groups and, like elementary school programs, consisted of proportionately more seatwork, surrogate instruction, and testing than regular math classes.

In summary, Chapter 1 instruction in both reading and math was consistently conducted in smaller groups than regular instruction. However, in most cases, this appeared to be its only advantage. Only in elementary school reading did Chapter 1 instruction consist of proportionally more "direct" instruction than regular programs, and this difference was small. At other grade levels and in other subjects, Chapter 1 instruction appeared to consist of proportionately more seatwork and surrogate instruction than regular programs.

Cross-Site Themes

During the cross-site analysis, we compared findings from the quantitative analysis to findings from the qualitative analysis. The purpose was to understand better how Chapter 1 instruction contributed to the overall scope and quality of students' academic programs. Two themes emerged: (a) Smaller instructional groups and additional time in basic skills enhance the overall quality of basic skills instruction; and (b) Scheduling procedures determine whether Chapter 1 instruction affects the scope of a student's academic program.

Smaller Groups and More Time Enhance Instructional Quality

The quantitative analysis suggested that most Chapter 1 projects contributed to school learning by adding instructional time to reading and math lessons and by providing students with additional small group instruction. The qualitative analyses supported the contention that the smaller size of Chapter 1 groups had advantages. In most schools, Chapter 1 aides and resource teachers provided a more tightly supervised type of seatwork and surrogate instruction than was offered in the regular program. Indeed, because of the usual physical proximity of instructors to students and the low number of students per instructor, Chapter 1 students received frequent academic feedback and correction, even while working in seatwork formats. Interviews suggested that students valued this "help" and that Chapter 1 resource teachers were often students' favorite instructors. The observation data further showed that most students were on task and successful in Chapter 1 lessons, due in large part to the frequent correctives and feedback provided during Chapter 1 lessons. At the same time, a number of the field staff expressed reservations about the close monitoring and ready help given to Chapter 1 students. Such treatment may foster "learned helplessness," discourage the development of self-monitoring skills, and, therefore, make it even more difficult for these students to succeed in their regular classes where the individual supervision they receive in Chapter 1 is seldom available.

Chapter 1 Scheduling Affects the Scope of Instruction

The common criticism of the Chapter 1 program is that the additional time and reduced group size gained by Chapter 1 students comes at the expense of "missed" learning opportunities in the regular curriculum. At the elementary level, however, the quantitative analysis showed that Chapter 1 services did not result in a radical change in the average student's scope of instruction. Interestingly, this quantitative observation was consistent with interview data. For example, interviews at elementary schools demonstrated that most schools were making a deliberate effort to schedule Chapter 1 instruction during a time when regular classroom students were engaged in same-subject instruction or multisubject seatwork. In the typical in-class arrangement, this occurred because classroom teachers scheduled reading and math lessons for a time when Chapter 1 aides could be in the classroom. In pullout schools, "block" scheduling accomplished the same purpose. Students were pulled out at times when same-subject instruction or multisubject seatwork were scheduled in the regular classroom.

The important point here is that the timing of lessons in regular classrooms was often adjusted to the scheduling needs of the Chapter 1 program, and elementary school teachers often ended up teaching basic skills lessons at times when they would have preferred to teach another subject. In the interview data, elementary school teachers overwhelmingly cited scheduling problems as the biggest drawback of the Chapter 1 program. By contrast, scheduling in secondary schools was much less problematic. In many cases, Chapter 1 replacement classes were offered on a regularly scheduled basis. Chapter 1 math classes replaced regular math; Chapter 1 reading classes generally replaced study hall, P.E., or an elective.

During the cross-site analysis, we examined field records of students who were pulled out of regular classrooms for both reading and math. The purpose was to find out what these students "missed" because of participation in Chapter 1. Usually, pullouts occurred when the regular class was engaged in reading and math seatwork. Our analysis suggested that the relationship between assignments in the Chapter 1 program and the regular instructional program affected what Chapter 1 students "missed." When the Chapter 1 program helped students complete regular worksheet assignments, the reduced group size and closer academic feedback provided during Chapter 1 time constituted a net advantage for students' academic progress in the regular instructional program. Students missed nothing and usually completed regular classroom assignments more promptly and accurately than they would have without Chapter 1 support. However, when Chapter 1 projects made students work on assignments different from those in the regular program, students pulled out more than once often fell behind in their regular classroom seatwork.

Teachers varied in the extent to which they required students to make up missed seatwork. In some classrooms, students toiled during recess and lunch to complete regular classroom assignments. In other classrooms, students were told to take incomplete work home, but many teachers never checked to see that this occurred, and many students did not take the work home. In both cases, the learning conditions

under which students made up missed work were far from ideal. At home, students lacked motivation and support, and during lunch and recess, students rushed through the work so they could join their peers. As a result, participation in the Chapter 1 program under these conditions often detracted from a student's success in the regular classroom.

Summary

This chapter described the instruction received by students over the course of the entire school day and compared the characteristics of Chapter 1 and regular instruction. Key findings were the following:

* Chapter 1 services did not add much basic skills instructional time to student days. In general, it appeared that students received only 10 to 15 minutes of additional reading or math time on days when they received Chapter 1 services. These slight gains usually came at the expense of time in multisubject seatwork or "other" academic instruction.

* Most schools in this sample made a deliberate effort to schedule Chapter 1 instruction during a time when regular classroom students were engaged in same-subject instruction or multisubject seatwork. This was true of schools with in-class, replacement, and pullout designs. These scheduling practices account for the modest gains in basic skills instructional time noted above. Thus, because of scheduling practices, most students "missed" little instruction in the regular classroom as a result of receiving Chapter 1 services.

* Scheduling was the most frequently mentioned drawback of Chapter 1 programs. Regular classroom teachers and Chapter 1 staff engaged in mutual accommodation in order to schedule instructional times, and this sometimes caused regular classroom teachers to offer basic skills instruction at times other than when they preferred.

* In some Chapter 1 projects, Chapter 1 assignments were drawn directly from work in the regular classroom; in other projects, Chapter 1 assignments were nearly independent from regular classroom assignments.

* When Chapter 1 instruction helped students complete worksheet assignments from the regular classroom, the reduced group size and closer academic feedback provided during Chapter 1 instruction constituted a net advantage for students' academic progress. However, when Chapter 1 lessons required students to work on assignments different from those in the regular program, some students fell behind in their regular classroom work.

* In schools where students worked on different assignments in Chapter 1 and regular instruction, regular classroom teachers varied in the extent to which they required students to make up missed assignments. In some classrooms, students toiled during lunch and recess to complete regular assignments; in others, students were told to take missed work home. In both cases, Chapter 1 students completed regular assignments under less than ideal circumstances.

* In both reading and math at both elementary and high schools, Chapter 1 instruction was conducted in smaller groups than in regular classrooms. However, in most cases, this appeared to be the only advantage of Chapter 1 instruction over same-subject regular instructon. Only in elementary school reading did Chapter 1 instruction consist of proportionately more "direct" instruction, and this difference was small. At other grade levels, and in other subjects, Chapter 1 instruction appeared to consist of proportionately more seatwork and surrogate activities than did instruction in regular programs.

* The close monitoring and ready help given to students during Chapter 1 small group instruction may have a disadvantage. It is possible that this close attention fosters "learned helplessness," discourages the development of self-monitoring skills, and therefore makes it more difficult for students to succeed in regular classrooms where the close attention and supervision received in Chapter 1 settings is often unavailable.

CHAPTER 7

THE STUDENT DAY

In the previous chapter, quantitative data were used to describe the structure of students' instructional days. In this chapter, qualitative data on this same phenomenon are presented. Narrative descriptions and daily schedules for 9 students illustrate themes developed in earlier chapters.

Elementary School Students

In this section, the daily schedules of 3 elementary school students are described in order to further illustrate: (a) how students spend time in school; (b) the curricular content of school lessons; and (c) the types of instructional formats used in classrooms.

Our discussion of elementary school students focuses on the daily schedules of three students, Alicia, a second grader, and Heather and Mike, both fourth graders. A daily schedule and narrative is provided for each of these students, starting on the next page. The daily schedule shows the time and duration of lessons, as well as the program, format, grouping arrangement and instructor for each lesson. The narrative on the right provides a brief verbal summary of students' activities during academic lessons.

Student Schedules Focused on Reading and Math

Inspection of the schedules confirms the findings from the previous chapter that reading and math lessons accounted for a major portion of the instructional day in elementary schools. Most students began the instructional day with a reading or math lesson, and work in these subjects often continued into the afternoon. Indeed, it seems fair to say that the typical elementary school day consisted of work on reading and math, punctuated by other events- a social studies lesson, recess, lunch, a trip to the library, and so on.

Over the course of a typical elementary school day, students worked on a series of lessons focused on various components of the overall reading/language arts program. These lessons occurred in a variety of formats, for example, oral reading in small groups, a whole class spelling lesson, and independent seatwork on grammar, phonics, or penmanship assignments. Math lessons occupied less time over the course of the day, but almost all days included at least one math activity. On most days, students worked in a variety of formats. There were whole class lectures in which instructors introduced new concepts or reviewed past work; guided practice sessions, in which students worked problems on the blackboard or in small groups; and independent seatwork, in which students completed assignments on their

Alicia's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
8 25	REGULAR READING/LA			
8 25	Management	Whole Group	Teacher	8
8 33	Lecture/Rec	Subgroup	Teacher	32
9 05	TRANSITION			1
9 06	CHAPTER 1 READING/LA			
9 06	Surrogate	Subgroup	Teacher	14
9 20	TRANSITION			4
9 24	RECESS			9
9.33	TRANSITION			3
9:36	HOMEROOM			5
9 41	TRANSITION			2
9 43	REGULAR READING/LA			
9:43	Testing	Whole Group	Teacher	5
9:49	TRANSITION			2
9 51	CHAPTER 1 READING/LA			
9 51	Lecture/Rec	Individual	Teacher	19
10 10	REGULAR READING/LA			
10 10	Lecture/Rec	Whole Group	Teacher	24
10:34	TRANSITION			1
10 35	RECESS			11
10 46	TRANSITION			2
10:48	REGULAR MATH			
10 48	Lecture/Rec	Whole Group	Teacher	23
11:11	TRANSITION			1
11 12	CHAPTER 1 MATH			
11:12	Lecture/Rec	Individual	Aide	3
11 15	Lecture/Rec	Subgroup	Aide	1
11 16	TRANSITION			2
11 18	REGULAR MATH			
11.18	Lecture/Rec	Subgroup	Teacher	10
11:28	REGULAR READING/LA			
11 28	Management	Whole Group	Teacher	5
11:33	TRANSITION			3
11 36	LUNCH			44
12 20	TRANSITION			1
12-21	REGULAR READING/LA			
12:21	Seatwork	Whole Group	Teacher	8
12 29	TRANSITION			2
12:31	REGULAR MATH			
12:31	Management	Whole Group	Teacher	2
12:33	Surrogate	Subgroup	Teacher	21
12:54	TRANSITION			6
13.00	REGULAR LIBRARY			
13:00	Lecture/Rec	Subgroup	Resource Tchr	38
13.38	TRANSITION			2
13:40	DISMISSAL			

Alicia is a Black second grade girl whose native language is English. She scored in the 2nd Q on the CTBS reading exam. She was eligible for Chapter 1 reading.

Before instruction Alicia entered the classroom and sat down. The teacher organized reading group activities. At 8:25 reading/language arts instruction began. The teacher worked with Alicia's reading group first. She introduced a story about kittens. The students read silently, then aloud, a page at a time. The teacher asked specific questions about each page. Alicia had a reading turn and answered questions. Next, the teacher assigned the students to write a story about kittens. She clarified workbook instructions on a sentence sequencing assignment. She introduced the short [u] vowel (as in sun and run), assigned a workbook page on this, and assigned a worksheet on the short [a] vowel (as in cat). The students moved back to their desks. Alicia sat down and immediately opened her workbook. She was engaged, reading aloud to herself as she worked.

At 9:05 Alicia moved into her Chapter 1 reading group for 14 minutes. She sat at the listening center with earphones on. Alicia listened to an SRA tape that focused on words with the sounds [sh], [ch], [gh], and [ph]. She was inattentive. She tapped other students' earphones with her pencil and took her own earphones off, thereby missing the directions for correcting her work. She copied from other students' papers.

At 9:24 the students had recess (9 minutes). A few minutes later, the teacher directed homeroom activities.

At 9:43 during a reading/language arts session, the teacher gave the students their weekly spelling test (6 minutes).

At 9:51 Alicia moved into another Chapter 1 reading session. The aide showed Alicia flashcards with words and phrases. Alicia had difficulty reading some of them. Other students corrected their spelling tests.

At 10:10 Alicia moved back into regular/language arts. The teacher reviewed past worksheets on capitalization and classifying nouns into types. Alicia had a turn to participate. A student collected the papers, which were to be put in the students' files. Recess followed.

At 10:48 a math lesson began. The teacher introduced exercises on two-digit addition and promised a math game after the students finished. Alicia completed the written exercises. At 11:12 a Chapter 1 math session began. The aide worked with Alicia individually, giving her feedback on the exercises she had done. The aide also gave her more examples to do. A few minutes, three other students joined the aide and Alicia to have their papers corrected. At 11.18 the regular math lesson continued. The teacher told Alicia to get a partner to play the game. The two students took turns rolling dice with the object of reaching 100 first.

At 11:28 the reading/language arts session consisted of getting new reading books. The teacher called the students by table to put their old books back and pick up new ones. After this the students took a 44-minute lunch.

At 12 21 Alicia had another reading/language arts session. The students read silently.

At 12:31 the aide prepared materials for math work with computers. Alicia worked with two other students (at their request) at one computer. They were engaged playing an addition game with three- and one-digit numbers. Other students were in the language lab and media center.

At 1 00 in the library, the students learned about using card catalogs and chose books. At 1:40 the students left for the day.

Alicia was on task during most of her classes. She received help from the aide and occasionally worked with other students. Alicia was quite enthusiastic about some of her classes.

Heather's Day

Time	PROGRAM/LESSON format	Group	Instructor	Elapsed Time (mins)
8 15	HOMEROOM			10
8 25	REGULAR MULTISUBJECT			
8 25	Seatwork	Whole Group	Teacher	4
8 29	TRANSITION			4
8.33	REGULAR READING/LA			
8.33	Lecture/Rec	Whole Group	Teacher	21
8.54	Seatwork	Whole Group	Teacher	5
8.59	TRANSITION			2
9:01	REGULAR LIBRARY			
9.01	Management	Whole Group	Librarian	4
9 05	Other	Whole Group	Librarian	25
9 30	TRANSITION			2
9:32	REGULAR MULTISUBJECT			
9 32	Seatwork	Whole Group	Teacher	5
9:37	REGULAR MATH			
9.37	Lecture/Rec	Whole Group	Teacher	45
10.22	Seatwork	Whole Group	Teacher	8
10 30	TRANSITION			1
10.31	MULTIFUNDED READING/LA			
10.31	Seatwork	Subgroup	Resource Tchr	29
11.00	TRANSITION			3
11 03	REGULAR READING/LA			
11.03	Lecture/Rec	Whole Group	Teacher	9
11 12	Seatwork	Whole Group	Teacher	8
11 20	Lecture/Rec	Whole Group	Teacher	10
11 30	TRANSITION			1
11 31	MULTIFUNDED MATH			
11:31	Management	Whole Group	Resource Tchr	2
11:33	Testing	Whole Group	Resource Tchr	1
11 34	Lecture/Rec	Whole Group	Resource Tchr	24
11 58	Testing	Whole Group	Resource Tchr	1
11:59	Management	Whole Group	Resource Tchr	1
12:00	TRANSITION			:
12 01	REGULAR READING/LA			
12 01	Lecture/Rec	Whole Group	Resource Tchr	4
12 05	LUNCH			40
12 45	REGULAR READING/LA			
12 45	Lecture/Rec	Whole Group	Teacher	7
12 52	REGULAR/MULTISUBJECT			
12 52	Seatwork	Whole Group	Teacher	8
13 00	TRANSITION			2
13 02	REGULAR PE			28
13 30	TRANSITION			1
13 31	REGULAR SOCIAL STUDIES			
13 31	Lecture/Re	Whole Group	Teacher	17
13 48	Seatwork	Whole Group	Teacher	5
13 53	HOMEROOM			?
14 00	DISMISSAL			

Heather is a White fourth grade girl whose native language is English She scored in the 2nd Q in reading and the 1st Q in math. She was eligible for both Chapter 1 reading and math.

At 8 15 Heather entered the classroom and sat down. The teacher directed homeroom activities and passed out a math worksheet on finding the area of geometric figures. At 8 25 multisubject seatwork activities began Heather worked in a spelling workbook until she left a few minutes later.

At 8:29 Heather entered a classroom for a reading/language arts lesson. The teacher passed out reading texts and dictionaries. He began the lesson by discussing a chapter the students had already read. In preparation for the new chapter, he had the students look up vocabulary words, one by one, in the dictionary. The students pronounced the words and read the definitions aloud Next, the teacher read the new chapter to the students as they followed along The teacher assigned the students to read the following chapter silently. Heather read quietly and slowly. At 8:59 she left for the library.

At 9 01 a library/reference skills lesson began. The librarian seated the students and handed out worksheets on the card catalog The students looked in the card catalog to answer questions on the sheet. Heather worked steadily, usually on task. At 9:30, Heather left for her homeroom.

At 9.32 Heather briefly turned to multisubject seatwork She continued with her spelling workbook while some students did the math worksheet. The teacher prepared for the upcoming math lesson. Heather showed a completed spelling page to her teacher and received positive feedback.

At 9:37 the teacher began the math lesson by discussing the worksheet on finding the area of geometric shapes. The teacher reviewed the two- and three-digit division and multiplication problems on the board. Heather had a turn to participate and received positive feedback. At 10:22 the students began working in their texts on multiplication problems similar to those just reviewed. A few minutes later, Heather left for her next class.

At 10:31 Chapter 1 reading seatwork began. The teacher circulated while the students took notes from a story in their reading text. At 10:49, having completed her work, Heather had the teacher check it. The teacher gave positive feedback and pointed to one missing piece of information.

At 11 03 reading/language arts began with Heather's homeroom teacher The teacher reviewed a test on prefixes, synonyms, antonyms and homonyms. The teacher gave examples of contractions and assigned the students to do an exercise on this topic in their spelling books Heather was off task for a little while before beginning to work Later the teacher introduced new spelling words. Heather copied them down. Heather left for Chapter 1 math.

At 11.31 the teacher began Chapter 1 math with a timed test of 100 one-digit multiplication problems. The teacher checked the students' tests. At 11 39 the students played math bingo with addition and subtraction of one-digit numbers. e g 14+7, 20-7 Heather took a long time to work out the problems, but she got bingo The teacher gave the students a second timed multiplication test Heather again completed 20 problems, all correctly. The teacher collected the papers, and the students left

At 12.01 Heather returned to her regular classroom in the middle of a reading language arts lesson The teacher reviewed sentences that the other students had done before dismissing them for lunch.

At 12 45 Heather returned to a discussion of the other students' sentences in reading/language arts At 12 52 the students again turned to multisubject seatwork to complete any assignments they had not finished The teacher had assigned the students to rewrite sentences from the board in an interesting manner Heather began this task.

At 1 00 Heather had PE (28 minutes) At 1:31 social studies began The teacher read and discussed a story about M L King She assigned the students to read a passage from a sheet Heather read quietly until the students began to pack up. They were dismissed at 2 00

Heather was on task during most of her classes. She worked well on her own and received positive feedback

Mike's Day

Time	PROGRAM/LESSON format	Group	Instructur	Elapsed Time (mins)
8:30	HOMEROOM			15
8 45	REGULAR MULTISUBJECT			
8:45	Seatwork	Whole Group	Teacher	45
9 30	REGULAR READING/LA			
9 30	Lecture/Rec	Subgroup	Teacher	32
10:02	Seatwork	Subgroup	Teacher	14
10:16	RECESS			14
10 30	TRANSITION			1
10:31	CHAPTER 1 READING/LA			
10 31	Surrogate	Individual	Resource Tchr	37
11.08	Management	Individual	Resource Tchr	7
11 15	CHAPTER 1 MATH			
11 15	Surrogate	Individual	Resource Tchr	20
11 35	Management	Individual	Resource Tchr	3
11 38	Seatwork	Individual	Resource Tchr	2
11 40	Lecture/Rec	Individual	Resource Tchr	12
11.52	Management	Individual	Resource Tchr	8
12:00	TRANSITION			2
12:02	RECESS			40
12 42	REGULAR MATH			
12:42	Management	Whole Group	Teacher	6
12 48	Lecture/Rec	Whole Group	Teacher	10
12:58	Seatwork	Subgroup	Teacher	32
13.30	RECESS			13
13 43	REGULAR MATH			
13 43	Seatwork	Whole Group	Teacher	7
13:50	Management	Whole Group	Teacher	10
14:00	TRANSITION			10
14 10	ASSEMBLY			36
14 46	TRANSITION			9
14 55	HOMEROOM			5
15 00	DISMISSAL			

Mike is a male Hispanic fourth-grader without LEP status. He scored in the 2nd Q un the CAI reading and math exams, making him eligible for both Chapter 1 reading and math.

At 8 30 Mike entered the classroom, put the preceding day's worksheets on the teacher's desk, picked up his seatwork papers from a basket at the back of the room, and sat down. The teacher directed homeroom activities.

At 8:45 multisubject seatwork began. While the teacher circulated answering questions, Mike did worksheets on numeral writing, punctuation, library skills, using a glossary, drawing and composition.

At 9:30 the teacher began a reading/language arts lesson Mike went to a back table with 12 other students The students took turns reading about weeds from an article in their text Mike had a turn and followed along when others read The teacher asked comprehension questions, wrote the students' answers on a chalkboard, and the students wrote the answers on their papers. After this, Mike returned to his desk. Mike wandered around, then unsuccessfully tried to get the teacher's help on his workbook assignment. For the last 14 minutes the class was noisy and Mike, along with other students, was off task.

At 10:31, after fourteen minutes of recess, the students began Chapter 1 reading. Mike worked on a computer vocabulary lesson identifying prefixes, suffixes, and bases (e g. spell, ask, talk). The teacher made several positive comments about Mike's work. Towards the end of the period, the teacher gathered the students in the center of the room, gave them notes about the following day's parent-teacher conferences, then sent them back to their activities.

At 11.15 Chapter 1 math started. Mike took on a computer test of fractions, and two- and three-digit subtraction and multiplication problems for 20 minutes. He worked in his workbook on number sequencing while the computer graded his test The teacher gave him positive feedback about his test, and later help him correct some workbook pages on expanded notation (4,782 = 4000 + 700 + 80 +2) that had been done incorrectly. A while later Mike cleaned up his work, then lined up for recess (18 minutes). This was followed by lunch (22 minutes)

At 12:42 math began with the students correcting a math page on simple division done the previous day. The teacher introduced division with remainders by talking through several problems. The students seemed confused. The teacher had the students who were absent the day before to go to a back table While Mike finished his assignment correctly, other students talked, moved around, asked the observer for help, and raised their hands for help.

At 1 15, the teacher continued to work with students at a back table. Most of the other students in the class, without a specified assignment, wandered around and talked. Mike helped a girl with her math. Recess began at 1 30. The students returned after 13 minutes, and a few resumed work on the math assignment At 1.50 the teacher led the class in correcting the math assignment together

At 2 00 the students left for a 36 minute achievement awards assembly in the auditorium. The students returned at 2.50. and prepared to leave at 3 00

Mike was usually on task when he had work. He received positive feedback from the teacher.

own. Math lectures and guided practice sessions (coded lecture/recitation) were usually brief and often occurred after students had begun to work independently on tasks. Moreover, no matter what the instructional format, almost all math lessons focused on computation, and worksheets and workbooks made up the core of the curriculum for most students.

Consider the schedule of Alicia, a second-grade student at Westwood. Her day included reading, math, and library, as well as recess and lunch. Over half her time at school (158 minutes) was spent in reading and math lessons. Before lunch, her only lessons were reading and math; in the afternoon, she had more reading and math, but also went to the library. Alicia received her Chapter 1 services from an in-class aide, and, as is typical of most elementary-school students in the sample, she attended a series of reading and math lessons throughout the day. For reading, she met four times with her teacher and twice she received in-class lessons with the Chapter 1 aide. For math, she had three regular lessons and one with the Chapter 1 aide. Overall, she had 101 minutes of reading and 57 minutes of math.

Heather, a fourth-grade student at Winkler, received Chapter 1 reading and math in a pullout setting. Chapter 1 services on her schedule were coded as "multifunded" because this school blended together Chapter 1, state compensatory education, special education, and local district funds in order to provide remediation services to low-acheiving students. Like Alicia, Heather's schedule included reading, math, and library; but she also spent time in multisubject seatwork, social studies, and gym. Most of Heather's basic skills work was done in the morning, and she had several reading lessons. She was pulled out for Chapter 1 reading and then again for Chapter 1 math, each taught by a resource teacher. During these times, students in the regular classroom were engaged in seatwork or working with the teacher in small groups. Over the day, Heather had about 90 minutes of reading and 82 minutes of math.

Mike, a fourth-grade student at Hillside, also received Chapter 1 reading and math in a pullout setting. On the day he was shadowed, Mike began the day with multisubject seatwork and regular reading with his teacher; he then was pulled out to a "lab" for Chapter 1 reading and math. After lunch, he had math in the regular classroom and then attended an assembly. His total time in reading (90 minutes) was not unlike the other two students', although he did spend more time in math (110 minutes). Mike's total school day was also longer than those of Alicia and Heather.

In summary, the schedules of the three students had in common a heavy emphasis on reading and math, several reading lessons instead of one, and a concentration of reading and math in the morning. The schedules differed with regard to the particular times that reading and math were offered, the other academic lessons in the day, and the overall amount of time in reading and math.

Reading Curricula Varied from School to School

The daily schedules also illustrate curriculum differences across schools, especially difference in reading programs. In some schools, the reading program included an emphasis on comprehension and understanding, and the daily regimen of reading lessons often included pre-reading activities, silent reading, vocabulary practice, and teacher-led discussions about passages. In others schools, teachers placed more emphasis on phonics and spelling drills. This variation occurred not only across schools, but also across days. Observations of the same students over five consecutive days revealed that the content and focus of reading/language arts lessons sometimes varied greatly from one day to the next.

Turn once again to Alicia, the first student discussed. As we pointed out, Alicia received reading in six different contexts throughout the day. In four of these, the teacher conducted the lesson; the other two were led by the in-class aide. Alicia's most sustained reading lesson was her first of the morning. The following vignette summarizes the curricular focus of the lesson:

> Students were to read "Three Kittens." The teacher began the small group instruction with a series of open-ended questions that set the scene, for example, "Does anyone have a cat?" Students read the story silently, and then took turns reading a page each. After each turn, the teacher asked specific questions about the text. Finally, the teacher assigned seatwork that included workbook exercises on sequencing sentences, word-picture association, and phonics--short /u/ and /a/.

Her other reading lessons covered a range of tasks. The two Chapter 1 lessons focused on phonics/word recognition using an SRA audiotape and flashcards. Her additional regular reading lessons consisted of a weekly test on Durr (vocabulary) words, worksheets on capitalization and nouns, and silent reading.

On this day, Alicia practiced a variety of skills during the day. However, on other days, Alicia's reading group did not meet with the teacher, and her reading consisted almost solely of phonics exercises and vocabulary practice. For example, on one day, only one of the exercises assigned to Alicia required her to read connected text as long as one sentence; everything else was at a letter or word level. In one day she practiced consonant sounds (e.g., c, ch, nk, ng, ck), vowels sounds (/ai/, /i/), and words beginning with a-, be-, qu-, squ-, shr-, and thr-.

In contrast, Heather's reading lessons almost always focused on reading with comprehension. On the day shown here, her first reading lesson with the teacher began with pre-reading vocabulary practice. The teacher also read the selection aloud to the students before asking them to read it on their own. In Chapter 1 reading, the class read a story and took notes on important facts as they read. Synonyms, antonyms, homonyms, and contractions made up the rest of the

morning lessons. Five new spelling words taken from the social studies lesson were introduced. After lunch, students read aloud paragraphs they had composed earlier.

Thus, while both Alicia and Heather received comparable amounts of reading, the nature of the instruction they received varied somewhat. Inspection of the field records showed that Alicia did not have small group reading with the teacher on a daily basis, and the various exercises she completed seldom required reading with comprehension. On the other hand, Heather's lessons were more likely to be organized around the actual process of reading. In the regular classroom, when her reading group met with the teacher, the emphasis was on reading with understanding; in Chapter 1, she read a passage and took notes on important facts. For Heather, even the spelling words were selected to support reading of social studies selections.

Instructional Formats Varied Across Schools and Programs

A final look at the elementary school students' schedules shows that the instructional formats in which students worked varied both across schools and across different instructional programs within schools. The cases of Alicia and Heather illustrate students with days composed primarily of teacher- or aide-directed lessons and seatwork. Mike, on the other hand, was pulled out to the computer "lab" at his school, and in contrast to Alicia and Heather, he received much computer-assisted instruction.

Mike received about the same amount of reading as the other two students, but almost half of his reading work was done at the computer. The following description captures something of the quality of Mike's experience in the Chapter 1 laboratory:

> Mike sat in front of a computer loaded with a packaged vocabulary lesson on prefixes and suffixes. In a list of sentences, Mike had to identify words with an affix. For "The cat ran quickly," Mike moved the cursor to "quickly" and the computer responded, "Very good. You identified the word with a prefix or suffix." Mike typed the base word and scored a point. At once, another sentence appeared. Mike worked slowly and deliberately as he identified "prized," "pulled," "undo," "restless," and "shopping." After the first set of sentences, he called out, "Finished!" and the resource teacher responded, "Great, Mike! Go on to the next set!" In 40 minutes, Mike completed four sets and made only one mistake.

For math, Mike continued in much the same vein. In fact, the resource teacher simply changed the computer program, and he was in math. During the first 25 minutes, he completed a series of problem sets on the computer. As he worked, he recorded his rate of success. On the day observed, Mike was required to solve arithmetic problems (e.g., 700-541=__; 3x215=__), identify problem solving strategies

(Which problem can be solved by multiplying?), and work with fractions. In time spent away from the terminal, he completed workbook exercises on expanded notation and place value.

Mike's regular math and reading formed a contrast to his Chapter 1 lessons. Except for 30 minutes in his reading group in the morning, and 10 minutes in math in the afternoon, Mike received no direct instruction; instead he was engaged in seatwork and accomplished practically nothing. While the teacher intended for the reading group to follow their lesson with seatwork, several students spent the time off task. After math, Mike completed his seatwork assignment and then spent the next quarter hour wandering around the room with a dozen other students. The teacher had difficulty managing the class and seemed unable to monitor seatwork effectively. Once, when Mike sought help, she failed to respond as he waited at her side for a couple of minutes. Even during lessons, she nearly lost control of the class, once calling out, "I' not going to stand up here and waste my time, because that's what I m doing!"

Mike's day is instructive on several points. First, although much of Mike's reading involved computer-assisted instruction, the tasks he worked at were much like those of other students observed in the study--repetitive and focused on low-level skills. Mike seldom made an error, but he was not bored; he worked slowly and deliberately and completed his assignments. In addition, his progress was closely monitored. He recorded his errors, and the resource teacher always responded quickly when he needed assistance. Second, there was a great contrast between Mike's Chapter 1 and regular lessons. Chapter 1 lessons were well managed, and Mike was actively engaged for long periods of time. In his regular classroom, on the other hand, Mike did little work and received little instruction. Thus, Chapter 1 lessons provided the majority of Mike's academic learning time.

In general, the student observations revealed the consequences of instructional formats for student learning. One trend was that teacher-led instruction provided students with their sole opportunity to engage in "higher-order" thinking skills. Computer-assisted instruction and seatwork, on the other hand, usually consisted of repeated practice on low-level skills. In addition, student success rates often varied across different instructional formats. For example, computer-assisted instruction and seatwork usually involved the same basic tasks, but students were more often engaged and successful while working at the computer. Given this fact, it is unfortunate that schools did not take advantage of existing computer software to provide students with practice in inferential and critical thinking.

Secondary School Students

In this section, we turn to a discussion of secondary students. Once again, schedules and narratives are presented on the following pages. The daily schedules of three secondary school students, all tenth graders, illustrate the different schedules and curriculum content experienced by secondary school Chapter 1 students.

Secondary School Schedules Ranged Widely

Critics of the Chapter 1 program often express the fear that Chapter 1 students are "tracked" into low ability groups. Such thinking, however, fails to take into account the "cafeteria style curriculum" and "smorgasbord of courses" in many secondary schools. There are many elective courses in high schools, and while many low-achieving students are scheduled into a large number of non-academic electives, others are scheduled into more rigorous electives. One of the cross-site findings of this study was that secondary school students had widely varying academic programs. To illustrate this point, consider the schedules of Tanya and Rich, both tenth graders.

Tanya, a student at Coolidge, provides an example of a limited schedule. Her morning was taken up entirely with non-academic courses, typing and driver's education; after lunch, she attended another non-academic course, mixed chorus. Her only academic courses (Chapter 1 reading, algebra, and English) fell in the afternoon. Out of the six hours she spent at school that day, only two and one fourth were spent in academic courses.

In contrast, Rich's schedule at Stevenson High included a range of academic core courses: algebra, English, science, social studies, Chapter 1 reading, and a course in computer skills. During the day observed, Rich spent four and one half hours in academic courses, over two hours more than Tanya. Over the span of a semester or year, the extra time could make a significant difference in the knowledge and skills Rich acquired.

In summary, all high schools in this study offered courses for students of differing ability, but this did not result in tracking per se. The large number of electives produced variation in course content that students experienced, and the wide range of achievement of Chapter 1 students at this age assured that the content of required courses varied.

Secondary School Curricular Content Varied Greatly

The wide range of achievement among high school Chapter 1 students helped produce even more variability in instruction among high school students. Even within the same general curriculum area, high schools had courses that taught different skill levels. For example, in some English classes, students practiced writing, a skill required for college; in others, they spent their time completing grammar and comprehension worksheets. In math classes, some students learned pre-algebra and algebra, while others worked on the same basic operations they were first taught in the fifth grade. Other academic courses revealed a similar pattern.

As one example, contrast the regular English classes of Tanya and Rich. In Tanya's class, students were guided through the development of their own composition, from gathering the information they needed to preparing an introduction and completing the theme. Rich's class, on the other hand, endured a lecture on test-taking skills from a

Tanya's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
9 09	REGULAR VOC/BUS/TYP/SHOP			45
9 54	TRANSITION			6
10:00	REGULAR DRIVER ED/HEALTH			55
10 55	TRANSITION			5
11.00	LUNCH			25
11:25	TRANSITION			2
11.27	CHAPTER 1 READING/LA			
11.27	Management	Individual	Resource Tchr	5
11:32	Seatwork	Whole Group	Resource Tchr	3
11.35	REGULAR OTHER			13
11:48	CHAPTER 1 READING/LA			
11:48	Seatwork	Whole Group	Resource Tchr	8
11.56	TRANSITION			2
11.58	REGULAR MUSIC			56
12:54	TRANSITION			2
13 02	REGULAR MATH			
13 02	Lecture/Rec	Whole Group	Teacher	31
13:33	Seatwork	Whole Group	Teacher	17
13.50	Seatwork	Whole Group	Teacher	5
13 55	TRANSITION			5
14.00	REGULAR READING/LA			
14.00	Seatwork	Whole Group	Teacher	9
14 09	Lecture/Rec	Whole Group	Teacher	2
14 11	Seatwork	Whole Group	Teacher	26
14 37	Management	Whole Group	Teacher	1
14 38	Seatwork	Whole Group	Teacher	12
14 50	Management	Whole Group	Teacher	4
14.54	Lecture/Rec	Whole Group	Teacher	1
14.55	DISMISSAL			

Tanya is a Black female tenth-grader whose native language is English She scored in the 2nd Q on the Gates reading test and the 1st Q on the math test. She was eligible for reading only.

At 9:00 typing began. Tanya arrived at 9:09. At 9:54, Tanya left for Driver's Education. She went to lunch at 11:00. After 25 minutes in the cafeteria, she left for Chapter 1.

At 11:27, Tanya entered the Chapter 1 classroom. After some preparation, Tanya began a worksheet at 11:32. The resource teacher worked with other students Tanya appeared to be on task. At 11.35, in response to a note, the teacher sent Tanya to the Guidance Counselor. Tanya arrived back in the classroom at 11:48 and resumed working on her worksheet without help. The bell rang at 11:55 and Tanya left a minute later.

At 11:58 chorus began and lasted for 56 minutes.

At 12:57 Tanya entered her Algebra classroom and waited for instruction to begin. A few minutes later, the teacher began to walk around the room. She checked each student's work from the previous day and gave the correct answers. At 1 08 the teacher began a lesson on multiplication of negative and positive numbers including fractions. She gave oral problems, elicited choral and individual responses, put problems on the board for the students to do, and explained solutions. At 1:31 the teacher assigned homework problems and an extra credit worksheet. Tanya began to work quietly on the assignment. After all the students began to work, the teacher walked around the classroom helping students. The teacher looked at Tanya's work briefly. Tanya did not request any help and continued working until 1:50. The students began packing up and waited for the bell to ring at 1:55.

Tanya arrived early for her 2:00 English class. The teacher began promptly, giving the students instructions about choosing a theme to write about. She spent a few minutes talking to individual students about their work. At 2:09 the teacher told the students to begin writing. After 10 minutes, the teacher had the students exchange papers and read them. Then the teacher gave instructions about writing an introduction. Tanya and some other students continued writing. The teacher circulated, talking to students about their themes Tanya appeared to continue working. Near the end of the period, the teacher had students (who had completed the assignment) return graded papers and pass out new reading books. The teacher had the students return their old reading books At 2:54 the teacher announced the new reading assignment, collected theme papers, and had one student read a paragraph of the assigned reading. At 2.55 the bell rang and the students left.

Tanya was quiet and attentive in class. She appeared to understand the assign ments and worked without help.

Rich's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
7:45	HOMEROOM			10
7:55	RECESS			3
7.58	REGULAR SCIENCE			
7 58	Surrogate	Whole Group	Teacher	45
8:43	Testing	Whole Group	Teacher	2
8·45	TRANSITION			8
8.53	REGULAR READING/LA			
8.53	Lecture/Rec	Whole Group	Teacher	28
9:35	TRANSITION			5
9:40	REGULAR MATH			
9·40	Lecture/Rec	Whole Group	Teacher	44
10:24	Management	Whole Group	Teacher	1
10:25	TRANSITION			5
10 30	CHAPTER 1 READING/LA			
10.30	Management	Whole Group	Aide	10
10.40	Lecture/Rec	Whole Group	Resource Tchr	35
11:15	LUNCH			40
11·55	REGULAR SOCIAL STUDIES			
11.55	Lecture/Rec	Whole Group	Teacher	13
12 08	Seatwork	Whole Group	Teacher	22
12 30	Lecture/Rec	Whole Group	Teacher	5
12:35	Management	Whole Group	Teacher	5
12:40	TRANSITION			5
12:45	REGULAR COMPUTERS			45
13:30	REGULAR PE			50
:4 20	DISMISSAL			

7.11

Rich is a White boy in the tenth grade who is a native speaker of English. He scored in the 1st Q on the CAT reading and math exams. He was eligible for Chapter 1 reading only.

At 7:45 a substitute teacher directed homeroom activities and prepared for science.

At 7:59 the substitute teacher began science by showing a video about the human heart and later had the students write answers to a question. Rich wrote quickly and passed his paper in. He left for his next class.

At 8:5? reading/language arts began in another classroom. The teacher gave the students a brief pop quiz on types of tests (subjective, objective). The teacher then talked about test types, test-taking strategies, and a variety of other subjects during the remainder of the period. Rich and his classmates sat quietly. At 9:35 Rich left for math.

At 9:40 Rich entered his math classroom and sat down. The teacher lectured on graphing functions and formulas. Rich wrote a personal letter and didn't look up Most of the other students participated by answering the teacher's questions. About twenty minutes into the class Rich looked up and began to copy formulas from the board. The teacher passed out a ditto on algebraic equations. As the teacher worked through two problems, Rich sat quietly. The other students followed along and participated in solving the problems. Rich began the first problem incorrectly, then copied the answer from the board. The teacher asked whether the students had any questions. Rich continued to sit quietly.

At 10:30 in Chapter 1 reading, the aide took attendance. She talked about the book Roots that the group was reading. For a few minutes the nine students discussed the page number. At 10:40 the aide asked a question about the previous day's reading. Students, including Rich, called out answers. The class read round robin. Rich followed along as other students read. The aide corrected oral reading and periodically asked comprehension questions. Rich responded to several questions. He didn't have a reading turn. Later, in order to finish the chapter, the aide read to the students.

From 11:15 to 11:50 Rich had lunch.

At 11:55 social studies began. The teacher lectured on the Progressive Era in United States history and asked a few questions. He gave a written assignment, and Rich worked on it. Later the teacher reviewed for a test on the topic of the lesson Rich didn't have a turn to answer questions during either discussion

At 12.45 computer lab began. During the class Rich was tested on introductory word processing using Wordstar. He and nine other students sat by a computer terminal. Rich was unable to execute any commands the teacher gave. At 1 05 the teacher gave Rich the word processing documentation to review. Rich read the documentation, corrected his notes, and corrected the written computer test he had failed the week before. Rich also worked on study questions for the next computer unit until the bell rang.

At 1.30 Rich left for P E. and the observation ended.

Rich was engaged during Chapter 1 reading and received positive feedback from the aide. There was no opportunity to participate during science and English, and very little opportunity during social studies. Rich seemed motivated while studying in computer lab

teacher who rambled and was disorganized. There was little variation, however, in these students' Chapter 1 reading content. Rich's reading lesson looked just like an elementary school lesson. Students read a book aloud and answered comprehension questions. Tanya spent her Chapter 1 time completing a worksheet that required her to unscramble phrases and sentences, a task that was interrupted by a trip to the guidance counselor.

In math, observed lesson content ranged from algebra down to basic arithmetic. Both Tanya and Rich attended algebra classes. Tanya's lesson focused on the multiplication of numbers with similar signs, a pre-algebra skill, in lecture/recitation and seatwork formats. Rich's class, by contrast, practiced graphing quadratic equations. Other students were still practicing arithmetic in high school. Consider Sal, also in the tenth grade. He received both regular and Chapter 1 math instruction on the day observed. In regular math, he spent the entire time on worksheets, one of which required him to complete five word problems requiring the calculation of simple interest. Sal's Chapter 1 math was computer-assisted instruction in calculating percentages. In both contexts, the problems seemed to be easy for Sal; he got all five word problems correct and missed only one of the ten percentages.

Other academic courses also varied by skill and content level. Take the science lesson that Rich attended. The class spent the first 45 minutes watching a video called "My Heart and Your Heart," which dealt with various causes of heart disease. Next, as a check on understanding, students had to write the three leading causes of heart attacks and turn in their papers. The lesson was appropriate and useful in that it focused on a practical aspect of science, rather than on the rote memorization of "watered-down" facts, such as the elements of the periodic table or various phyla. By contrast, Sal's social studies class was at a quite elementary level. For the first half hour, students took turns reading aloud from the text; the teacher then distributed maps of Africa and lectured for five minutes on African colonization. Seatwork consisted of coloring and labeling African colonies on the map.

In summary, the different electives taken by students and differences between students in past achievement meant that the secondary school students received much more varied curriculum exposure than elementary school students. Instructional content and activities not only varied across the different Chapter 1 programs in the sample, but also across the different courses offered within the regular curriculum. Finally, different schedules greatly affected the amount of academic learning time experienced by Chapter 1 students in secondary schools.

Multiply-Served Students

This section discusses the daily experiences of students who participated in more than one "categorical" program and students who participated in both Chapter 1 reading and Chapter 1 math. We begin

Sal's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
8:00	REGULAR READING/LA			
8:00	Management	Whole Group	Teacher	4
8:04	TRANSITION			5
8:09	MULTIFUNDED READING/LA			
8:09	Management	Whole Group	Teacher	3
8.12	Lecture/Rec	Whole Group	Teacher	5
8.09	Seatwork	Whole Group	Tchr & Aide	37
8.09	Management	Whole Group	Teacher	1
8:55	TRANSITION			5
9.00	REGULAR PE			55
9.55	RECESS			20
10.15	REGULAR READING/LA			
10:15	Seatwork	Whole Group	Teacher	5
10:20	Lecture/Rec	Whole Group	Teacher	10
10.30	Management	Whole Group	Teacher	4
10.34	Seatwork	Whole Group	Teacher	33
11:07	Management	Whole Group	Teacher	3
11:10	TRANSITION			5
11 15	REGULAR MATH			
11 15	Management	Whole Group	Teacher	3
11:18	Seatwork	Whole Group	Tchr & Aide	12
11:30	TRANSITION			2
11:32	CHAPTER 1 MATH			
11:32	Surrogate	Individual	Aide	13
11 45	TRANSITION			2
11 47	REGULAR MATH			
11 47	Management	Individual	Teacher	3
11.47	Seatwork	Whole Group	Tchr & Aide	20
12.10	Management	Whole Group	Teacher	5
12:15	LUNCH			35
12 50	REGULAR SOCIAL STUDIES			
12.50	Management	Whole Group	Teacher	8
12 58	Lecture/Rec	Whole Group	Teacher	30
13 28	Management	Whole Group	Teacher	2
13 30	Lecture/Rec	Whole Group	Teacher	5
13 35	Seatwork	Whole Group	Teacher	9
13 44	Management	Whole Group	Teacher	1
13:45	DISMISSAL			

Sal is a White male tenth grader whose native language is English. He scored in the 1st Q on the CAT reading and math exams making him eligible for both Chapter 1 reading and math.

At 8 a m Sal entered a classroom for Chapter 1 reading. A few minutes later the class left for the language lab. At 8:09 the students settled down at three tables in the middle of the lab. The teacher passed out workbooks and student folders, telling the students to work in groups of two or three to reach a consensus on answers. The teacher went over the first item in an exercise contrasting the use of adjectives and adverbs. Sal and three other students worked cooperatively to find answers to the exercises on logic and comprehension skills (analogies, opposites, relating factors). The teacher and aide circulated, with the aide helping Sal's group as needed. At 8:54 the class put the materials away.

At 8:55 the class made the 5-minute transition to P.E. (55 minutes), then to recess (20 minutes).

At 10:15 reading/language arts began with the students doing their daily writing exercise. Sal wrote at his desk on the day's topic: the best thing about school. A few minutes later some of the students were chosen to read their themes; Sal wasn't chosen. Next the teacher assigned the students to finish yesterday's composition, "One Moment," and gave new assignments in the Basic Skills in English text. Sal finished his composition and put it on the teacher's desk. Sal next began the assignment on possessive pronouns and contractions. He finished most of the work before the end of class.

At 11:15 after reading, the math teacher began class by passing out student folders. She gave short instructions on how to do the problems, and went over an example when some students had trouble understanding As the students worked on verbal problems about principal and interest, the teacher and aide circulated. Sal quickly finished his work and received positive feedback from the teacher. Sal then left for the computer lab

At 11:32 Chapter 1 math began at the computer lab. Sal worked on a computer lesson (Big Fraction Region) that had been indicated by his teacher on a slip he brought with him. The aide made sure that Sal was on task before going over to students from other classes. Sal worked through this lesson on percentages (e.g. 25% of 132) with little difficulty

At 11:47, continuing his regular math class, Sal and his teacher discussed his ease in working through the computer exercises. For 20 minutes Sal sat with nothing to do while the teacher and aide helped students to finish their problems. Sal socialized and ate candy. The students passed their folders up to the teacher and left for lunch at 12:15.

At 12:50 social studies began with a discussion of imperialism in Asia The students read aloud from their text, and Sal had a turn. The students did a seatwork task on African colonization At 1.50 P E. began, but Sal cut class, as he often did, and left for the day.

When there was work, Sal was on task most of the time.

with the cases of Maria and Tam, two limited-English-proficient (LEP) students whose schedules are shown on the next pages.

Maria, who came from Mexico, was in the fourth grade at Parker. When interviewed, she said she sometimes had difficulty understanding her teachers who spoke only English. Tam, a fourth grader at Washington school, had recently come to the U.S. from Cambodia. Tam also had trouble understanding some assignments and had to rely on another Cambodian student to translate sometimes. The two schools served these students with very different program designs.

Maria was assigned to a bilingual teacher and received some of her lessons entirely in Spanish. In addition, she attended an ESL lesson in a pullout setting and worked with an in-class aide during her English reading lesson. Finally, on the day she was shadowed, Maria also was pulled out for a library skills lesson. Of the total language instruction that Maria received, about 40 minutes were in Spanish, and 77 minutes were in English. Of the English reading/ language arts instruction, only 18 minutes were provided by the classroom teacher and the remaining time was split between two different instructors funded by Chapter 1.

Tam's school operated a total replacement program for Chapter 1 students in fourth grade. At Washington School, Tam's language exposure was limited to English. He spent most of his day in the Chapter 1 class, and was pulled out only for a 36 minute ESL lesson. Combining ESL and regular lessons, Tam spent 121 minutes in English reading/ language arts, an amount of time similar to that spent by Maria on English and Spanish language arts. The major difference in the way the students were served was that Tam received instruction from two as opposed to three instructors, and he did not receive instruction in his native language.

Heather, who was discussed earlier, illustrates the case of a student pulled out for both Chapter 1 reading and Chapter 1 math. During the reading service, she missed a snack and a spelling test; during Chapter 1 math, she missed a paragraph composition about dinosaurs. Heather's teacher tried to "stall" during this lesson so that pulled out students would not miss too much of the lesson, but Heather arrived too late and was unable to complete the paragraph assignment by the end of the day. Mike, also discussed earlier, was also pulled out for reading and math, during which time he missed multisubject seatwork and regular math. Unlike Heather, however, Mike was able to complete his work and even found time to help another student.

In summary, the effects of multiple pullouts varied across students. In general, the more time students spent in pullout settings, the more they missed regular classroom work and the more fragmented their instructional programs became. These problems could be minimized by cooperative arrangements among special staff and regular teachers, but even in the most cooperative situations, students often were put in the position of having to make up missed work. Their ability to complete missed work was partly a function of the complex-

Maria's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
8:50	HOMEROOM			1
8:51	REGULAR READING/LA			
8 51	Seatwork	Whole Group	Teacher	9
9:00	Management	Whole Group	Teacher	3
9 03	Seatwork	Whole Group	Teacher	7
9 10	Testing	Subgroup	Teacher	11
9:21	Seatwork	Whole Group	Teacher	5
9.26	Seatwork	Subgroup	Teacher	4
9:30	REGULAR MUSIC			29
9:59	TRANSITION			5
10 04	REGULAR LIBRARY			
10.04	Lecture/Rec	Whole Group	Resource Tchr	8
10 12	Management	Whole Group	Resource Tchr	1
10.13	Lecture/Rec	Whole Group	Resource Tchr	17
10 30	RECESS			10
10 40	TRANSITION			2
10 42	REGULAR MULTISUBJECT			
10 42	Management	Whole Group	Resource Tchr	3
10.45	Surrogate	Whole Group	Resource Tchr	27
11:12	TRANSITION			7
11:19	CHAPTER 1 ESL			
11:19	Lecture/Rec	Whole Group	Teacher	26
11:45	TRANSITION			2
11:47	REGULAR READING/LA			
11:47	Seatwork	Whole Group	Teacher	12
11.59	TRANSITION			1
12:00	LUNCH			46
12:46	REGULAR READING/LA			
12 46	Lecture/Rec	Whole Group	Teacher	2
12.48	Management	Whole Group	Teacher	1
12:49	Seatwork	Subgroup	Teacher	3
12 52	CHAPTER 1 READING/LA			
12:52	Lecture/Rec	Subgroup	Aide	17
13 09	Seatwork	Subgroup	Aide	26
13 35	RECESS			10
13.45	TRANSITION			2
13 47	REGULAR SCIENCE			
13 47	Lecture/Rec	Whole Group	Teacher	4
13 51	Management	Whole Group	Teacher	3
13 54	Seatwork	Whole Group	Teacher	46
14.40	DISMISSAL			

Maria is a fourth grade Hispanic girl identified as a LEP student. She scored in the 1st Q on the WRAT math test and didn't take a reading achievement test. She was eligible for Chapter 1 reading and math.

At 8:50 Maria had homeroom, then a minute later moved into reading/language arts activities. She worked on a language ditto identifying the simple subjects in Spanish sentences. A few minutes later the teacher passed out an English dictation ditto to the majority of the class. Maria briefly studied for a Spanish dictation exercise, then moved to a back table with the other three Spanish-speaking LEP students. There they studied for the dictation, discussed the words, and socialized. At 9:10 the teacher went to their table and dictated the words. After the dictation, the teacher had the students exchange papers and check them against a master. The students discussed the answers and later cleared their desks.

At 9:30 during music the students watched a TV program with the class next door. At 10.04 in the library, the resource teacher gave a lesson (26 minutes) on writing reports, including planning, using notes, and outlining. A 10-minute recess followed.

At 10:42 multisubject seatwork began. The resource teacher passed out student folders and showed Maria how to record her computer work on dittoed charts. Maria worked on a computer memory program using geometric shapes in different colors. She did four exercises and recorded her progress.

At 11:19 Chapter 1/ESL work began with a Chapter 1/School Improvement aide. The aide drilled the students on locative prepositions in English (e.g., inside, next to). The four students gave examples, asked each other questions, and answered questions using prepositions.

At 11.47 a reading/language arts session began. The students had independent reading time. Maria read from a couple of Spanish books, Nombres y Lugares and one about animals, until lunch at 12.00.

At 12:46, after lunch, reading/language arts continued. The teacher assigned the students to write about their previous day's trip to the Lawrence Hall of Science. She told them to write and not to worry about spelling and other mechanics for this draft. After writing paper was passed out, Maria was off task for a few minutes. Then she moved to the back of the room with the aide and two other students. The teacher meanwhile helped other students.

At 12:52 a Chapter 1 reading session began in the back of the room. Speaking Spanish, the aide led four students in a discussion of the previous day's field trip to generate ideas the students could write about. Maria described a machine she had seen. Thirteen minutes later, the aide prompted the students to write down what they had seen. Maria copied the beginning of her paper from other students, then added information of her own. The aide checked some of Maria's work. Maria copied her composition onto another sheet, then continued writing until recess.

At 1 47 the teacher began the science lesson, assigning students to work in groups at science centers. The students used their senses to identify powders in jars. Maria finished the written assignment at 2 11 and sat quietly without working with her group. She left 15 minutes early at 2.40 to catch a school bus.

Maria was usually on task when she understood the work. She had difficulty with the library lecture, the computer assignment, and beginning the writing assignment. She was on task during ESL and animated during the trip discussion. Her success rate was good.

Tam's Day

Time	PROGRAM/LESSON Format	Group	Instructor	Elapsed Time (mins)
9 01	OM			
9 10	[illegible]eR I MATH			
9.10	Seatwork	Whole Group	Resource Tchr	11
9 21	Management	Whole Group	Resource Tchr	1
9:22	CHAPTER 1 READING/LA			
9 22	Management	Whole Group	Resource Tchr	4
9:26	Seatwork	Subgroup	Resource Tchr	5
9 31	Lecture/Rec	Subgroup	Resource Tchr	1
9:32	Management	Subgroup	Resource Tchr	2
9 34	Lecture/Rec	Whole Group	Resource Tchr	1
9 35	Seatwork	Whole Group	Resource Tchr	2
9:37	Management	Whole Group	Resource Tchr	1
9:38	Lecture/Rec	Whole Group	Resource Tchr	7
9:45	Management	Whole Group	Resource Tchr	1
9:46	Lecture/Rec	Whole Group	Resource Tchr	11
9 57	CHAPTER 1 MULTISUBJECT			
9.57	Seatwork	Whole Group	Resource Tchr	27
10.24	CHAPTER 1 READING/LA			
10:24	Lecture/Rec	Individual	Aide	1
10:25	CHAPTER 1 MULTISUBJECT			
10 25	Seatwork	Subgroup	Resource Tchr	17
10 42	TOILET			1
10 43	CHAPTER 1 MULTISUBJECT			
10 43	Seatwork	Subgroup	Resource Tchr	2
10 45	TRANSITION			1
10 46	CHAPTER 1 READING/LA			
10:46	Lecture/Rec	Subgroup	Resource Tchr	24
11:10	Management	Subgroup	Resource Tchr	1
11:11	Lecture/Rec	Subgroup	Resource Tchr	22
11:33	CHAPTER 1 MULTISUBJECT			
11:33	Seatwork	Subgroup	Aide	19
11:52	TRANSITION			3
11:55	LUNCH			20
12.15	ESL/ESL			
12 15	Management	Whole Group	Resource Tchr	8
12.23	Lecture/Rec	Whole Group	Resource Tchr	7
12.30	Testing	Whole Group	Resource Tchr	17
12.47	Management	Whole Group	Resource Tchr	3
12:50	Lecture/Rec	Whole Group	Resource Tchr	1
12.51	TRANSITION			11
13 02	REGULAR PE			43
13:45	TRANSITION			3
13:48	CHAPTER 1 MULTISUBJECT			
13.48	Seatwork	Subgroup	Resource Tchr	4
13:52	TOILET			1
13 53	CHAPTER 1 MULTISUBJECT			
13:53	Seatwork	Whole Group	Resource Tchr	5
13:58	CHAPTER 1 READING/LA			
13 53	Management	Individual	Resource Tchr	2
14 00	CHAPTER 1 MULTISUBJECT			
14 00	Management	Whole Group	Resource Tchr	3
14 03	Seatwork	Subgroup	Resource Tchr	22
14 25	Seatwork	Whole Group	Resource Tchr	5
14 30	TRANSITION			1
14 31	DISMISSAL			

Tam is a male fourth grader born in Cambodia. He scored in the 1st Q on the ITBS reading exam and the 3rd Q on the math. He was eligible for a self-contained Chapter 1 class and received reading, math, social studies and science. In addition, he received ESL once a week.

At 9 01 Tam entered the classroom, sat down, and worked on a math facts card. Tam later worked on the previous day's library assignment then switched back to math. The teacher directed homeroom activities.

At 9 10 the teacher took attendance while the students continued working on math facts cards. Tam used a calculator, a math facts chart and another student for assistance. After 11 minutes, a student collected the math papers.

At 9 22 after math, the first reading/language arts lesson began. The teacher gave Tam his uncompleted dictionary assignment. Tam got up for a dictionary. The teacher announced the spelling assignments, then gave one group a language assignment. Tam took out his language book and began to write on his paper. A few minutes later the teacher gave Tam's group its language assignment: working on vowel sounds that precede final r. He worked quietly on his spelling and language assignments until 9:37 when the teacher reprimanded Tam for not having his assignment book. She gave him a new one. Next the teacher gave the class a language assignment on compound words, drilling the students. When the teacher explained the assignment, Tam wrote it in his assignment book. Last, the teacher reviewed possessives ('s).

At 9:57 multisubject seatwork began. Tam did a variety of things: the spelling and language assignments, the dictionary ditto (7 minutes); the spelling work book again, the dictionary ditto again (6 minutes); the language assignment (1 minute); the dictionary ditto (17 minutes), a bathroom break. Tam returned and copied down the math assignment, then went to the back table to wait for his reading group to begin.

At 10:46 the teacher introduced a story from the text Tricky Trolls to Tam's reading group. They discussed trolls and pictures from the story. During the lesson, the students read aloud individually from their texts, answered comprehension questions, and reviewed long and short vowel sounds. At the end of the lesson the teacher explained the workbook assignment.

At 11:33 Tam again turned to multisubject seatwork. He began with the language assignment. While the teacher was out of the room, two students distracted Tam. After the aide reprimanded them, Tam turned to work on his math book. The teacher returned to the room and called another group to the reading table. Tam continued with his math until approached by a girl speaking to him in Cambodian. A three-minute transition took the class to lunch at 11.55.

At 12.15 the class prepared for ESL/reading. Five minutes later the ESL teacher had the students open their books. Tam read a passage, then followed along in his book as others read. The teacher asked the students comprehension questions. Afterwards, the teacher passed out a pretest, explained it, and monitored the students as they worked. At 12:47 the group was interrupted by a woman hoping to find a translator for a non English-speaking boy, but the students couldn't communicate with him. The last minute of class, the teacher went over the listening parts of the test, then collected the papers.

At 12 51 the ESL students joined their class in the cafeteria, went to the gym took P.E. (43 minutes), then returned to their classroom.

At 1 48 Tam had multisubject seatwork for the third time. The teacher sent the students to the washroom in shifts while she went through her files. Tam worked on his assignments, went to the bathroom, briefly returned to work, socialized, and asked the teacher about the assignment. The teacher made an announcement then called another group to the reading table. Tam went back to work on his Mastery workbook and continued to socialize. After reading, the teacher directed the students to clean up. At 2 31 the students were dismissed.

Tam was off and on task and had some difficulty understanding

ity of the task--Heather's paragraph took longer to complete than Mike's math worksheets--but it was also a function of student ability and initiative.

Summary

This chapter discussed several aspects of the instructional day of Chapter 1 students: Students' schedules, curricular content, and instructional formats. Narrative descriptions and daily schedules for nine students illustrated several themes. Important findings reported in the chapter were:

* The typical elementary school day for Chapter 1 students consisted of work on reading and math, punctuated by other events--a social studies lesso , recess, lunch, a trip to the library, and so on. Some elementary students received as many as six different reading lessons in a day.

* The reading/language arts curriculum for elementary school students differed more than did the math curriculum. In reading, the curriculum for most students included a variety of skills, but the program for some students focused on comprehension and understanding, while in others, phonics, spelling, and vocabulary accounted for most of the time allocated to reading/language arts.

* Almost all math lessons focused on computation, and worksheets and workbooks made up the core of the curriculum for most students--regardless of the instructional format.

* In each school day, most students worked in a variety of instructional formats. These included whole-class lecture/recitation, guided practice, independent seatwork, small group reading, computer-assisted instruction, and others.

* While the instructional formats of most elementary school lessons were lecture/recitation and seatwork, some students also spent significant amounts of time in computer-assisted instruction. Lessons directed by teachers frequently included higher-order skills, but computer-assisted instruction and seatwork often consisted of repeated practice on low-level skills. Both formats usually involved the same types of basic tasks, but students were more often engaged and successful while working at the computer. Schools did not take advantage of existing software to provide students with practice in inferential and critical thinking.

* The effects of multiple pullouts varied across students. In general, the more time the students spent in pullout settings, the more they missed regular classroom work and the more fragmented their instructional programs became.

These problems were at times minimized by cooperative arrangements among special staff and regular teachers, but even in the most cooperative situations, students often were put in the position of having to make up missed work.

* At the secondary level, a large number of elective courses were made available to students. While some students were scheduled into mainly non-academic courses, others took courses that were part of the academic core curriculum. This resulted in student schedules that were not only very different, but that provided some students a greater opportunity to acquire important knowledge and skills that others missed.

CHAPTER 8

COORDINATION OF CHAPTER 1 AND REGULAR INSTRUCTION

This chapter discusses coordination of Chapter 1 and regular instruction. The analysis draws upon interview data with regular teachers, Chapter 1 staff, and school administrators. The nature of instructional coordination in the 24 schools in the sample is discussed, and factors that facilitated or impeded coordination are identified.

Basic Descriptive Data

The discussion of coordination presented in this chapter builds on the analysis of students' instructional days, which found that relationships between classroom and Chapter 1 assignments differed across schools. In some schools, Chapter 1 assignments appeared to be directly related to instructional work in regular classrooms; in other schools, Chapter 1 assignments were often unrelated to students' regular classroom work. In this chapter, the relationship of assignments across instructional programs is discussed.

Table 8.1 displays five categories of assignment patterns that typify the linkage between instructional work done in the Chapter 1 setting and work done in regular classrooms. The categories are arrayed in a continuum from supportive to parallel. Supportive lesson assignments in the Chapter 1 project are drawn from ongoing work in the regular classroom and designed to support students' success in regular instruction. At the other extreme, replacement assignment patterns are in a parallel relationship to the regular program. In this situation, Chapter 1 lesson assignments are loosely related to ongoing assignments in regular classrooms, with the consequence that students participate in two almost separate instructional programs. The table also displays the distinguishing characteristics of these different assignment patterns with regard to who assigns lessons to Chapter 1 students, planning and division of labor in providing instruction, typical service delivery models, coord nation strategies, and typical Chapter 1 lesson content.

Table 8.2 presents data on assignment patterns in the Chapter 1 projects at each of the 24 schools in the sample. The table illustrates three important points: First, a "cooperative" relationship between Chapter 1 and regular instruction was rare in our sample. Given the difficulties of joint planning between school staff and the norms of professional autonomy that prevailed in most schools, this was not surprising. A second finding was that secondary schools were almost exclusively categorized as having alternative and replacement projects. Finally, the table shows that schools with "mixed" designs displayed different assignment patterns across the components of their Chapter 1 project.

Table 8.1 Characteristics of Assignment Patterns in Chapter 1 Programs

Supportive Chapter 1 Program

Parallel Chapter 1 Program

Chapter 1 Assignment Patterns	Who Assigns Chapter 1 Lessons	Typical Planning and Division of Labor	Typical Delivery Categories	Coordination Strategies	Typical Chapter 1 Lesson Content
Supportive	Classroom Teacher (CT)	• CT plans lessons for students (Ss) • Aide (A) assists Ss in completing assignments from CT	In-class Pullout	• Written plans • Brief verbal exchanges between CT & A	• Assignments from basals
Cooperative	Classroom Teacher & Resource Teacher (RT)	• RT/CTs jointly plan skills and/or materials to be covered • RT designs lessons and delivers alone or with Aide	In-class Pullout	• Written forms • Regular meetings • Brief verbal exchanges	• Assignments from basals or from supplementary materials
Responsive	Resource Teacher or Aide	• RT or A plans lessons and attempts to design instruction that keeps pace with CT • RT or A designs and delivers lesson	In-class Pullout	• Written forms & notes • Occasional meetings • Informal conversations	• Assignments that are independent from current basals or skills
Alternative	Resource Teacher or Aide	• RT or A follows programmed instructional package • RT or A delivers predesigned lessons	Add-on In-class Pullout Replacement	• Informal conversations • Notes	• Assignments from sequential curriculum
Replacement	Classroom Teacher or Resource Teacher	• CT or RT plans lessons for Ss • CT or RT works alone or with As to carry out instruction	Replacement	• No formal coordination • Rare informal conversations	• Self-contained instructional program

Table 8.2 Chapter 1 Assignment Patterns in the 24 Schools

SCHOOL	CHAPTER 1 ASSIGNMENT PATTERN				
	Supportive	Cooperative	Responsive	Alternative	Replacement
Elem Schools					
Huxley	in-class aides			pullout computer lab	
Parker	in-class aides	pullout computer lab		add-on lab	
Westwood	in-class aides		pullout reading lab	pullout ESL	
Washington					replaces grade 4 classes
Kensington				9-week pullout	
Nelson			in-class reading		
St. Mary's				pullout to public school prog	
Danville			pullout		
Central	pullout			pullout ESL	
Hillside				pullout lab	
Johnson		pullout			
Winkler			pullout		
Sumner	in-class aides				
Evergreen	in-class tutorial w/aides				replaces math
Hayes	in-class tutorial			pullout	
Tudor			pullout		
Lowell	in-class aides				
Sec Schools					
Kehoe	in-class math		pullout reading		
Lakeview					replaces Eng/ elective & math
Einstein				pullout	
Salvador	in-class aides				
Stevenson				replaces an elective	
Coolidge				replaces study hall (1/2 per.)	
Taylor					replaces math & stdy hl or band

Supportive Assignment Patterns

In schools with a supportive assignment pattern, Chapter 1 instruction was designed to help students "keep up" with work in the regular classroom. Classroom teachers planned Chapter 1 lessons, and Chapter 1 aides carried out the instructional tasks assigned by teachers. In some cases, aides simply circulated around the regular classroom as students worked on seatwork assignments. Aides answered questions, pointed out errors, or kept students on task. In other supportive projects, aides took small groups of Chapter 1 students aside and worked with them in a "guided practice" format. In this situation, student work was closely supervised, and academic feedback and correction were frequent. Finally, Chapter 1 aides occasionally provided small groups with lessons that the teacher had selected from the instructor's manual of a basal text or from some supplementary materials purchased with Chapter 1 funds. The following vignettes illustrate these types of arrangements:

* Sumner Elementary School offered remedial programs funded by both a state compensatory education program and the Chapter 1 program. The Chapter 1 project provided in-class services to students who scored between the 25th and 49th percentiles of achievement in reading and math. These students were regarded by school staff as "borderline," students who were "on grade level, but not at the top of the class." Chapter 1 aides worked in classrooms during regular seatwork time; their role was to keep children on task, to be available for children to ask questions, and to interact with children in a positive and encouraging way. Since all students in a classroom used the same texts, worked on the same assignments, and were expected to master the same objectives, there was little formal or informal coordination of Chapter 1 and regular instruction. As one Chapter 1 aide noted, the teacher "makes out a lesson plan so I know what pages to go through. She usually runs off a copy and gives it to me."

* Central Elementary School pulled Chapter 1 students out of classrooms. Classroom teachers provided the aides in the pullout settings with a weekly, written "directive" listing the lesson plans and objectives for Chapter 1 students during the week. In the pullout reading lab, aides often used the directives to provide lessons that used supplementary materials jointly chosen by the Chapter 1 director and the regular teachers. Regularly scheduled meetings between Chapter 1 and regular staff were held to discuss student progress and placement, and informal conversations occurred when Chapter 1 staff went to the regular classrooms to "pick up" students for the lab.

* Lowell Elementary School served second grade students with an in-class reading project. Typically, Chapter 1 lessons consisted of assignments drawn from the basal reader used during regular reading lessons or were based on supplementary materials closely aligned to basal materials. At

this school, teachers and aides communicated in writing, in brief verbal exchanges, and at quarterly staff meetings.

These examples illustrate the central features of the supportive arrangement. The Chapter 1 service was developed by the classroom teacher and carried out by instructional aides operating in a pullout or in-class setting. Coordination occurred through informal conversations, formal meetings, and written lesson plans. Supportive projects differed with respect to the characteristics of the teacher-aide relationship. Some classroom teachers preferred not to work with aides whom they considered poorly skilled. In this situation, aides sometimes had little opportunity to work directly with students and instead were used to maintain order or perform clerical tasks such as running dittos or entering grades into gradebooks. In other situations, however, teachers and aides were able to work closely together to provide students with instruction. Surprisingly, this appeared to require little coordinative effort. For example, one teacher reported that she and her aide planned instruction for the week "in about five minutes." In this case, the aide was a valued colleague who often worked in lecture/recitation formats with students.

Cooperative Assignment Patterns

Cooperative assignment patterns, like supportive arrangements, were designed to help Chapter 1 students keep pace with grade level instruction in regular classrooms. However, in the cooperative arrangement, classroom teachers shared the responsibility of planning and assigning lessons with Chapter 1 staff, usually resource teachers. In this arrangement, the two instructors jointly determined the skills or materials that students were to cover, but the Chapter 1 instructor designed and delivered the lessons that carried out the plan. As in the supportive arrangement, lesson assignments were often drawn from basal materials or from supplementary materials closely aligned to the regular classroom curriculum.

Of the 24 schools in this study, only two operated programs that used a cooperative design. In one of these schools, the cooperative design was one small component of the overall Chapter 1 project. In the other school, the cooperative model was used in all components of the project. In both schools, satisfaction with the cooperative design was the result of high levels of communication and collegiality between Chapter 1 resource teachers and regular classroom staff. The following vignettes discuss these schools:

* Parker Elementary School delivered computer-assisted instruction in a pullout laboratory to small groups of students in grades K-2. Every four weeks, a new "cycle" of service began, at which time the classroom teachers could elect to send a different group of students to the lab. Much of the coordination between the resource teacher and the regular classroom teachers was achieved through written communications. At the start of the year, the resource teacher provided classroom instructors with an inservice session to explain available software. During the year,

teachers used a written "prescription" checklist to communicate with the resource teacher about the skills that students needed to cover. The resource teacher made suggestions to teachers with respect to appropriate levels for their students, and once instruction began, she communicated with the teacher if the prescription seemed inappropriate. At the end of the four-week "cycle" the resource teacher furnished the classroom teachers with written reports of what students had accomplished.

* Johnson Elementary School delivered pullout services in reading and math. Formal meetings between the resource teachers and regular teachers were held each week. The meetings provided Chapter 1 and regular staff with opportunities to plan lessons jointly, to assess student performance, and to discuss students' instructional needs. One of the resource teachers described these meetings: "In this school we have really good communication. Every week I will go and say, 'This is what I plan to do. Is that o.k. with you? Where are you?' We try to keep together." Besides these formal meetings, Chapter 1 staff spent time in the regular classrooms at the beginning of the year in order to familiarize themselves with the students and the teachers' regular programs.

Comparison of these cases illustrated an imporant difference in modes of communication: face-to-face meetings at Johnson and written exchanges at Parker. Each of these was a successful strategy because of the particular context in which it was employed. At Johnson, planning time was built into the teachers' schedules for meetings. At Parker, written communication proved effective because of the limited software choices available to teachers. Finally, in both schools, communication strategies were supported by informal exchanges when needed. Additionally, resource teachers in both schools laid the foundation for working cooperatively with regular staff through special efforts (classroom visits at Johnson, inservice at Parker) at the start of the school year.

Responsive Assignment Patterns

Six schools in this study maintained a responsive assignment pattern across the Chapter 1 and regular programs. In this pattern, Chapter 1 staff worked more autonomously than in supportive or cooperative arrangements, but they made efforts to respond to teacher requests and to adapt Chapter 1 lesson content so that it corresponded closely to what students were working on in the regular classroom. In schools operating with this pattern, instructional materials and skills in the Chapter 1 and regular programs usually differed, and close alignment between programs, when it occurred, resulted from a common, schoolwide curriculum.

The key distinction between responsive and cooperative planning was illustrated by a resource teacher who developed a systematic method of coordinating her Chapter 1 instruction with that of regular

classroom teachers. This teacher distributed a form to regular teachers once every quarter, "asking them to fill out what skills that child has covered and what skills need reteaching, and I may use some of those skills in coordination with the classroom." The key point was the resource teacher's comment that she "may use" teachers' recommendations. In responsive arrangements, Chapter 1 instructors maintained discretion in choosing the assignments and skill areas on which Chapter 1 students worked.

The following vignettes illustrate some of the features of a responsive assignment pattern:

* Nelson Elementary School used an in-class design to offer Chapter 1 reading services. The district aides were supervised by a district coordinator and only occasionally planned activities in response to classroom teachers' suggestions. As the coordinator said of the Chapter 1 staff, "I view us as a support team. We find out what children's weaknesses are, which a classroom teacher doesn't have time to do in a lot of cases, and we go to the teachers and say, 'this is what he really needs help in.'" In this arrangement, communication between aides and classroom teachers was informal and sporadic. As one aide noted, "There's no set interval of time. I talk to teachers about some kids once a week, but with others it might happen only once a month." One classroom teacher noted that these conversations took the form of an "ongoing dialogue" and "we get to see what they have planned and get input into that"; but another classroom teacher added, "There probably should be closer coordination." Observations indicated that Chapter 1 and regular reading lessons usually covered different materials and involved different assignments.

* Westwood Elementary School used a "mixed" design that included a pullout reading lab. The program coordinator at the school often met with teachers during lunch time to discuss students' progress, using profiles from the basal reading text to determine where in the pullout lab's software package students would be placed. As the coordinator noted, "Our basal reading series has computer printouts, and we track our Chapter 1 kids to see how they are performing in classrooms. If we find a weakness, we'll divert what we might have planned and just spend a half hour reinforcing that classroom skill."

The success of the responsive pattern in achieving a match between the Chapter 1 and regular instructional programs appeared to depend less on formal coordination efforts and more on factors such as staff unity around shared beliefs, including the importance of informal communication and cooperation. Where norms of professional autonomy were high, Chapter 1 and regular classroom staff engaged in only pro forma coordination; however, in schools where collegiality was strong, informal interactions and genuine responsiveness led to a tighter integration of assignment patterns across instructional programs.

Alternative Assignment Patterns

In 11 schools in the sample, instruction in the Chapter 1 project existed as an alternative to the regular instructional program. This arrangement evolved out of a number of circumstances. In several schools, Chapter 1 staff had designed projects that consisted of prepackaged curriculum hierarchies, including various computer-assisted learning formats, through which Chapter 1 students progressed at an individualized pace. In other cases, alternative programs offered instruction that was not available in the school's regular program. For example, in upper elementary grades and junior high schools, students often received no explicit instruction in reading, and Chapter 1 projects filled this void by offering reading instruction as a replacement for electives or other instruction. Finally, some Chapter 1 projects offered ESL services that were an alternative to regular language arts lessons for LEP students.

The following vignettes illustrate how alternative assignment patterns were developed and implemented:

* St. Mary's Elementary School was a Catholic school in the Northeast. After many months of negotiations, an arrangement was made to serve Chapter 1 students from this school at a nearby public school. The services offered to the students were the same as those received by public school students. The district had recently revamped its Chapter 1 program, adopting a special curriculum with a perceptual motor orientation, and introducing computer-assisted reading instruction. These changes were not generally known to the staff at St. Mary's because there was no communication between the two schools about instruction. Chapter 1 staff had no idea what textbooks were used in the children's regular program, and St. Mary's teachers had no idea what the students were being taught in Chapter 1. Observations revealed that the two instructional programs used incongruent approaches; the perceptual-motor approach of the Chapter 1 program was incompatible with the meaning oriented basal reader used at the Catholic school.

* Kensington Elementary School offered fourth-grade Chapter 1 students a nine-week pullout program that focused on reading comprehension. The resource teacher who directed the program noted that upper grade elementary students at this school did not receive explicit instruction in reading comprehension in the regular classroom, something she felt Chapter 1 students needed in order to read at the level of their higher achieving peers. As a result, a distinct and different reading program, oriented to the development of comprehension skills, was developed and provided to Chapter 1 students.

No matter what the origins of alternative programming, once in place, there was usually little communication between Chapter 1 staff and regular classroom teachers. Indeed, regular classroom teachers in schools with alternative programs often knew (or cared) little about

what their students did in Chapter 1 settings, and they seemed more likely than other teachers to note drawbacks of the program or even resent it as an intrusion. This was not universally the case. Occasionally classroom teachers worked near the pullout room and visited. Other teachers were friends with Chapter 1 staff and thus developed good working relationships with the Chapter 1 project. But for the most part, communication and collaboration among resource teachers and classroom teachers was not much in evidence in schools with this assignment pattern.

Replacement Assignment Patterns

In some schools, Chapter 1 instruction replaced all or part of the students' regular program. In secondary schools, and some elementary schools, Chapter 1 reading and math classes replaced one or more regular classes. In one elementary school, Chapter 1 classes replaced the entire instructional day. In these schools, Chapter 1 teachers were autonomous classroom teachers; they assigned students' lessons and delivered instruction, often with the assistance of a classroom aide. The following two vignettes illustrate these arrangements:

* Taylor High School offered both Chapter 1 English and Chapter 1 math in a replacement model where the instruction was provided entirely by the Chapter 1 resource teachers. Each Chapter 1 resource teacher was assisted by an aide who was used mainly for clerical support and occasional instructional support to students. Coordination between the Chapter 1 and regular programs was the responsibility of department chairs. Each department met about twice a month. The only face-to-face interaction between regular and Chapter 1 teachers occurred at these departmental meetings.

* Washington Elementary School provided all-day replacement Chapter 1 service to kindergarten, third, and fourth graders. About 30 students per grade received instruction in self-contained classrooms during the entire school day. Each Chapter 1 replacement classroom had a teacher, a half-time aide, and about 15 students. Regular textbook series were used in these Chapter 1 classrooms; basic coordination in curriculum between the regular and the Chapter 1 programs was thus ensured. However, outside of this, there was little coordination between the two.

In some replacement programs, the curriculum in use was the same as that used in regular classrooms, except that the Chapter 1 materials were sometimes below grade level or adapted for use by lower-achieving students. This was the case in the two elementary shools in the sample that used replacement designs in their Chapter 1 projects. In secondary schools, teachers either used individualized teaching techniques and materials, in part because of the great variation in skill levels among students in their classes, or followed departmental curriculum guides that outlined topics for "remedial" courses in

reading and math. In all cases, formal coordination across programs was weak, and Chapter 1 teachers functioned with the same autonomy as regular classroom teachers at the school.

Cross-Site Themes

Two themes emerged from the cross-site analysis of data on coordination: (1) There is a complex relationship between assignment patterns and student academic success; and (2) Informal relationships, not formal coordination, are the key to integration of Chapter 1 and regular instructional programming.

Assignment Patterns Can Affect Student Success

Recently, critics of compensatory education practices have argued that remedial reading programs do not improve student performance on classroom tasks because they use curricular materials that are incongruent with those used by students in regular classrooms (Allington et al., in press). An implication is that schools should adopt supportive assignment patterns. This line of reasoning conflicts with much conventional thinking about remedial services, which holds that since Chapter 1 students are performing poorly in regular classrooms, they need an alternative curriculum.

The cross-site analysis suggested that certain assignment patterns are more effective with particular types of students. The field records showed that many marginal Chapter 1 students could be maintained at grade level performance in a regular classroom through the implementation of supportive assignment patterns. For these students, the additional guided practice in classroom lessons seemed to be sufficient. Other students, however, seemed to be so far behind grade level that much of the instruction offered in the regular program was inappropriate. For these students, alternative assignments, adapted to individual levels of readiness, appeared to provide a better instructional context than regular classroom lessons.

A second finding was that most schools in the sample provided all Chapter 1 students with the same assignment pattern, regardless of need. Many students who could have been successful in their classrooms under a supportive arrangement spent part of their instructional time working in an alternative instructional program that not only took time away from regular classroom assignments but also bore little direct relationship to the curriculum in use in regular classrooms. Under these conditions, the potential contributions of participation in the alternative instructional program needed to be be weighed against the detrimental effects of this participation on performance in the regular classroom.

In other cases, there appeared to be sound reasons for designing alternative assignment patterns. These seemed especially useful for students who needed instruction that was not offered in the regular program, for example, LEP students or older students who lagged behind

peers in the development of reading comprehension skills. For some of these students, alternative programming provided students with an opportunity to learn skills they could not otherwise learn and to "catch up" to peers. The Chapter 1 instructional program at Kensington Elementary School was a particularly good example of the logic of the alternative strategy. In this school, low-achieving students were pulled out for intensive practice in reading comprehension in 9-week cycles. Resource teachers reported that many students in the program experienced accelerated academic achievement. The success of this program, which featured much direct instruction and guided practice, stood in contrast to some other alternative programs, which consisted of pre-packaged curricula through which students worked individually. Staff at these schools noted variable success with students.

Informal Coordination Is the Key to Program Integration

A second cross-site theme was related to the criticism that Chapter 1 programs, because they are district-directed, exist as autonomous units in schools, insensitive to school-level needs and problems (Walberg, 1984). Although many of the schools in this sample fit this pattern, it was not universal. Some schools were characterized by high levels of cross-program cooperation and coordination. A finding of the cross-site analysis was that formal procedures often facilitated coordination across programs, but that coupling of Chapter 1 and regular instructional programming was tightest where Chapter 1 and regular classroom teachers functioned as colleagues and engaged in frequent conversations about instruction.

Formal procedures that promoted higher levels of coordination and curricular compatibility included district or school policies that standardized curriculum, instructional materials and practices, and testing and evaluation policies. These provided a common frame of reference across programs. In addition, the organization of school staff into "teams," "councils," or other units for planning and coordinating work, and the inclusion of Chapter 1 staff in these structures, was another factor. Finally, school schedules that allowed time for staff members to meet and discuss their work facilitated communication between Chapter 1 staff and regular teachers. Common planning times and regularly scheduled meetings, for example, made it more likely that staff members exchanged information about students. Conversely, such exchanges were hampered when Chapter 1 staff worked part-time schedules that did not allow them to be in the school or free during regular teachers' breaks or lunch hours.

Although school-level organization and formal procedures created the conditions for staff communication, they did not guarantee that Chapter 1 and regular staff would, in fact, do more than meet the "letter of the law" with respect to coordination. Interpersonal relations among staff and professional norms largely determined the extent to which school personnel made use of both formal and informal opportunities to discuss student assignments and learning. When schools operated cooperative and responsive arrangements, interpersonal relations became even more important. The following factors contributed to such relations in the schools in this sample:

* the extent to which the resource teachers were perceived as experts who were carrying a fair share of the instructional load;

* the extent to which resource teachers involved regular teachers in decisions and deferred to them when appropriate;

* school norms with respect to staff sharing ideas and assisting each other in their work;

* shared language and practices among staff with respect to a technology of instruction; and

* a shared sense of purpose and direction among staff members.

Factors including these were linked to school history and staff stability as well as to the instructional leadership provided by the principal and other key staff members, including resource teachers and lead staff members at various grade levels.

Summary

This chapter discussed assignment patterns and coordinative procedures in Chapter 1 and regular programs. Five assignment patterns were identified at schools in the sample: Supportive, cooperative, responsive, alternative, and replacement. These were arrayed along a continuum with supportive assignment patterns involving the most coordination, and replacement, the least. The following were the key findings on the coordination of Chapter 1 and regular instruction:

* No simple relationship existed between student success and type of assignment pattern, although it did appear that for "marginal" Chapter 1 students, supportive patterns could maintain grade level performance, and alternative Chapter 1 assignments could detract from regular classroom performance; for students who were too far below grade level to benefit from instruction offered in the regular program, alternative assignments, adapted to individual level of readiness, appeared to provide a better instructional context than regular classroom lessons.

* Most schools in the sample provided all Chapter 1 students with the same assignment pattern, regardless of need.

* Cooperative assignment patterns were rare in the sample, primarily because of the difficulities involved in joint planning and the norms of professional autonomy that prevailed in most of the schools. Where it was used satisfactorily, it was because of high levels of communication and collegiality between Chapter 1 resource teachers and regular classroom staff.

* Secondary schools employed replacement assignment patterns almost exclusively.

* Schools with multiple service delivery models displayed different assignment patterns across the components of their Chapter 1 projects.

* In schools operating with a responsive assignment pattern, instructional materials and skills in the Chapter 1 and regular programs usually differed, and close alignment between programs, when it occurred, resulted from a common, schoolwide curriculum.

* The success of the responsive pattern in achieving a match between the Chapter 1 and regular instructional programs appeared to depend less on formal coordination efforts and more on factors such as staff unity around shared beliefs, including the importance of informal communication and cooperation. Where norms of professional autonomy were high, Chapter 1 and regular classroom staff engaged in only pro forma coordination; however, in schools where collegiality was strong, informal interactions and genuine responsiveness led to a tighter integration of assignment patterns across instructional programs.

* Regular classroom teachers in schools with alternative programs often knew (or cared) little about what their students did in Chapter 1 settings, and they seemed more likely than other teachers to note drawbacks of the program or even resent it as an intrusion.

* Formal procedures often facilitated coordination across programs, but that coupling of Chapter 1 and regular instructional programming was tightest where Chapter 1 and regular classroom teachers functioned as colleagues and engaged in frequent conversations about instruction.

* Formal procedures that promoted higher levels of coordination and curricular compatability included district or school policies that standardized curriculum, instructional materials and practices, and testing and evaluation policies.

* Although school-level organization and formal procedures created the conditions for staff communication, they did not guarantee that Chapter 1 and regular staff would, in fact, do more than meet the "letter of the law" with respect to coordination. Interpersonal relations among staff and professional norms largely determined the extent to which school personnel made use of both formal and informal opportunities to discuss student assignments and learning.

CHAPTER 9

THE FINDINGS IN REVIEW

This chapter reviews the basic findings of the study, emphasizing the major cross-site themes that emerged from the data analyses. In particular, this chapter:

* reports findings about three aspects of Chapter 1 projects at schools: (a) design features; (b) instructional services; and (c) coordination;

* discusses the extent to which these finding are consistent with past evaluations of the Chapter 1 program; and

* uses the findings to suggest strategies for improving the instructional services offered by the Chapter 1 program.

The Basic Findings of the Study

This section discusses the most important findings of the study. It focuses on findings related to the design of local projects, the scope and quality of instruction offered by these projects, and the extent to which Chapter 1 instruction was coordinated with the regular instructional program.

Chapter 1 Design Features

Past discussions of the Chapter 1 program have criticized the widespread use of pullout models by local districts, and this criticism has spurred an interest in the adoption of alternative models of service delivery (e.g., in-class, replacement, and add-on models). The sample in this study included schools that used a variety of service delivery models and allowed us to assess the advantages and disadvantages of each model.

The cross-site analysis found that inflationary pressures on Chapter 1 budgets affected design decisions among schools in this sample. In elementary schools, for example, reduced spending power created conditions that favored the use of instructional aides as opposed to more highly trained resource teachers. This staffing change, in turn, promoted a change in other project design features. For example, some elementary schools adopted in-class models in which aides worked in regular classrooms under the supervision of teachers; other schools adopted pullout "labs" in which aides and resource teachers could serve larger numbers of students more efficiently. In high schools, inflationary pressures also affected design features.

The design histories of these schools suggested that Chapter 1 funding pressures led to reductions in the number of students served by the program and reductions in the subjects in which the program offered services.

On the whole, the cross-site analysis did not suggest that one service delivery model was markedly better or worse than others. In fact, the implementation of any one service delivery model was largely unrelated to other design features of Chapter 1 projects. For example, schools using the same nominal delivery model did not necessarily have the same staffing patterns and scheduling arrangements, nor did they offer services in the same subject areas. Moreover, differences in most instructional variables were unrelated to the adoption of one or another type of service delivery model. Thus, because of the differences in how the same nominal design was implemented across schools, we saw few systematic advantages of one service delivery model over another.

Chapter 1 Instructional Services

Another issue addressed by this study was the extent to which the instruction offered by local Chapter 1 projects was consistent with a general model of instructional effectiveness. The research-based model guiding this study led us to gather data on the following aspects of instruction at schools in the sample: (a) the amount of time spent by students on instruction; (b) the size of instructional groups in which students participated; (c) the amount of "direct" instruction in students' lessons; and (d) the content and skill levels of students' lessons.

An important cross-site finding was that Chapter 1 projects were characterized by small instructional groups. This was true of reading and math projects in elementary and secondary schools. Based on the findings of Glass, Cahen, Smith, and Filby (1982), it seems safe to conclude that the average size of Chapter 1 groups in this sample represented an important reduction over group sizes in the regular program. For example, across all schools in the sample, instructional groups in regular reading/language arts had an average size of 17.6 and Chapter 1 groups had an average size of 6.6; in math, regular groups had an average size of 20.2 and Chapter 1 groups had an average size of 7.7. Small group size was, in fact, the most uniform characteristic of Chapter 1 instruction.

The amount of time allocated to Chapter 1 instruction varied across projects. The modal pattern was to offer services from 4 to 5 times a week for 30 to 40 minutes, but there were significant departures from this pattern. In general, Chapter 1 instruction constituted about 30% to 40% of the total time spent by students in reading or math. This proportion, of course, was much greater in "replacement" projects. The findings on time are especially interesting in light of the findings on group size in Chapter 1 projects. As Glass et al. (1982) noted, reductions in group size have greater effects when instruction in small groups occurs for more than 100 hours.

Estimates made from the data in this study suggested that most Chapter 1 students would receive less than 100 hours of Chapter 1 instruction over the course of a 36-week academic year.

This study also analyzed the extent to which Chapter 1 lessons consisted of "direct" instruction, a variable found in past research to be related to student achievement. In schools in this sample, the amount of "direct" instruction provided by Chapter 1 projects varied. One important cross-site finding was that elementary school reading projects offered the most "direct" instruction to students. A typical Chapter 1 reading lesson at this grade level consisted of 50% to 60% lecture/recitation, this study's measure of "direct" instruction. A typical Chapter 1 math lesson in elementary schools consisted of about 35% to 40% lecture/recitation. A comparison of Chapter 1 lessons with same-subject lessons offered in regular classrooms found that Chapter 1 lessons in elementary schools consisted of about 10% more "direct" instruction than regular lessons.

At the secondary level, the amount of "direct" instruction in Chapter 1 lessons varied greatly across schools. Much of this variation was accounted for by differences in school curricula. In schools that used individualized curriculum hierarchies, secondary students spent the vast majority of their Chapter 1 time in seatwork. In these schools, "direct" instructional formats were used only about 10% of the time, much less than was observed in same-subject lessons in regular classrooms. On the other hand, secondary schools that used more conventional teaching techniques provided 30% to 40% "direct" instruction during Chapter 1 lessons, a figure not much different from what was observed in regular classrooms.

Finally, this study investigated the extent to which Chapter 1 instruction offered students opportunities to practice "higher order" skills. In general, Chapter 1 reading and math projects did not focus on "higher order" tasks. In math, Chapter 1 students in both elementary and secondary schools worked primarily on computational tasks involving basic arithmetic facts. Word problems were common, but they did not constitute the core of instruction, and little attempt was made to engage students in tasks that required the use of mathematical models to synthesize or evaluate ideas. In reading, the general pattern also was for Chapter 1 lessons to focus on lower order tasks. With a few notable exceptions, students at all levels spent a good deal of time on worksheets that involved little reading of connected text. The low level of the Chapter 1 curriculum undoubtedly served a useful purpose by providing students with review and practice of important basic skills. At the same time, this function often prevented the program from presenting students with challenging materials that extended or enriched learning.

Coordination of Chapter 1 and Regular Instruction

A final issue addressed by this study was the relationship of Chapter 1 instruction to regular instruction. Both the quantitative and qualitative data suggested that Chapter 1 instruction replaced same-subject instruction in the regular instructional program rather

than taking time away from other programs. For example, the quantitative data suggested that, on average, students in this sample gained only about 10 minutes of instruction in reading or math on a day when they received services, and this slight gain came at the expense of instruction in other subjects, usually multisubject seatwork or instruction in other academic areas. Thus, Chapter 1 instruction added little time to a student's instructional day and resulted in only a modest redistribution of time across subject areas. The qualitative data suggested a reason for this finding. Most of the schools in the study scheduled Chapter 1 classes so that they would be minimally disruptive to students, and this usually involved offering Chapter 1 services while services in the same subject were offered to non-Chapter 1 students in the regular program.

Despite this consistent scheduling pattern, there were important differences in the extent to which regular and Chapter 1 instructional programs were coordinated at sites in the study. In particular, the relationship between lessons in the Chapter 1 program and the regular program varied across sites in the sample. Some schools developed supportive assignment patterns in which Chapter 1 lessons reinforced lessons previously given in the regular program. Other schools developed alternative assignment patterns in which Chapter 1 lessons bore little or no relationship to lessons in the regular classroom. Analysis of data on student success rates suggested that supportive assignment patterns were most effective for students who were performing at or near grade level. Parallel assignment patterns, on the other hand, appeared more appropriate for students who were performing well below grade level or for students who had instructional needs that were not addressed by regular curricula. These students often benefited from the alternative lessons provided in Chapter 1 settings.

Finally, it was found that formal procedures for coordinating Chapter 1 and regular instruction were necessary but not sufficient for the development of integrated instructional programs in schools. Formal policies about curriculum and evaluation, formal organization of school staff into "teams" or planning units that included Chapter 1 staff, and the formal scheduling of joint planning times for Chapter 1 and regular staff all facilitated coordination of Chapter 1 and regular instruction. However, schools that showed the tightest coupling between Chapter 1 and regular instruction were those in which staff endorsed a norm of collegiality and had developed shared beliefs about instruction.

Comparison of This Study's Findings to Past Findings

A major purpose of this study was to make sense of the findings from past large-scale evaluations, which often have been able to demonstrate only small effects of Chapter 1 participation on achievement. Although this study did not gather data on student test scores, the findings discussed above are informative with respect to issues of instructional effectiveness. By gathering rich descriptive data on the instructional "treatments" received by Chapter 1 students, this study has contributed to our knowledge of how variables associated

with instructional outcomes are distributed across a diverse sample of schools. In the following paragraphs, we use this knowledge to explair a number of findings from past large-scale evaluations of compensatory education programs.

The first problem is to explain the small effects of program participation on student achivement. Our analysis confirms a number of past criticisms of the "macro" evaluation approach taken in past studies. The case-by-case data presented in this report clearly show that Chapter 1 students across the country participate in programs that display widely varying instructional characteristics. Under these conditions, there would be little reason to expect uniform treatment effects in large scale evaluations.

It is important to note that one uniform characteristic of Chapter 1 programs did exist in this sample. Chapter 1 projects in this study consistently offered instruction in small groups. It makes sense to assume that the outcomes of past evaluations have been influenced by this trend, and that participation in smaller-sized Chapter 1 groups has given students in the Chapter 1 "treatment" a small advantage over the control group. If this is the case, the small effects of the Chapter 1 program are especially understandable given that Chapter 1 instruction usually contributes less than 100 hours of reduced group size to most students' instruction. At the same time, the positive effects of group size on achievement make sense in light of our data. The field records showed that the small group instruction delivered in Chapter 1 projects provided students with frequent academic feedback and correction and promoted high rates of student engagement and success in lessons. These interactions also appeared suited to Chapter 1 students needs for attention and encouragement. Small group sizes in Chapter 1 were very supportive learning environments.

The data suggest another reason why past evaluations have found weak effects of program participation on student achievement: Participation in Chapter 1 services had very little effect on the total amount of time students spent in reading or math lessons. This was especially true of many replacement projects, and it was also true of most pullout and in-class projects. Very few of the schools in this study significantly added to the amount of time students spent in reading and math lessons. Instead, schools simply redistributed a fixed amount of instructional time across programs. This process would not give Chapter 1 students who were "slow learners" any additional time to learn basic skills.

The data from this study are also consistent with the finding from past evaluations that elementary school Chapter 1 programs are more effective than Chapter 1 programs in secondary schools. In this sample, elementary school projects almost always provided students with more "direct" instruction than did projects in secondary schools, and past research suggests that this difference in instruction could account for some of the observed differences in effectiveness of Chapter 1 projects at different grade levels. Moreover, the general lack of effectiveness of Chapter 1 projects in secondary schools should not be surprising. Most of the secondary school projects in this study used highly sequenced curriculum hierarchies, yet the

Instructional Dimensions Study demonstrated that the use of such hierarchies was not sufficient to increase student achievement (Cooley and Leinhardt, 1980).

Thus, the findings from this study suggest both methodological and substantive explanations for the findings of past large-scale evaluations. From a methodological standpoint, the data suggest that "macro" comparisons of Chapter 1 and non-Chapter 1 students make little sense because Chapter 1 and non-Chapter 1 students at different schools participate in widely varying instructional programs. From a substantive point of view, the finding that Chapter 1 participation has small effects on student achievement probably reflects the fact that the one uniformity in Chapter 1 treatments was reduced group size. While the small instructional groups in Chapter 1 projects were supportive learning environments, the limited amount of time spent by students in Chapter 1 settings probably reduced the magnitude of effects produced on student learning.

Prospects for the Improvement of the Program

The findings from this multisite study suggested that the major advantage of Chapter 1 instruction was reduced group size. Apart from this one general characteristic, however, Chapter 1 projects implemented instructional programs with very site-specific characteristics. This finding has a number of implications for how policymakers, researchers, and practitioners think about improving the Chapter 1 program. Our analyses suggest the following considerations:

* Policymakers and practitioners should recognize that the improvement of the Chapter 1 program will occur on a site-by-site basis. Few sweeping reforms will effect uniform changes in local instructional programs.

* Policymakers and practitioners should recognize that the adoption of a particular service delivery model (e.g., pull-out or in-class) is not the major consideration in thinking about how to improve Chapter 1 instruction. Other variables are more likely to affect the quality of the instructional services students receive.

* Policymakers and practitioners should consider how time can be better used in Chapter 1 projects. Instead of redistributing the fixed amount of time in students' daily schedules across different programs, Chapter 1 funds might be better used to purchase add-on services that increase the amount of time students spend in basic skills instruction.

* Policymakers and practitioners need to give more careful attention to the curriculum linkage between Chapter 1 and regular instruction. The implementation of alternative or supportive assignment patterns should be done only after a careful assessment of whether or not students' needs can be met by the regular curriculum. When many students' needs

are unmet by the regular program, alternative instructional programs may be required; when students can be maintained at grade level with minimal support, supportive projects are appropriate.

* Chapter 1 projects at all levels should expose students to higher order thinking skills, especially opportunities to read connected text and to apply mathematics to real world problems. Although the focus of Chapter 1 instruction on basic skills provides students with useful review and practice, as students become older this review does little to support student learning in the regular classroom curriculums.

* Chapter 1 projects in secondary schools should move away from instructional formats that rely on independent seatwork. Too often, secondary school Chapter 1 projects in this study allowed the materials, rather than the instructor, to provide the instruction for Chapter 1 students.

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